

4.4 Sample Questions

Each of the critical reasoning questions is based on a short argument, a set of statements, or a plan of action. For each question, select the best answer of the choices given.

1. The sustained massive use of pesticides in farming has two effects that are especially pernicious. First, it often kills off the pests' natural enemies in the area. Second, it often unintentionally gives rise to insecticide-resistant pests, since those insects that survive a particular insecticide will be the ones most resistant to it, and they are the ones left to breed.

From the passage above, it can be properly inferred that the effectiveness of the sustained massive use of pesticides can be extended by doing which of the following, assuming that each is a realistic possibility?

- (A) Using only chemically stable insecticides
 - (B) Periodically switching the type of insecticide used
 - (C) Gradually increasing the quantities of pesticides used
 - (D) Leaving a few fields fallow every year
 - (E) Breeding higher-yielding varieties of crop plants
2. Which of the following, if true, most logically completes the argument below?
Manufacturers are now required to make all cigarette lighters child-resistant by equipping them with safety levers. But this change is unlikely to result in a significant reduction in the number of fires caused by children playing with lighters, because children given the opportunity can figure out how to work the safety levers and _____.
 - (A) the addition of the safety levers has made lighters more expensive than they were before the requirement was instituted
 - (B) adults are more likely to leave child-resistant lighters than non-child-resistant lighters in places that are accessible to children
 - (C) many of the fires started by young children are quickly detected and extinguished by their parents
 - (D) unlike child-resistant lighters, lighters that are not child-resistant can be operated by children as young as two years old
 - (E) approximately 5,000 fires per year have been attributed to children playing with lighters before the safety levers were required
 3. Which of the following most logically completes the passage?
A business analysis of the Appenian railroad system divided its long-distance

passenger routes into two categories: rural routes and interurban routes. The analysis found that, unlike the interurban routes, few rural routes carried a high enough passenger volume to be profitable. Closing unprofitable rural routes, however, will not necessarily enhance the profitability of the whole system, since _____.

(A) a large part of the passenger volume on interurban routes is accounted for by passengers who begin or end their journeys on rural routes

(B) within the last two decades several of the least used rural routes have been closed and their passenger services have been replaced by buses

(C) the rural routes were all originally constructed at least one hundred years ago, whereas some of the interurban routes were constructed recently for new high-speed express trains

(D) not all of Appenia's large cities are equally well served by interurban railroad services

(E) the greatest passenger volume, relative to the routes' capacity, is not on either category of long-distance routes but is on suburban commuter routes

4. A cost-effective solution to the problem of airport congestion is to provide high-speed ground transportation between major cities lying 200 to 500 miles apart. The successful implementation of this plan would cost far less than expanding existing airports and would also reduce the number of airplanes clogging both airports and airways.

Which of the following, if true, could proponents of the plan above most appropriately cite as a piece of evidence for the soundness of their plan?

(A) An effective high-speed ground-transportation system would require major repairs to many highways and mass-transit improvements.

(B) One-half of all departing flights in the nation's busiest airport head for a destination in a major city 225 miles away.

(C) The majority of travelers departing from rural airports are flying to destinations in cities over 600 miles away.

(D) Many new airports are being built in areas that are presently served by high-speed ground transportation systems.

(E) A large proportion of air travelers are vacationers who are taking long-distance flights.

5. In an attempt to promote the widespread use of paper rather than plastic, and thus reduce nonbiodegradable waste, the council of a small town plans to ban the sale of disposable plastic goods for which substitutes made of paper exist. The council argues that since most paper is entirely biodegradable, paper goods are environmentally preferable.

Which of the following, if true, indicates that the plan to ban the sale of disposable plastic goods is ill suited to the town council's environmental goals?

- (A) Although biodegradable plastic goods are now available, members of the town council believe biodegradable paper goods to be safer for the environment.
- (B) The paper factory at which most of the townspeople are employed plans to increase production of biodegradable paper goods.
- (C) After other towns enacted similar bans on the sale of plastic goods, the environmental benefits were not discernible for several years.
- (D) Since most townspeople prefer plastic goods to paper goods in many instances, they are likely to purchase them in neighboring towns where plastic goods are available for sale.
- (E) Products other than those derived from wood pulp are often used in the manufacture of paper goods that are entirely biodegradable.

6. Since the mayor's publicity campaign for Greenville's bus service began six months ago, morning automobile traffic into the midtown area of the city has decreased 7 percent. During the same period, there has been an equivalent rise in the number of persons riding buses into the midtown area. Obviously, the mayor's publicity campaign has convinced many people to leave their cars at home and ride the bus to work.

Which of the following, if true, casts the most serious doubt on the conclusion drawn above?

- (A) Fares for all bus routes in Greenville have risen an average of 5 percent during the past six months.
- (B) The mayor of Greenville rides the bus to City Hall in the city's midtown area.
- (C) Road reconstruction has greatly reduced the number of lanes available to commuters in major streets leading to the midtown area during the past six months.
- (D) The number of buses entering the midtown area of Greenville during the morning hours is exactly the same now as it was one year ago.
- (E) Surveys show that longtime bus riders are no more satisfied with the Greenville bus service than they were before the mayor's publicity campaign began.

7. Although Ackerburg's subway system is currently operating at a deficit, the transit authority will lower subway fares next year. The authority projects that the lower fares will result in a ten percent increase in the number of subway riders. Since the additional income from the larger ridership will more than offset the decrease due

to lower fares, the transit authority actually expects the fare reduction to reduce or eliminate the subway system's operating deficit for next year.

Which of the following, if true, provides the most support for the transit authority's expectation of reducing the subway system's operating deficit?

- (A) Throughout the years that the subway system has operated, fares have never before been reduced.
- (B) The planned fare reduction will not apply to students, who can already ride the subway for a reduced fare.
- (C) Next year, the transit authority will have to undertake several large-scale track maintenance projects.
- (D) The subway system can accommodate a ten percent increase in ridership without increasing the number of trains it runs each day.
- (E) The current subway fares in Ackerburg are higher than subway fares in other cities in the region.

8. People's television-viewing habits could be monitored by having television sets, when on, send out low-level electromagnetic waves that are reflected back to the sets. The reflected waves could then be analyzed to determine how many persons are within the viewing area of the sets. Critics fear adverse health effects of such a monitoring system, but a proponent responds, "The average dose of radiation is less than one chest x-ray. As they watch, viewers won't feel a thing."

Which of the following issues would it be most important to resolve in evaluating the dispute concerning the health effects of the proposed system?

- (A) Whether the proposed method of monitoring viewership can distinguish between people and pets
- (B) Whether radar speed monitors also operate on the principle of analyzing reflected waves of electromagnetic radiation
- (C) Whether the proposed system has been tried out in various areas of the country or in a single area only
- (D) What uses are foreseen for the viewership data
- (E) Whether the average dose that the proponent describes is a short-term dose or a lifetime cumulative dose

9. Patrick usually provides child care for six children. Parents leave their children at Patrick's house in the morning and pick them up after work. At the end of each workweek, the parents pay Patrick at an hourly rate for the child care provided that week. The weekly income Patrick receives is usually adequate but not always uniform, particularly in the winter, when children are likely to get sick and be unpredictably absent.

Which of the following plans, if put into effect, has the best prospect of making Patrick's weekly income both uniform and adequate?

- (A) Pool resources with a neighbor who provides child care under similar arrangements, so that the two of them cooperate in caring for twice as many children as Patrick currently does.
- (B) Replace payment by actual hours of child care provided with a fixed weekly fee based upon the number of hours of child care that Patrick would typically be expected to provide.
- (C) Hire a full-time helper and invest in facilities for providing child care to sick children.
- (D) Increase the hourly rate to a level that would provide adequate income even in a week when half of the children Patrick usually cares for are absent.
- (E) Increase the number of hours made available for child care each day, so that parents can leave their children in Patrick's care for a longer period each day at the current hourly rate.

10. A computer equipped with signature-recognition software, which restricts access to a computer to those people whose signatures are on file, identifies a person's signature by analyzing not only the form of the signature but also such characteristics as pen pressure and signing speed. Even the most adept forgers cannot duplicate all of the characteristics the program analyzes.

Which of the following can be logically concluded from the passage above?

- (A) The time it takes to record and analyze a signature makes the software impractical for everyday use.
 - (B) Computers equipped with the software will soon be installed in most banks.
 - (C) Nobody can gain access to a computer equipped with the software solely by virtue of skill at forging signatures.
 - (D) Signature-recognition software has taken many years to develop and perfect.
 - (E) In many cases even authorized users are denied legitimate access to computers equipped with the software.
11. Extinction is a process that can depend on a variety of ecological, geographical, and physiological variables. These variables affect different species of organisms in different ways, and should, therefore, yield a random pattern of extinctions. However, the fossil record shows that extinction occurs in a surprisingly definite pattern, with many species vanishing at the same time.

Which of the following, if true, forms the best basis for at least a partial

explanation of the patterned extinctions revealed by the fossil record?

- (A) Major episodes of extinction can result from widespread environmental disturbances that affect numerous different species.
- (B) Certain extinction episodes selectively affect organisms with particular sets of characteristics unique to their species.
- (C) Some species become extinct because of accumulated gradual changes in their local environments.
- (D) In geologically recent times, for which there is no fossil record, human intervention has changed the pattern of extinctions.
- (E) Species that are widely dispersed are the least likely to become extinct.

12. Shelby Industries manufactures and sells the same gauges as Jones Industries. Employee wages account for 40 percent of the cost of manufacturing gauges at both Shelby Industries and Jones Industries. Shelby Industries is seeking a competitive advantage over Jones Industries. Therefore, to promote this end, Shelby Industries should lower employee wages.

Which of the following, if true, would most weaken the argument above?

- (A) Because they make a small number of precision instruments, gauge manufacturers cannot receive volume discounts on raw materials.
- (B) Lowering wages would reduce the quality of employee work, and this reduced quality would lead to lowered sales.
- (C) Jones Industries has taken away 20 percent of Shelby Industries' business over the last year.
- (D) Shelby Industries pays its employees, on average, 10 percent more than does Jones Industries.
- (E) Many people who work for manufacturing plants live in areas in which the manufacturing plant they work for is the only industry.

13. In parts of South America, vitamin-A deficiency is a serious health problem, especially among children. In one region, agriculturists are attempting to improve nutrition by encouraging farmers to plant a new variety of sweet potato called SPK004 that is rich in betacarotene, which the body converts into vitamin A. The plan has good chances of success, since sweet potato is a staple of the region's diet and agriculture, and the varieties currently grown contain little beta-carotene.

Which of the following, if true, most strongly supports the prediction that the plan will succeed?

- (A) The growing conditions required by the varieties of sweet potato currently cultivated in the region are conditions in which SPK004 can flourish.

(B) The flesh of SPK004 differs from that of the currently cultivated sweet potatoes in color and texture, so traditional foods would look somewhat different when prepared from SPK004.

(C) There are no other varieties of sweet potato that are significantly richer in beta-carotene than SPK004 is.

(D) The varieties of sweet potato currently cultivated in the region contain some important nutrients that are lacking in SPK004.

(E) There are other vegetables currently grown in the region that contain more beta-carotene than the currently cultivated varieties of sweet potato do.

14. Which of the following most logically completes the argument?

The last members of a now-extinct species of a European wild deer called the giant deer lived in Ireland about 16,000 years ago. Prehistoric cave paintings in France depict this animal as having a large hump on its back. Fossils of this animal, however, do not show any hump. Nevertheless, there is no reason to conclude that the cave paintings are therefore inaccurate in this regard, since _____.

(A) some prehistoric cave paintings in France also depict other animals as having a hump

(B) fossils of the giant deer are much more common in Ireland than in France

(C) animal humps are composed of fatty tissue, which does not fossilize

(D) the cave paintings of the giant deer were painted well before 16,000 years ago

(E) only one currently existing species of deer has any anatomical feature that even remotely resembles a hump

15. High levels of fertilizer and pesticides, needed when farmers try to produce high yields of the same crop year after year, pollute water supplies. Experts therefore urge farmers to diversify their crops and to rotate their plantings yearly.

To receive governmental price-support benefits for a crop, farmers must have produced that same crop for the past several years.

The statements above, if true, best support which of the following conclusions?

(A) The rules for governmental support of farm prices work against efforts to reduce water pollution.

(B) The only solution to the problem of water pollution from fertilizers and pesticides is to take farmland out of production.

(C) Farmers can continue to make a profit by rotating diverse crops, thus

reducing costs for chemicals, but not by planting the same crop each year.

(D) New farming techniques will be developed to make it possible for farmers to reduce the application of fertilizers and pesticides.

(E) Governmental price supports for farm products are set at levels that are not high enough to allow farmers to get out of debt.

16. Ten years ago the number of taxpayers in Green County was slightly greater than the number of registered voters. The number of taxpayers has doubled over the last ten years, while the number of registered voters has increased, but at a lower rate than has the number of taxpayers.

Which of the following must be true in Greenspace County if the statements above are true?

(A) The number of taxpayers is now smaller than the number of registered voters.

(B) Everyone who is a registered voter is also a taxpayer.

(C) The proportion of registered voters to taxpayers has increased over the last ten years.

(D) The proportion of registered voters to taxpayers has decreased over the last ten years.

(E) The proportion of registered voters to taxpayers has remained unchanged over the last ten years.

17. The interview is an essential part of a successful hiring program because, with it, job applicants who have personalities that are unsuited to the requirements of the job will be eliminated from consideration.

The argument above logically depends on which of the following assumptions?

(A) A hiring program will be successful if it includes interviews.

(B) The interview is a more important part of a successful hiring program than is the development of a job description.

(C) Interviewers can accurately identify applicants whose personalities are unsuited to the requirements of the job.

(D) The only purpose of an interview is to evaluate whether job applicants' personalities are suited to the requirements of the job.

(E) The fit of job applicants' personalities to the requirements of the job was once the most important factor in making hiring decisions.

18. A major health insurance company in Lagolia pays for special procedures prescribed by physicians only if the procedure is first approved as "medically necessary" by a company-appointed review panel. The rule is intended to save the

company the money it might otherwise spend on medically unnecessary procedures. The company has recently announced that in order to reduce its costs, it will abandon this rule.

Which of the following, if true, provides the strongest justification for the company's decision?

- (A) Patients often register dissatisfaction with physicians who prescribe nothing for their ailments.
- (B) Physicians often prescribe special procedures that are helpful but not altogether necessary for the health of the patient.
- (C) The review process is expensive and practically always results in approval of the prescribed procedure.
- (D) The company's review process does not interfere with the prerogative of physicians, in cases where more than one effective procedure is available, to select the one they personally prefer.
- (E) The number of members of the company = appointed review panel who review a given procedure depends on the cost of the procedure.

19. To evaluate a plan to save money on office-space expenditures by having its employees work at home, XYZ Company asked volunteers from its staff to try the arrangement for six months. During this period, the productivity of these employees was as high as or higher than before.

Which of the following, if true, would argue most strongly against deciding, on the basis of the trial results, to implement the company's plan?

- (A) The employees who agreed to participate in the test of the plan were among the company's most self-motivated and independent workers.
- (B) The savings that would accrue from reduced office-space expenditures alone would be sufficient to justify the arrangement for the company, apart from any productivity increases.
- (C) Other companies that have achieved successful results from work-at-home plans have workforces that are substantially larger than that of XYZ.
- (D) The volunteers who worked at home were able to communicate with other employees as necessary for performing the work.
- (E) Minor changes in the way office work is organized at XYZ would yield increases in employee productivity similar to those achieved in the trial.

20. Consumer health advocate: Your candy company adds caffeine to your chocolate candy bars so that each one delivers a specified amount of caffeine. Since caffeine is highly addictive, this indicates that you intend to keep your customers addicted.

Candy manufacturer: Our manufacturing process results in there being less

caffeine in each chocolate candy bar than in the unprocessed cacao beans from which the chocolate is made.

The candy manufacturer's response is flawed as a refutation of the consumer health advocate's argument because it

(A) fails to address the issue of whether the level of caffeine in the candy bars sold by the manufacturer is enough to keep people addicted

(B) assumes without warrant that all unprocessed cacao beans contain a uniform amount of caffeine

(C) does not specify exactly how caffeine is lost in the manufacturing process

(D) treats the consumer health advocate's argument as though it were about each candy bar rather than about the manufacturer's candy in general

(E) merely contradicts the consumer health advocate's conclusion without giving any reason to believe that the advocate's reasoning is unsound

21. Nutritionists are advising people to eat more fish, since the omega-3 fatty acids in fish help combat many diseases. If everyone took this advice, however, there would not be enough fish in oceans, rivers, and lakes to supply the demand; the oceans are already being overfished. The obvious method to ease the pressure on wild fish populations is for people to increase their consumption of farmed fish.

Which of the following, if true, raises the most serious doubt concerning the prospects for success of the solution proposed above?

(A) Aquaculture, or fish farming, raises more fish in a given volume of water than are generally present in the wild.

(B) Some fish farming, particularly of shrimp and other shellfish, takes place in enclosures in the ocean.

(C) There are large expanses of ocean waters that do not contain enough nutrients to support substantial fish populations.

(D) The feed for farmed ocean fish is largely made from small wild-caught fish, including the young of many popular food species.

(E) Some of the species that are now farmed extensively were not commonly eaten when they were only available in the wild.

22. Crops can be traded on the futures market before they are harvested. If a poor corn harvest is predicted, prices of corn futures rise; if a bountiful corn harvest is predicted, prices of corn futures fall. This morning meteorologists are predicting much-needed rain for the corn-growing region starting tomorrow. Therefore, since adequate moisture is essential for the current crop's survival, prices of corn futures will fall sharply today.

Which of the following, if true, most weakens the argument above?

- (A) Corn that does not receive adequate moisture during its critical pollination stage will not produce a bountiful harvest.
- (B) Futures prices for corn have been fluctuating more dramatically this season than last season.
- (C) The rain that meteorologists predicted for tomorrow is expected to extend well beyond the corn-growing region.
- (D) Agriculture experts announced today that a disease that has devastated some of the corn crop will spread widely before the end of the growing season.
- (E) Most people who trade in corn futures rarely take physical possession of the corn they trade.

23. Large national budget deficits do not cause large trade deficits. If they did, countries with the largest budget deficits would also have the largest trade deficits. In fact, when deficit figures are adjusted so that different countries are reliably comparable to each other, there is no such correlation.

If the statements above are all true, which of the following can properly be inferred on the basis of them?

- (A) Countries with large national budget deficits tend to restrict foreign trade.
- (B) Reliable comparisons of the deficit figures of one country with those of another are impossible.
- (C) Reducing a country's national budget deficit will not necessarily result in a lowering of any trade deficit that country may have.
- (D) When countries are ordered from largest to smallest in terms of population, the smallest countries generally have the smallest budget and trade deficits.
- (E) Countries with the largest trade deficits never have similarly large national budget deficits.

24. Which of the following best completes the passage below?

The more worried investors are about losing their money, the more they will demand a high potential return on their investment; great risks must be offset by the chance of great rewards. This principle is the fundamental one in determining interest rates, and it is illustrated by the fact that _____.

- (A) successful investors are distinguished by an ability to make very risky investments without worrying about their money

(B) lenders receive higher interest rates on unsecured loans than on loans backed by collateral

(C) in times of high inflation, the interest paid to depositors by banks can actually be below the rate of inflation

(D) at any one time, a commercial bank will have a single rate of interest that it will expect all of its individual borrowers to pay

(E) the potential return on investment in a new company is typically lower than the potential return on investment in a well-established company

25. It is often said that high rates of inflation tend to diminish people's incentive to save and invest. This view must be incorrect, however, because people generally saved and invested more of their income in the 1970's when inflation rates were high than they did in the 1980's when inflation rates were low.

Of the following, the best criticism of the argument above is that it overlooks the possibility that

(A) all people do not respond in the same way to a given economic stimulus

(B) certain factors operating in the 1980's but not in the 1970's diminished people's incentive to save and invest

(C) the population was larger in the 1980's than it was in the 1970's

(D) the proponents of the view cited would stand to gain if inflation rates become lower

(E) a factor that affects people's savings behavior in a certain way could affect people's investment behavior quite differently

26. Company Alpha buys free-travel coupons from people who are awarded the coupons by Bravo Airlines for flying frequently on Bravo airplanes. The coupons are sold to people who pay less for the coupons than they would pay by purchasing tickets from Bravo. This marketing of coupons results in lost revenue for Bravo.

To discourage the buying and selling of free-travel coupons, it would be best for Bravo Airlines to restrict the

(A) number of coupons that a person can be awarded in a particular year

(B) use of the coupons to those who were awarded the coupons and members of their immediate families

(C) days that the coupons can be used to Monday through Friday

(D) amount of time that the coupons can be used after they are issued

(E) number of routes on which travelers can use the coupons

27. A proposed ordinance requires the installation in new homes of sprinklers automatically triggered by the presence of a fire. However, a home builder argued

that because more than 90 percent of residential fires are extinguished by a household member, residential sprinklers would only marginally decrease property damage caused by residential fires.

Which of the following, if true, would most seriously weaken the home builder's argument?

- (A) Most individuals have no formal training in how to extinguish fires.
- (B) Since new homes are only a tiny percentage of available housing in the city, the new ordinance would be extremely narrow in scope.
- (C) The installation of smoke detectors in new residences costs significantly less than the installation of sprinklers.
- (D) In the city where the ordinance was proposed, the average time required by the fire department to respond to a fire was less than the national average.
- (E) The largest proportion of property damage that results from residential fires is caused by fires that start when no household member is present.

28. Which of the following most logically completes the argument below?

Within the earth's core, which is iron, pressure increases with depth. Because the temperature at which iron melts increases with pressure, the inner core is solid and the outer core is molten. Physicists can determine the melting temperature of iron at any given pressure and the pressure for any given depth in the earth. Therefore, the actual temperature at the boundary of the earth's outer and inner cores—the melting temperature of iron there—can be determined, since _____.

- (A) the depth beneath the earth's surface of the boundary between the outer and inner cores is known
- (B) some of the heat from the earth's core flows to the surface of the earth
- (C) pressures within the earth's outer core are much greater than pressures above the outer core
- (D) nowhere in the earth's core can the temperature be measured directly
- (E) the temperatures within the earth's inner core are higher than in the outer core

29. Which of the following most logically completes the reasoning?

Either food scarcity or excessive hunting can threaten a population of animals. If the group faces food scarcity, individuals in the group will reach reproductive maturity later than otherwise. If the group faces excessive hunting, individuals that reach reproductive maturity earlier will come to predominate. Therefore, it should be possible to determine whether prehistoric mastodons became extinct because of food scarcity or human hunting, since there are fossilized mastodon remains from

both before and after mastodon populations declined, and _____.

- (A) there are more fossilized mastodon remains from the period before mastodon populations began to decline than from after that period
- (B) the average age at which mastodons from a given period reached reproductive maturity can be established from their fossilized remains
- (C) it can be accurately estimated from fossilized remains when mastodons became extinct
- (D) it is not known when humans first began hunting mastodons
- (E) climate changes may have gradually reduced the food available to mastodons

30. Unlike the wholesale price of raw wool, the wholesale price of raw cotton has fallen considerably in the last year. Thus, although the retail price of cotton clothing at retail clothing stores has not yet fallen, it will inevitably fall.

Which of the following, if true, most seriously weakens the argument above?

- (A) The cost of processing raw cotton for cloth has increased during the last year.
- (B) The wholesale price of raw wool is typically higher than that of the same volume of raw cotton.
- (C) The operating costs of the average retail clothing store have remained constant during the last year.
- (D) Changes in retail prices always lag behind changes in wholesale prices.
- (E) The cost of harvesting raw cotton has increased in the last year.

31. A recent spate of launching and operating mishaps with television satellites led to a corresponding surge in claims against companies underwriting satellite insurance. As a result, insurance premiums shot up, making satellites more expensive to launch and operate. This, in turn, had added to the pressure to squeeze more performance out of currently operating satellites.

Which of the following, if true, taken together with the information above, best supports the conclusion that the cost of television satellites will continue to increase?

- (A) Since the risk to insurers of satellites is spread over relatively few units, insurance premiums are necessarily very high.
- (B) When satellites reach orbit and then fail, the causes of failure are generally impossible to pinpoint with confidence.
- (C) The greater the performance demands placed on satellites, the more frequently those satellites break down.

(D) Most satellites are produced in such small numbers that no economies of scale can be realized.

(E) Since many satellites are built by unwieldy international consortia, inefficiencies are inevitable.

32. If the airspace around centrally located airports were restricted to commercial airliners and only those private planes equipped with radar, most of the private-plane traffic would be forced to use outlying airfields. Such a reduction in the amount of private plane traffic would reduce the risk of midair collision around the centrally located airports.

The conclusion drawn in the first sentence depends on which of the following assumptions?

(A) Outlying airfields would be as convenient as centrally located airports for most pilots of private planes.

(B) Most outlying airfields are not equipped to handle commercial-airline traffic.

(C) Most private planes that use centrally located airports are not equipped with radar.

(D) Commercial airliners are at greater risk of becoming involved in midair collisions than are private planes.

(E) A reduction in the risk of midair collision would eventually lead to increases in commercial airline traffic.

33. Many office buildings designed to prevent outside air from entering have been shown to have elevated levels of various toxic substances circulating through the air inside, a phenomenon known as sick building syndrome. Yet the air in other office buildings does not have elevated levels of these substances, even though those buildings are the same age as the “sick” buildings and have similar designs and ventilation systems.

Which of the following, if true, most helps to explain why not all office buildings designed to prevent outside air from entering have air that contains elevated levels of toxic substances?

(A) Certain adhesives and drying agents used in particular types of furniture, carpets, and paint contribute the bulk of the toxic substances that circulate in the air of office buildings.

(B) Most office buildings with sick building syndrome were built between 1950 and 1990.

(C) Among buildings designed to prevent outside air from entering, houses are no less likely than office buildings to have air that contains elevated levels of toxic substances.

(D) The toxic substances that are found in the air of “sick” office buildings are substances that are found in at least small quantities in nearly every building.

(E) Office buildings with windows that can readily be opened are unlikely to suffer from sick building syndrome.

34. A discount retailer of basic household necessities employs thousands of people and pays most of them at the minimum wage rate. Yet following a federally mandated increase of the minimum wage rate that increased the retailer’s operating costs considerably, the retailer’s profits increased markedly.

Which of the following, if true, most helps to resolve the apparent paradox?

(A) Over half of the retailer’s operating costs consist of payroll expenditures; yet only a small percentage of those expenditures go to pay management salaries.

(B) The retailer’s customer base is made up primarily of people who earn, or who depend on the earnings of others who earn, the minimum wage.

(C) The retailer’s operating costs, other than wages, increased substantially after the increase in the minimum wage rate went into effect.

(D) When the increase in the minimum wage rate went into effect, the retailer also raised the wage rate for employees who had been earning just above minimum wage.

(E) The majority of the retailer’s employees work as cashiers, and most cashiers are paid the minimum wage.

35. Premature babies who receive regular massages are more active than premature babies who do not. Even when all the babies drink the same amount of milk, the massaged babies gain more weight than do the unmassaged babies. This is puzzling because a more active person generally requires a greater food intake to maintain or gain weight.

Which of the following, if true, best reconciles the apparent discrepancy described above?

(A) Increased activity leads to increased levels of hunger, especially when food intake is not also increased.

(B) Massage increases premature babies’ curiosity about their environment, and curiosity leads to increased activity.

(C) Increased activity causes the intestines of premature babies to mature more quickly, enabling the babies to digest and absorb more of the nutrients in the milk they drink.

(D) Massage does not increase the growth rate of babies over one year old, if

the babies had not been previously massaged.

(E) Premature babies require a daily intake of nutrients that is significantly higher than that required by babies who were not born prematurely.

36. An eyeglass manufacturer tried to boost sales for the summer quarter by offering its distributors a special discount if their orders for that quarter exceeded those for last year's summer quarter by at least 20 percent. Many distributors qualified for this discount. Even with much merchandise discounted, sales increased enough to produce a healthy gain in net profits. The manufacturer plans to repeat this success by offering the same sort of discount for the fall quarter.

Which of the following, if true, most clearly points to a flaw in the manufacturer's plan to repeat the successful performance of the summer quarter?

(A) In general, a distributor's orders for the summer quarter are no higher than those for the spring quarter.

(B) Along with offering special discounts to qualifying distributors, the manufacturer increased newspaper and radio advertising in those distributors' sales areas.

(C) The distributors most likely to qualify for the manufacturer's special discount are those whose orders were unusually low a year earlier.

(D) The distributors who qualified for the manufacturer's special discount were free to decide how much of that discount to pass on to their own customers.

(E) The distributors' ordering more goods in the summer quarter left them overstocked for the fall quarter.

37. Vitacorp, a manufacturer, wishes to make its information booth at an industry convention more productive in terms of boosting sales. The booth offers information introducing the company's new products and services. To achieve the desired result, Vitacorp's marketing department will attempt to attract more people to the booth. The marketing director's first measure was to instruct each salesperson to call his or her five best customers and personally invite them to visit the booth.

Which of the following, if true, most strongly supports the prediction that the marketing director's first measure will contribute to meeting the goal of boosting sales?

(A) Vitacorp's salespeople routinely inform each important customer about new products and services as soon as the decision to launch them has been made.

(B) Many of Vitacorp's competitors have made plans for making their own information booths more productive in increasing sales.

(C) An information booth that is well attended tends to attract visitors who would not otherwise have attended the booth.

(D) Most of Vitacorp's best customers also have business dealings with Vitacorp's competitors.

(E) Vitacorp has fewer new products and services available this year than it had in previous years.

38. Budget constraints have made police officials consider reassigning a considerable number of officers from traffic enforcement to work on higher-priority, serious crimes. Reducing traffic enforcement for this reason would be counterproductive, however, in light of the tendency of criminals to use cars when engaged in the commission of serious crimes. An officer stopping a car for a traffic violation can make a search that turns up evidence of serious crime.

Which of the following, if true, most strengthens the argument given?

(A) An officer who stops a car containing evidence of the commission of a serious crime risks a violent confrontation, even if the vehicle was stopped only for a traffic violation.

(B) When the public becomes aware that traffic enforcement has lessened, it typically becomes lax in obeying traffic rules.

(C) Those willing to break the law to commit serious crimes are often in committing such crimes unwilling to observe what they regard as the lesser constraints of traffic law.

(D) The offenders committing serious crimes who would be caught because of traffic violations are not the same group of individuals as those who would be caught if the arresting officers were reassigned from traffic enforcement.

(E) The great majority of persons who are stopped by officers for traffic violations are not guilty of any serious crimes.

39. Pro-Tect Insurance Company has recently been paying out more on car-theft claims than it expected. Cars with special antitheft devices or alarm systems are much less likely to be stolen than are other cars. Consequently Pro-Tect, as part of an effort to reduce its annual payouts, will offer a discount to holders of car-theft policies if their cars have antitheft devices or alarm systems.

Which of the following, if true, provides the strongest indication that the plan is likely to achieve its goal?

(A) The decrease in the risk of car theft conferred by having a car alarm is greatest when only a few cars have such alarms.

(B) The number of policyholders who have filed a claim in the past year is higher for Pro-Tect than for other insurance companies.

- (C) In one or two years, the discount that Pro-Tect is offering will amount to more than the cost of buying certain highly effective antitheft devices.
- (D) Currently, Pro-Tect cannot legally raise the premiums it charges for a given amount of insurance against car theft.
- (E) The amount Pro-Tect has been paying out on car-theft claims has been greater for some models of car than for others.

40. Start-up companies financed by venture capitalists have a much lower failure rate than companies financed by other means. Source of financing, therefore, must be a more important causative factor in the success of a start-up company than are such factors as the personal characteristics of the entrepreneur, the quality of strategic planning, or the management structure of the company.

Which of the following, if true, most seriously weakens the argument above?

- (A) Venture capitalists tend to be more responsive than other sources of financing to changes in a start-up company's financial needs.
- (B) The strategic planning of a start-up company is a less important factor in the long-term success of the company than are the personal characteristics of the entrepreneur.
- (C) More than half of all new companies fail within five years.
- (D) The management structures of start-up companies are generally less formal than the management structures of ongoing businesses.
- (E) Venture capitalists base their decisions to fund start-up companies on such factors as the characteristics of the entrepreneur and quality of strategic planning of the company.

41. Art restorers who have been studying the factors that cause Renaissance oil paintings to deteriorate physically when subject to climatic changes have found that the oil paint used in these paintings actually adjusts to these changes well. The restorers therefore hypothesize that it is a layer of material called gesso, which is under the paint, that causes the deterioration.

Which of the following, if true, most strongly supports the restorers' hypothesis?

- (A) Renaissance oil paintings with a thin layer of gesso are less likely to show deterioration in response to climatic changes than those with a thicker layer.
- (B) Renaissance oil paintings are often painted on wooden panels, which swell when humidity increases and contract when it declines.
- (C) Oil paint expands and contracts readily in response to changes in temperature, but it absorbs little water and so is little affected by changes in humidity.

(D) An especially hard and nonabsorbent type of gesso was the raw material for moldings on the frames of Renaissance oil paintings.

(E) Gesso layers applied by Renaissance painters typically consisted of a coarse base layer onto which several increasingly fine-grained layers were applied.

42. Automobile Dealer's Advertisement: The Highway Traffic Safety Institute reports that the PZ 1000 has the fewest injuries per accident of any car in its class. This shows that the PZ 1000 is one of the safest cars available today.

Which of the following, if true, most seriously weakens the argument in the advertisement?

(A) The Highway Traffic Safety Institute report listed many cars in other classes that had more injuries per accident than did the PZ 1000.

(B) In recent years many more PZ 1000s have been sold than have any other kind of car in its class.

(C) Cars in the class to which the PZ 1000 belongs are more likely to be involved in accidents than are other types of cars.

(D) The difference between the number of injuries per accident for the PZ 1000 and that for other cars in its class is quite pronounced.

(E) The Highway Traffic Safety Institute issues reports only once a year.

43. Which of the following most logically completes the passage?

It is generally believed that people receiving frequent medical checkups are likely to need hospitalization less frequently than they would otherwise; after all, many things can be done following a checkup to prevent problems that, if ignored, might become acute and then require hospitalization. But for people with chronic illnesses, frequent medical checkups are likely to lead to more frequent hospitalization since _____.

(A) the recommended treatments for complications of many chronic illnesses involve hospitalization, even if those complications are detected while barely noticeable

(B) medical checkups sometimes do not reveal early symptoms of those chronic illnesses that are best treated in a hospital

(C) the average length of a hospital stay is the same for those who receive frequent checkups as for those who do not

(D) people with chronic illnesses generally receive medical checkups more frequently than people who are not chronically ill

(E) the average length of a hospital stay for people with a chronic illness tends to increase as the illness progresses

44. Two decades after the Emerald River Dam was built, none of the eight fish species native to the Emerald River was still reproducing adequately in the river below the dam. Since the dam reduced the annual range of water temperature in the river below the dam from 50 degrees to 6 degrees, scientists have hypothesized that sharply rising water temperatures must be involved in signaling the native species to begin the reproductive cycle.

Which of the following statements, if true, would most strengthen the scientists' hypothesis?

- (A) The native fish species were still able to reproduce only in side streams of the river below the dam where the annual temperature range remains approximately 50 degrees.
- (B) Before the dam was built, the Emerald River annually overflowed its banks, creating backwaters that were critical breeding areas for the native species of fish.
- (C) The lowest recorded temperature of the Emerald River before the dam was built was 34 degrees, whereas the lowest recorded temperature of the river after the dam was built has been 43 degrees.
- (D) Nonnative species of fish, introduced into the Emerald River after the dam was built, have begun competing with the declining native fish species for food and space.
- (E) Five of the fish species native to the Emerald River are not native to any other river in North America.

45. Dental researchers recently discovered that toothbrushes can become contaminated with bacteria that cause pneumonia and strep throat. They found that contamination usually occurs after toothbrushes have been used for four weeks. For that reason, people should replace their toothbrushes at least once a month.

Which of the following, if true, would most weaken the conclusion above?

- (A) The dental researchers could not discover why toothbrush contamination usually occurred only after toothbrushes had been used for four weeks.
- (B) The dental researchers failed to investigate contamination of toothbrushes by viruses, yeasts, and other pathogenic microorganisms.
- (C) The dental researchers found that among people who used toothbrushes contaminated with bacteria that cause pneumonia and strep throat, the incidence of these diseases was no higher than among people who used uncontaminated toothbrushes.
- (D) The dental researchers found that people who rinsed their toothbrushes

thoroughly in hot water after each use were as likely to have contaminated toothbrushes as were people who only rinsed their toothbrushes hurriedly in cold water after each use.

(E) The dental researchers found that, after six weeks of use, greater length of use of a toothbrush did not correlate with a higher number of bacteria being present.

46. Meat from chickens contaminated with salmonella bacteria can cause serious food poisoning. Capsaicin, the chemical that gives chili peppers their hot flavor, has antibacterial properties. Chickens do not have taste receptors for capsaicin and will readily eat feed laced with capsaicin. When chickens were fed such feed and then exposed to salmonella bacteria, relatively few of them became contaminated with salmonella.

In deciding whether the feed would be useful in raising salmonella-free chicken for retail sale, it would be most helpful to determine which of the following?

(A) Whether feeding capsaicin to chickens affects the taste of their meat

(B) Whether eating capsaicin reduces the risk of salmonella poisoning for humans

(C) Whether chicken is more prone to salmonella contamination than other kinds of meat

(D) Whether appropriate cooking of chicken contaminated with salmonella can always prevent food poisoning

(E) Whether capsaicin can be obtained only from chili peppers

47. Laws requiring the use of headlights during daylight hours can prevent automobile collisions. However, since daylight visibility is worse in countries farther from the equator, any such laws would obviously be more effective in preventing collisions in those countries. In fact, the only countries that actually have such laws are farther from the equator than is the continental United States.

Which of the following conclusions could be most properly drawn from the information given above?

(A) Drivers in the continental United States who used their headlights during the day would be just as likely to become involved in a collision as would drivers who did not use their headlights.

(B) In many countries that are farther from the equator than is the continental United States, poor daylight visibility is the single most important factor in automobile collisions.

(C) The proportion of automobile collisions that occur in the daytime is greater in the continental United States than in the countries that have daytime headlight laws.

(D) Fewer automobile collisions probably occur each year in countries that have daytime headlight laws than occur within the continental United States.

(E) Daytime headlight laws would probably do less to prevent automobile collisions in the continental United States than they do in the countries that have the laws.

48. In the past most airline companies minimized aircraft weight to minimize fuel costs. The safest airline seats were heavy, and airlines equipped their planes with few of these seats. This year the seat that has sold best to airlines has been the safest one—a clear indication that airlines are assigning a higher priority to safe seating than to minimizing fuel costs.

Which of the following, if true, most seriously weakens the argument above?

(A) Last year's best-selling airline seat was not the safest airline seat on the market.

(B) No airline company has announced that it would be making safe seating a higher priority this year.

(C) The price of fuel was higher this year than it had been in most of the years when the safest airline seats sold poorly.

(D) Because of increases in the cost of materials, all airline seats were more expensive to manufacture this year than in any previous year.

(E) Because of technological innovations, the safest airline seat on the market this year weighed less than most other airline seats on the market.

49. Division manager: I want to replace the Microton computers in my division with Vitech computers.

General manager: Why?

Division manager: It costs 28 percent less to train new staff on the Vitech.

General manager: But that is not a good enough reason. We can simply hire only people who already know how to use the Microton computer.

Which of the following, if true, most seriously undermines the general manager's objection to the replacement of Microton computers with Vitechs?

(A) Currently all employees in the company are required to attend workshops on how to use Microton computers in new applications.

(B) Once employees learn how to use a computer, they tend to change employers more readily than before.

(C) Experienced users of Microton computers command much higher salaries than do prospective employees who have no experience in the use of

computers.

(D) The average productivity of employees in the general manager's company is below the average productivity of employees of its competitors.

(E) The high costs of replacement parts make Vitech computers more expensive to maintain than Microton computers.

50. Which of the following most logically completes the argument below?

When mercury-vapor streetlights are used in areas inhabited by insect-eating bats, the bats feed almost exclusively around the lights, because the lights attract flying insects. In Greenville, the mercury-vapor streetlights are about to be replaced with energy-saving sodium streetlights, which do not attract insects. This change is likely to result in a drop in the population of insect-eating bats in Greenville, since _____.

(A) the bats do not begin to hunt until after sundown

(B) the bats are unlikely to feed on insects that do not fly

(C) the highway department will be able to replace mercury-vapor streetlights with sodium streetlights within a relatively short time and without disrupting the continuity of lighting at the locations of the streetlights

(D) in the absence of local concentrations of the flying insects on which bats feed, the bats expend much more energy on hunting for food, requiring much larger quantities of insects to sustain each bat

(E) bats use echolocation to catch insects and therefore gain no advantage from the fact that insects flying in the vicinity of streetlights are visible at night

51. There is a great deal of geographical variation in the frequency of many surgical procedures—up to tenfold variation per hundred thousand people between different areas in the numbers of hysterectomies, prostatectomies, and tonsillectomies.

To support a conclusion that much of the variation is due to unnecessary surgical procedures, it would be most important to establish which of the following?

(A) A local board of review at each hospital examines the records of every operation to determine whether the surgical procedure was necessary.

(B) The variation is unrelated to factors (other than the surgical procedures themselves) that influence the incidence of diseases for which surgery might be considered.

(C) There are several categories of surgical procedure (other than hysterectomies, prostatectomies, and tonsillectomies) that are often

performed unnecessarily.

(D) For certain surgical procedures, it is difficult to determine after the operation whether the procedures were necessary or whether alternative treatment would have succeeded.

(E) With respect to how often they are performed unnecessarily, hysterectomies, prostatectomies, and tonsillectomies are representative of surgical procedures in general.

52. Rats injected with morphine exhibit decreased activity of the immune system, the bodily system that fights off infections. These same rats exhibited heightened blood levels of corticosteroids, chemicals secreted by the adrenal glands. Since corticosteroids can interfere with immune-system activity, scientists hypothesized that the way morphine reduces immune responses in rats is by stimulating the adrenal glands to secrete additional corticosteroids into the bloodstream.

Which of the following experiments would yield the most useful results for evaluating the scientists' hypothesis?

(A) Injecting morphine into rats that already have heightened blood levels of corticosteroids and then observing their new blood levels of corticosteroids

(B) Testing the level of immune-system activity of rats, removing their adrenal glands, and then testing the rats' immune-system activity levels again

(C) Injecting rats with corticosteroids and then observing how many of the rats contracted infections

(D) Removing the adrenal glands of rats, injecting the rats with morphine, and then testing the level of the rats' immune-system responses

(E) Injecting rats with a drug that stimulates immune-system activity and then observing the level of corticosteroids in their bloodstreams

53. Curator: If our museum lends *Venus* to the Hart Institute for their show this spring, they will lend us their Rembrandt etchings for our print exhibition next fall. Having those etchings will increase attendance to the exhibition and hence increase revenue from our general admission fee.

Museum Administrator: But *Venus* is our biggest attraction. Moreover the Hart's show will run for twice as long as our exhibition. So on balance the number of patrons may decrease.

The point of the administrator's response to the curator is to question

(A) whether getting the Rembrandt etchings from the Hart Institute is likely to increase attendance at the print exhibition

(B) whether the Hart Institute's Rembrandt etchings will be appreciated by those patrons of the curator's museum for whom the museum's biggest attraction is *Venus*

(C) whether the number of patrons attracted by the Hart Institute's Rembrandt etchings will be larger than the number of patrons who do not come in the spring because *Venus* is on loan

(D) whether, if *Venus* is lent, the museum's revenue from general admission fees during the print exhibition will exceed its revenue from general admission fees during the Hart Institute's exhibition

(E) whether the Hart Institute or the curator's museum will have the greater financial gain from the proposed exchange of artworks

54. Which of the following best completes the passage below?

At a recent conference on environmental threats to the North Sea, most participating countries favored uniform controls on the quality of effluents, whether or not specific environmental damage could be attributed to a particular source of effluent. What must, of course, be shown, in order to avoid excessively restrictive controls, is that _____.

(A) any uniform controls that are adopted are likely to be implemented without delay

(B) any substance to be made subject to controls can actually cause environmental damage

(C) the countries favoring uniform controls are those generating the largest quantities of effluents

(D) all of any given pollutant that is to be controlled actually reaches the North Sea at present

(E) environmental damage already inflicted on the North Sea is reversible

55. On May first, in order to reduce the number of overdue books, a children's library instituted a policy of forgiving fines and giving bookmarks to children returning all of their overdue books. On July first there were twice as many overdue books as there had been on May first, although a record number of books had been returned during the interim.

Which of the following, if true, most helps to explain the apparent inconsistency in the results of the library's policy?

(A) The librarians did not keep accurate records of how many children took advantage of the grace period, and some of the children returning overdue books did not return all of their overdue books.

(B) Although the grace period enticed some children to return all of their

overdue books, it did not convince all of the children with overdue books to return all of their books.

(C) The bookmarks became popular among the children, so in order to collect the bookmarks, many children borrowed many more books than they usually did and kept them past their due date.

(D) The children were allowed to borrow a maximum of five books for a two-week period, and hence each child could keep a maximum of fifteen books beyond their due date within a two-month period.

(E) Although the library forgave overdue fines during the grace period, the amount previously charged the children was minimal; hence, the forgiveness of the fines did not provide enough incentive for them to return their overdue books.

56. Often patients with ankle fractures that are stable, and thus do not require surgery, are given follow-up x-rays because their orthopedists are concerned about possibly having misjudged the stability of the fracture. When a number of follow-up x-rays were reviewed, however, all the fractures that had initially been judged stable were found to have healed correctly. Therefore, it is a waste of money to order follow-up x-rays of ankle fractures initially judged stable.

Which of the following, if true, most strengthens the argument?

(A) Doctors who are general practitioners rather than orthopedists are less likely than orthopedists to judge the stability of an ankle fracture correctly.

(B) Many ankle injuries for which an initial x-ray is ordered are revealed by the x-ray not to involve any fracture of the ankle.

(C) X-rays of patients of many different orthopedists working in several hospitals were reviewed.

(D) The healing of ankle fractures that have been surgically repaired is always checked by means of a follow-up x-ray.

(E) Orthopedists routinely order follow-up x-rays for fractures of bones other than ankle bones.

57. Traditionally, decision making by managers that is reasoned step-by-step has been considered preferable to intuitive decision making. However, a recent study found that top managers used intuition significantly more than did most middle- or lower-level managers. This confirms the alternative view that intuition is actually more effective than careful, methodical reasoning.

The conclusion above is based on which of the following assumptions?

(A) Methodical, step-by-step reasoning is inappropriate for making many real-life management decisions.

- (B) Top managers have the ability to use either intuitive reasoning or methodical, step-by-step reasoning in making decisions.
- (C) The decisions made by middle- and lower-level managers can be made as easily by using methodical reasoning as by using intuitive reasoning.
- (D) Top managers use intuitive reasoning in making the majority of their decisions.
- (E) Top managers are more effective at decision making than middle- or lower-level managers.

58. A company plans to develop a prototype weeding machine that uses cutting blades with optical sensors and microprocessors that distinguish weeds from crop plants by differences in shade of color. The inventor of the machine claims that it will reduce labor costs by virtually eliminating the need for manual weeding.

Which of the following is a consideration in favor of the company's implementing its plan to develop the prototype?

- (A) There is a considerable degree of variation in shade of color between weeds of different species.
- (B) The shade of color of some plants tends to change appreciably over the course of their growing season.
- (C) When crops are weeded manually, overall size and leaf shape are taken into account in distinguishing crop plants from weeds.
- (D) Selection and genetic manipulation allow plants of virtually any species to be economically bred to have a distinctive shade of color without altering their other characteristics.
- (E) Farm laborers who are responsible for the manual weeding of crops carry out other agricultural duties at times in the growing season when extensive weeding is not necessary.

59. A certain mayor has proposed a fee of five dollars per day on private vehicles entering the city, claiming that the fee will alleviate the city's traffic congestion. The mayor reasons that, since the fee will exceed the cost of round-trip bus fare from many nearby points, many people will switch from using their cars to using the bus.

Which of the following statements, if true, provides the best evidence that the mayor's reasoning is flawed?

- (A) Projected increases in the price of gasoline will increase the cost of taking a private vehicle into the city.
- (B) The cost of parking fees already makes it considerably more expensive for most people to take a private vehicle into the city than to take a bus.

- (C) Most of the people currently riding the bus do not own private vehicles.
- (D) Many commuters opposing the mayor's plan have indicated that they would rather endure traffic congestion than pay a five-dollar-per-day fee.
- (E) During the average workday, private vehicles owned and operated by people living within the city account for 20 percent of the city's traffic congestion.

60. Aroca City currently funds its public schools through taxes on property. **In place of this system, the city plans to introduce a sales tax of three percent on all retail sales in the city.** Critics protest that three percent of current retail sales falls short of the amount raised for schools by property taxes. The critics are correct on this point. **Nevertheless, implementing the plan will probably not reduce the money going to Aroca's schools.** Several large retailers have selected Aroca City as the site for huge new stores, and these are certain to draw large numbers of shoppers from neighboring municipalities, where sales are taxed at rates of six percent and more. In consequence, retail sales in Aroca City are bound to increase substantially.

In the argument given, the two portions in **boldface** play which of the following roles?

- (A) The first presents a plan that the argument concludes is unlikely to achieve its goal; the second expresses that conclusion.
- (B) The first presents a plan that the argument concludes is unlikely to achieve its goal; the second presents evidence in support of that conclusion.
- (C) The first presents a plan that the argument contends is the best available; the second is a conclusion drawn by the argument to justify that contention.
- (D) The first presents a plan one of whose consequences is at issue in the argument; the second is the argument's conclusion about that consequence.
- (E) The first presents a plan that the argument seeks to defend against a certain criticism; the second is that criticism.

61. Tanco, a leather manufacturer, uses large quantities of common salt to preserve animal hides. New environmental regulations have significantly increased the cost of disposing of salt water that results from this use, and, in consequence, Tanco is considering a plan to use potassium chloride in place of common salt. Research has shown that Tanco could reprocess the by-product of potassium chloride use to yield a crop fertilizer, leaving a relatively small volume of waste for disposal.

In determining the impact on company profits of using potassium chloride in place of common salt, it would be important for Tanco to research all of the following EXCEPT:

(A) What difference, if any, is there between the cost of the common salt needed to preserve a given quantity of animal hides and the cost of the potassium chloride needed to preserve the same quantity of hides?

(B) To what extent is the equipment involved in preserving animal hides using common salt suitable for preserving animal hides using potassium chloride?

(C) What environmental regulations, if any, constrain the disposal of the waste generated in reprocessing the by-product of potassium chloride?

(D) How closely does leather that results when common salt is used to preserve hides resemble that which results when potassium chloride is used?

(E) Are the chemical properties that make potassium chloride an effective means for preserving animal hides the same as those that make common salt an effective means for doing so?

62. Colorless diamonds can command high prices as gemstones. A type of less valuable diamonds can be treated to remove all color. Only sophisticated tests can distinguish such treated diamonds from naturally colorless ones. However, only 2 percent of diamonds mined are of the colored type that can be successfully treated, and many of those are of insufficient quality to make the treatment worthwhile. Surely, therefore, the vast majority of colorless diamonds sold by jewelers are naturally colorless.

A serious flaw in the reasoning of the argument is that

(A) comparisons between the price diamonds command as gemstones and their value for other uses are omitted

(B) information about the rarity of treated diamonds is not combined with information about the rarity of naturally colorless, gemstone diamonds

(C) the possibility that colored diamonds might be used as gemstones, even without having been treated, is ignored

(D) the currently available method for making colorless diamonds from colored ones is treated as though it were the only possible method for doing so

(E) the difficulty that a customer of a jeweler would have in distinguishing a naturally colorless diamond from a treated one is not taken into account

63. Boreal owls range over a much larger area than do other owls of similar size. The reason for this behavior is probably that the small mammals on which owls feed are especially scarce in the forests where boreal owls live, and the relative scarcity of prey requires the owls to range more extensively to find sufficient food.

Which of the following, if true, most helps to confirm the explanation above?

(A) Some boreal owls range over an area eight times larger than the area over which any other owl of similar size ranges.

(B) Boreal owls range over larger areas in regions where food of the sort eaten by small mammals is sparse than they do in regions where such food is abundant.

(C) After their young hatch, boreal owls must hunt more often than before in order to feed both themselves and their newly hatched young.

(D) Sometimes individual boreal owls hunt near a single location for many weeks at a time and do not range farther than a few hundred yards.

(E) The boreal owl requires less food, relative to its weight, than is required by members of other owl species.

64. Historian: Newton developed mathematical concepts and techniques that are fundamental to modern calculus. Leibniz developed closely analogous concepts and techniques. It has traditionally been thought that these discoveries were independent. Researchers have, however, recently discovered notes of Leibniz's that discuss one of Newton's books on mathematics. Several scholars have argued that since **the book includes a presentation of Newton's calculus concepts and techniques**, and since the notes were written before Leibniz's own development of calculus concepts and techniques, it is virtually certain that **the traditional view is false**. A more cautious conclusion than this is called for, however. Leibniz's notes are limited to early sections of Newton's book, sections that precede the ones in which Newton's calculus concepts and techniques are presented.

In the historian's reasoning, the two portions in **boldface** play which of the following roles?

(A) The first is a claim that the historian rejects; the second is a position that that claim has been used to support.

(B) The first is evidence that has been used to support a conclusion about which the historian expresses reservations; the second is that conclusion.

(C) The first provides evidence in support of a position that the historian defends; the second is that position.

(D) The first and the second each provide evidence in support of a position that the historian defends.

(E) The first has been used in support of a position that the historian rejects; the second is a conclusion that the historian draws from that position.

65. Meteorite explosions in the Earth's atmosphere as large as the one that destroyed forests in Siberia, with approximately the force of a twelve-megaton nuclear blast,

occur about once a century. The response of highly automated systems controlled by complex computer programs to unexpected circumstances is unpredictable.

Which of the following conclusions can most properly be drawn, if the statements above are true, about a highly automated nuclear-missile defense system controlled by a complex computer program?

- (A) Within a century after its construction, the system would react inappropriately and might accidentally start a nuclear war.
- (B) The system would be destroyed if an explosion of a large meteorite occurred in the Earth's atmosphere.
- (C) It would be impossible for the system to distinguish the explosion of a large meteorite from the explosion of a nuclear weapon.
- (D) Whether the system would respond inappropriately to the explosion of a large meteorite would depend on the location of the blast.
- (E) It is not certain what the system's response to the explosion of a large meteorite would be, if its designers did not plan for such a contingency.

66. A milepost on the towpath read "21" on the side facing the hiker as she approached it and "23" on its back. She reasoned that the next milepost forward on the path would indicate that she was halfway between one end of the path and the other. However, the milepost one mile further on read "20" facing her and "24" behind.

Which of the following, if true, would explain the discrepancy described above?

- (A) The numbers on the next milepost had been reversed.
- (B) The numbers on the mileposts indicate kilometers, not miles.
- (C) The facing numbers indicate miles to the end of the path, not miles from the beginning.
- (D) A milepost was missing between the two the hiker encountered.
- (E) The mileposts had originally been put in place for the use of mountain bikers, not for hikers.

67. For over two centuries, no one had been able to make Damascus blades—blades with a distinctive serpentine surface pattern—but a contemporary sword maker may just have rediscovered how. Using iron with trace impurities that precisely matched those present in the iron used in historic Damascus blades, this contemporary sword maker seems to have finally hit on an intricate process by which he can produce a blade indistinguishable from a true Damascus blade.

Which of the following, if true, provides the strongest support for the hypothesis that trace impurities in the iron are essential for the production of Damascus blades?

- (A) There are surface features of every Damascus blade—including the blades produced by the contemporary sword maker—that are unique to that blade.
- (B) The iron with which the contemporary sword maker made Damascus blades came from a source of iron that was unknown two centuries ago.
- (C) Almost all the tools used by the contemporary sword maker were updated versions of tools that were used by sword makers over two centuries ago.
- (D) Production of Damascus blades by sword makers of the past ceased abruptly after those sword makers' original source of iron became exhausted.
- (E) Although Damascus blades were renowned for maintaining a sharp edge, the blade made by the contemporary sword maker suggests that they may have maintained their edge less well than blades made using what is now the standard process for making blades.

68. Images from ground-based telescopes are invariably distorted by the Earth's atmosphere. Orbiting space telescopes, however, operating above Earth's atmosphere, should provide superbly detailed images. Therefore, ground-based telescopes will soon become obsolete for advanced astronomical research purposes.

Which of the following statements, if true, would cast the most doubt on the conclusion drawn above?

- (A) An orbiting space telescope due to be launched this year is far behind schedule and over budget, whereas the largest ground-based telescope was both within budget and on schedule.
- (B) Ground-based telescopes located on mountain summits are not subject to the kinds of atmospheric distortion which, at low altitudes, make stars appear to twinkle.
- (C) By careful choice of observatory location, it is possible for large-aperture telescopes to avoid most of the kind of wind turbulence that can distort image quality.
- (D) When large-aperture telescopes are located at high altitudes near the equator, they permit the best Earth-based observations of the center of the Milky Way Galaxy, a prime target of astronomical research.
- (E) Detailed spectral analyses, upon which astronomers rely for determining the chemical composition and evolutionary history of stars, require telescopes with more light-gathering capacity than space telescopes can provide.

69. Generally scientists enter their field with the goal of doing important new research and accept as their colleagues those with similar motivation. Therefore, when any scientist wins renown as an expounder of science to general audiences, most other scientists conclude that this popularizer should no longer be regarded as a true colleague.

The explanation offered above for the low esteem in which scientific popularizers are held by research scientists assumes that

- (A) serious scientific research is not a solitary activity, but relies on active cooperation among a group of colleagues
- (B) research scientists tend not to regard as colleagues those scientists whose renown they envy
- (C) a scientist can become a famous popularizer without having completed any important research
- (D) research scientists believe that those who are well known as popularizers of science are not motivated to do important new research
- (E) no important new research can be accessible to or accurately assessed by those who are not themselves scientists

70. Which of the following most logically completes the argument?

Utrania was formerly a major petroleum exporter, but in recent decades economic stagnation and restrictive regulations inhibited investment in new oil fields. In consequence, Utranian oil exports dropped steadily as old fields became depleted. Utrania's currently improving economic situation, together with less restrictive regulations, will undoubtedly result in the rapid development of new fields. However, it would be premature to conclude that the rapid development of new fields will result in higher oil exports, because _____.

- (A) the price of oil is expected to remain relatively stable over the next several years
- (B) the improvement in the economic situation in Utrania is expected to result in a dramatic increase in the proportion of Utranians who own automobiles
- (C) most of the investment in new oil fields in Utrania is expected to come from foreign sources
- (D) new technology is available to recover oil from old oil fields formerly regarded as depleted
- (E) many of the new oil fields in Utrania are likely to be as productive as those that were developed during the period when Utrania was a major oil exporter

71. Which of the following, if true, most logically completes the argument?

Some dairy farmers in the province of Takandia want to give their cows a synthetic hormone that increases milk production. Many Takandians, however, do not want to buy milk from cows given the synthetic hormone. For this reason Takandia's legislature is considering a measure requiring milk from cows given the hormone to be labeled as such. Even if the measure is defeated, dairy farmers who use the hormone will probably lose customers, since _____.

- (A) it has not been proven that any trace of the synthetic hormone exists in the milk of cows given the hormone
- (B) some farmers in Takandia who plan to use the synthetic hormone will probably not do so if the measure were passed
- (C) milk from cows that have not been given the synthetic hormone can be labeled as such without any legislative action
- (D) the legislature's consideration of the bill has been widely publicized
- (E) milk that comes from cows given the synthetic hormone looks and tastes the same as milk from cows that have not received the hormone

72. In order to reduce dependence on imported oil, the government of Jalica has imposed minimum fuel-efficiency requirements on all new cars, beginning this year. The more fuel-efficient a car, the less pollution it produces per mile driven. As Jalicans replace their old cars with cars that meet the new requirements, annual pollution from car traffic is likely to decrease in Jalica.

Which of the following, if true, most seriously weakens the argument?

- (A) In Jalica, domestically produced oil is more expensive than imported oil.
- (B) The Jalican government did not intend the new fuel-efficiency requirement to be a pollution-reduction measure.
- (C) Some pollution-control devices mandated in Jalica make cars less fuel-efficient than they would be without those devices.
- (D) The new regulation requires no change in the chemical formulation of fuel for cars in Jalica.
- (E) Jalicans who get cars that are more fuel-efficient tend to do more driving than before.

73. Plantings of cotton bioengineered to produce its own insecticide against bollworms, a major cause of crop failure, sustained little bollworm damage until this year. This year the plantings are being seriously damaged by bollworms. Bollworms, however, are not necessarily developing resistance to the cotton's insecticide. Bollworms breed on corn, and last year more corn than usual was planted throughout cotton-growing regions. So it is likely that the cotton is simply

being overwhelmed by corn-bred bollworms.

In evaluating the argument, which of the following would it be most useful to establish?

- (A) Whether corn could be bioengineered to produce the insecticide
- (B) Whether plantings of cotton that does not produce the insecticide are suffering unusually extensive damage from bollworms this year
- (C) Whether other crops that have been bioengineered to produce their own insecticide successfully resist the pests against which the insecticide was to protect them
- (D) Whether plantings of bioengineered cotton are frequently damaged by insect pests other than bollworms
- (E) Whether there are insecticides that can be used against bollworms that have developed resistance to the insecticide produced by the bioengineered cotton

74. Manufacturers sometimes discount the price of a product to retailers for a promotion period when the product is advertised to consumers. Such promotions often result in a dramatic increase in amount of product sold by the manufacturers to retailers. Nevertheless, the manufacturers could often make more profit by not holding the promotions.

Which of the following, if true, most strongly supports the claim above about the manufacturers' profit?

- (A) The amount of discount generally offered by manufacturers to retailers is carefully calculated to represent the minimum needed to draw consumers' attention to the product.
- (B) For many consumer products, the period of advertising discounted prices to consumers is about a week, not sufficiently long for consumers to become used to the sale price.
- (C) For products that are not newly introduced, the purpose of such promotions is to keep the products in the minds of consumers and to attract consumers who are currently using competing products.
- (D) During such a promotion retailers tend to accumulate in their warehouses inventory bought at discount; they then sell much of it later at their regular price.
- (E) If a manufacturer fails to offer such promotions but its competitor offers them, that competitor will tend to attract consumers away from the manufacturer's product.

75. Many gardeners believe that the variety of clematis vine that is most popular

among gardeners in North America is *jackmanii*. This belief is apparently correct since, of the one million clematis plants sold per year by the largest clematis nursery in North America, ten percent are *jackmanii*.

Which of the following is an assumption on which the argument depends?

- (A) The nursery sells more than ten different varieties of clematis.
- (B) The largest clematis nursery in North America sells nothing but clematis plants.
- (C) Some of the *jackmanii* sold by the nursery are sold to gardeners outside North America.
- (D) Most North American gardeners grow clematis in their gardens.
- (E) For all nurseries in North America that specialize in clematis, at least ten percent of the clematis plants they sell are *jackmanii*.

76. A compelling optical illusion called the illusion of velocity and size makes objects appear to be moving more slowly the larger the objects are. Therefore, a motorist's estimate of the time available for crossing a highway with a small car approaching is bound to be lower than it would be with a large truck approaching.

The conclusion above would be more properly drawn if it were made clear that the

- (A) truck's speed is assumed to be lower than the car's
- (B) truck's speed is assumed to be the same as the car's
- (C) truck's speed is assumed to be higher than the car's
- (D) motorist's estimate of time available is assumed to be more accurate with cars approaching than with trucks approaching
- (E) motorist's estimate of time available is assumed to be more accurate with trucks approaching than with cars approaching

77. Country Y uses its scarce foreign-exchange reserves to buy scrap iron for recycling into steel. Although the steel thus produced earns more foreign exchange than it costs, that policy is foolish. Country Y's own territory has vast deposits of iron ore, which can be mined with minimal expenditure of foreign exchange.

Which of the following, if true, provides the strongest support for Country Y's policy of buying scrap iron abroad?

- (A) The price of scrap iron on international markets rose significantly in 1987.
- (B) Country Y's foreign-exchange reserves dropped significantly in 1987.
- (C) There is virtually no difference in quality between steel produced from scrap iron and that produced from iron ore.

(D) Scrap iron is now used in the production of roughly half the steel used in the world today, and experts predict that scrap iron will be used even more extensively in the future.

(E) Furnaces that process scrap iron can be built and operated in Country Y with substantially less foreign exchange than can furnaces that process iron ore.

78. Since 1990 the percentage of bacterial sinus infections in Aqadestan that are resistant to the antibiotic perxicillin has increased substantially. Bacteria can quickly develop resistance to an antibiotic when it is prescribed indiscriminately or when patients fail to take it as prescribed. Since perxicillin has not been indiscriminately prescribed, health officials hypothesize that the increase in perxicillin-resistant sinus infections is largely due to patients' failure to take this medication as prescribed.

Which of the following, if true of Aqadestan, provides most support for the health officials' hypothesis?

(A) Resistance to several other commonly prescribed antibiotics has not increased since 1990 in Aqadestan.

(B) A large number of Aqadestanis never seek medical help when they have a sinus infection.

(C) When it first became available, perxicillin was much more effective in treating bacterial sinus infections than any other antibiotic used for such infections at the time.

(D) Many patients who take perxicillin experience severe side effects within the first few days of their prescribed regimen.

(E) Aqadestani health clinics provide antibiotics to their patients at cost.

79. A product that represents a clear technological advance over competing products can generally command a high price. Because **technological advances tend to be quickly surpassed** and companies want to make large profits while they still can, **many companies charge the maximum possible price for such a product**. But large profits on the new product will give competitors a strong incentive to quickly match the new product's capabilities. Consequently, the strategy to maximize overall profit from a new product is to charge less than the greatest possible price.

In the argument above, the two portions in **boldface** play which of the following roles?

(A) The first is a consideration raised to argue that a certain strategy is counterproductive; the second presents that strategy.

(B) The first is a consideration raised to support the strategy that the

argument recommends; the second presents that strategy.

(C) The first is a consideration raised to help explain the popularity of a certain strategy; the second presents that strategy.

(D) The first is an assumption, rejected by the argument, that has been used to justify a course of action; the second presents that course of action.

(E) The first is a consideration that has been used to justify adopting a certain strategy; the second presents the intended outcome of that strategy.

80. Gortland has long been narrowly self-sufficient in both grain and meat. However, as per capita income in Gortland has risen toward the world average, per capita consumption of meat has also risen toward the world average, and it takes several pounds of grain to produce one pound of meat. Therefore, since per capita income continues to rise, whereas domestic grain production will not increase, Gortland will soon have to import either grain or meat or both.

Which of the following is an assumption on which the argument depends?

(A) The total acreage devoted to grain production in Gortland will not decrease substantially.

(B) The population of Gortland has remained relatively constant during the country's years of growing prosperity.

(C) The per capita consumption of meat in Gortland is roughly the same across all income levels.

(D) In Gortland, neither meat nor grain is subject to government price controls.

(E) People in Gortland who increase their consumption of meat will not radically decrease their consumption of grain.

81. Which of the following most logically completes the passage?

The figures in portraits by the Spanish painter El Greco (1541–1614) are systematically elongated. In El Greco's time, the intentional distortion of human figures was unprecedented in European painting. Consequently, some critics have suggested that El Greco had an astigmatism, a type of visual impairment, that resulted in people appearing to him in the distorted way that is characteristic of his paintings. However, this suggestion cannot be the explanation, because _____.

(A) several twentieth-century artists have consciously adopted from El Greco's paintings the systematic elongation of the human form

(B) some people do have elongated bodies somewhat like those depicted in El Greco's portraits

(C) if El Greco had an astigmatism, then, relative to how people looked to him, the elongated figures in his paintings would have appeared to him to be

distorted

(D) even if El Greco had an astigmatism, there would have been no correction for it available in the period in which he lived

(E) there were non-European artists, even in El Greco's time, who included in their works human figures that were intentionally distorted

82. Political Advertisement:

Mayor Delmont's critics complain about the jobs that were lost in the city under Delmont's leadership. Yet the fact is that not only were more jobs created than were eliminated, but each year since Delmont took office the average pay for the new jobs created has been higher than that year's average pay for jobs citywide. So it stands to reason that throughout Delmont's tenure the average paycheck in this city has been getting steadily bigger.

Which of the following, if true, most seriously weakens the argument in the advertisement?

(A) The unemployment rate in the city is higher today than it was when Mayor Delmont took office.

(B) The average pay for jobs in the city was at a ten-year low when Mayor Delmont took office.

(C) Each year during Mayor Delmont's tenure, the average pay for jobs that were eliminated has been higher than the average pay for jobs citywide.

(D) Most of the jobs eliminated during Mayor Delmont's tenure were in declining industries.

(E) The average pay for jobs in the city is currently lower than it is for jobs in the suburbs surrounding the city.

83. To prevent a newly built dam on the Chiff River from blocking the route of fish migrating to breeding grounds upstream, the dam includes a fish pass, a mechanism designed to allow fish through the dam. Before the construction of the dam and fish pass, several thousand fish a day swam upriver during spawning season. But in the first season after the project's completion, only 300 per day made the journey. Clearly, the fish pass is defective.

Which of the following, if true, most seriously weakens the argument?

(A) Fish that have migrated to the upstream breeding grounds do not return down the Chiff River again.

(B) On other rivers in the region, the construction of dams with fish passes has led to only small decreases in the number of fish migrating upstream.

(C) The construction of the dam stirred up potentially toxic river sediments that were carried downstream.

(D) Populations of migratory fish in the Chiff River have been declining slightly over the last 20 years.

(E) During spawning season, the dam releases sufficient water for migratory fish below the dam to swim upstream.

4.5 Answer Key

1. B
2. B
3. A
4. B
5. D
6. C
7. D
8. E
9. B
10. C
11. A
12. B
13. A
14. C
15. A
16. D
17. C
18. C
19. A
20. A
21. D
22. D
23. C
24. B
25. B
26. B
27. E
28. A
29. B

30. A
31. C
32. C
33. A
34. B
35. C
36. E
37. C
38. C
39. C
40. E
41. A
42. C
43. A
44. A
45. C
46. A
47. E
48. E
49. C
50. D
51. B
52. D
53. C
54. B
55. C
56. C
57. E
58. D
59. B
60. D

61. E
62. B
63. B
64. B
65. E
66. C
67. D
68. E
69. D
70. B
71. C
72. E
73. B
74. D
75. A
76. B
77. E
78. D
79. C
80. E
81. C
82. C
83. C

4.6 Answer Explanations

The following discussion is intended to familiarize you with the most efficient and effective approaches to critical reasoning questions. The particular questions in this chapter are generally representative of the kinds of critical reasoning questions you will encounter on the GMAT. Remember that it is the problem solving strategy that is important, not the specific details of a particular question.

1. The sustained massive use of pesticides in farming has two effects that are especially pernicious. First, it often kills off the pests’ natural enemies in the area. Second, it often unintentionally gives rise to insecticide-resistant pests, since those insects that survive a particular insecticide will be the ones most resistant to it, and they are the ones left to breed.

From the passage above, it can be properly inferred that the effectiveness of the sustained massive use of pesticides can be extended by doing which of the following, assuming that each is a realistic possibility?

- (A) Using only chemically stable insecticides
- (B) Periodically switching the type of insecticide used
- (C) Gradually increasing the quantities of pesticides used
- (D) Leaving a few fields fallow every year
- (E) Breeding higher-yielding varieties of crop plants

Evaluation of a Plan

Situation	Continued high-level pesticide use often kills off the targeted pests’ natural enemies. In addition, the pests that survive the application of the pesticide may become resistant to it, and these pesticide-resistant pests will continue breeding.
Reasoning	<i>What can be done to prolong the effectiveness of pesticide use?</i> It can be inferred that the ongoing use of a particular pesticide will not continue to be effective against the future generations of pests with an inherent resistance to that pesticide. What would be effective against these future generations? If farmers periodically change the particular pesticide they use, then pests resistant to one kind of pesticide might be killed by another. This would continue, with pests being killed off in cycles as the pesticides are changed. It is also possible that this rotation might allow some of the pests’ natural enemies to survive, at least until the next cycle.

A Not enough information about chemically stable insecticides is given to make a sound inference.

B Correct. This statement properly identifies an action that could extend the effectiveness of pesticide use.

C Gradually increasing the amount of the pesticides being used will not help the situation since the pests are already resistant to it.

D Continued use of pesticides is assumed as part of the argument. Since pesticides would be unnecessary for fallow fields, this suggestion is irrelevant.

E Breeding higher-yielding varieties of crops does nothing to extend the effectiveness of the use of pesticides.

The correct answer is B.

2. Which of the following, if true, most logically completes the argument below?

Manufacturers are now required to make all cigarette lighters child-resistant by equipping them with safety levers. But this change is unlikely to result in a significant reduction in the number of fires caused by children playing with lighters, because children given the opportunity can figure out how to work the safety levers and _____.

(A) the addition of the safety levers has made lighters more expensive than they were before the requirement was instituted

(B) adults are more likely to leave child-resistant lighters than non-child-resistant lighters in places that are accessible to children

(C) many of the fires started by young children are quickly detected and extinguished by their parents

(D) unlike child-resistant lighters, lighters that are not child-resistant can be operated by children as young as two years old

(E) approximately 5,000 fires per year have been attributed to children playing with lighters before the safety levers were required.

Argument Construction

Situation	Manufacturers must equip all cigarette lighters with child-resistant safety levers, but children can figure out how to circumvent the safety levers and thereby often start fires.
Reasoning	<i>What point would most logically complete the argument? What would make it likely that the number of fires caused by children playing with lighters would remain the same? In order for children to start fires using lighters equipped with safety levers, they must be given the opportunity to figure out how the safety levers work and then to use them. They must, that is, have access to the lighters.</i>

A If safety-lever-equipped lighters are more expensive than lighters that are

not so equipped, fewer lighters might be sold. This would most likely afford children less access to lighters, thus giving them less opportunity to start fires with them.

B Correct. This statement properly identifies a point that logically completes the argument: it explains why children are likely to have access to lighters equipped with safety levers.

C The speed with which fires are extinguished does not have any bearing on the number of fires that are started.

D This provides a reason to believe that the number of fires started by children will most likely decrease, rather than stay the same: fewer children will be able to operate the lighters, and thus fewer fires are likely to be started.

E This information about how many fires were started by children before safety levers were required does not have any bearing on the question of how many fires are likely to be started by children now that the safety levers are required.

The correct answer is B.

3. Which of the following most logically completes the passage?

A business analysis of the Appenian railroad system divided its long-distance passenger routes into two categories: rural routes and interurban routes. The analysis found that, unlike the interurban routes, few rural routes carried a high enough passenger volume to be profitable. Closing unprofitable rural routes, however, will not necessarily enhance the profitability of the whole system, since _____.

(A) a large part of the passenger volume on interurban routes is accounted for by passengers who begin or end their journeys on rural routes

(B) within the last two decades several of the least used rural routes have been closed and their passenger services have been replaced by buses

(C) the rural routes were all originally constructed at least one hundred years ago, whereas some of the interurban routes were constructed recently for new high-speed express trains

(D) not all of Appenia's large cities are equally well served by interurban railroad services

(E) the greatest passenger volume, relative to the routes' capacity, is not on either category of long-distance routes but is on suburban commuter routes

Argument Construction

Situation	In the Appenian railroad system, interurban routes generally carry

	enough passengers to be profitable, but few rural routes do.
Reasoning	<i>What would suggest that closing unprofitable rural routes would not enhance the railroad system's profitability?</i> Any evidence that closing the unprofitable rural routes would indirectly reduce the profitability of other components of the railroad system would support the conclusion that closing those rural routes will not enhance the system's profitability. Thus, a statement providing such evidence would logically complete the passage.

A Correct. This suggests that closing the rural routes could discourage many passengers from traveling on the profitable interurban routes as well, thus reducing the profitability of the railroad system as a whole.

B Even if some of the least used rural routes have already been closed, it remains true that most of the remaining rural routes are too little used to be profitable.

C Closing very old routes would be at least as likely to enhance the railroad system's profitability as closing newer routes would be.

D Even if there is better railroad service to some large cities than others, closing unprofitable rural routes could still enhance the system's profitability.

E Even if suburban routes are the most heavily used and profitable, closing underused, unprofitable rural routes could still enhance the system's profitability.

The correct answer is A.

4. A cost-effective solution to the problem of airport congestion is to provide high-speed ground transportation between major cities lying 200 to 500 miles apart. The successful implementation of this plan would cost far less than expanding existing airports and would also reduce the number of airplanes clogging both airports and airways.

Which of the following, if true, could proponents of the plan above most appropriately cite as a piece of evidence for the soundness of their plan?

(A) An effective high-speed ground-transportation system would require major repairs to many highways and mass-transit improvements.

(B) One-half of all departing flights in the nation's busiest airport head for a destination in a major city 225 miles away.

(C) The majority of travelers departing from rural airports are flying to destinations in cities over 600 miles away.

(D) Many new airports are being built in areas that are presently served by high-speed ground-transportation systems.

(E) A large proportion of air travelers are vacationers who are taking long-distance flights.

Evaluation of a Plan

Situation	Providing high-speed ground transportation between cities 200 to 500 miles apart is a more cost-effective and efficient way to reduce airport congestion than expanding existing airports.
Reasoning	<i>What evidence supports the plan?</i> The transportation plan will work only if people are likely to use the high-speed ground transportation. If half the flights leaving the busiest airport fly to destinations within range (200–500 miles) of ground transportation, then many people might choose high-speed ground transportation over air travel. Then, fewer flights would be needed and airport congestion would decrease.

A Expensive repairs are an argument against, not for, ground transportation.

B Correct. This statement properly identifies evidence that supports the plan.

C Rural travelers are not included in this proposal, which addresses travel between major cities.

D New airports covering the same routes are a threat to the plan.

E The information that the airports are congested because of long-distance travelers, rather than those heading to destinations within 500 miles, argues against the proposal.

The correct answer is B.

5. In an attempt to promote the widespread use of paper rather than plastic, and thus reduce nonbiodegradable waste, the council of a small town plans to ban the sale of disposable plastic goods for which substitutes made of paper exist. The council argues that since most paper is entirely biodegradable, paper goods are environmentally preferable.

Which of the following, if true, indicates that the plan to ban the sale of disposable plastic goods is ill suited to the town council's environmental goals?

(A) Although biodegradable plastic goods are now available, members of the town council believe biodegradable paper goods to be safer for the environment.

(B) The paper factory at which most of the townspeople are employed plans to increase production of biodegradable paper goods.

(C) After other towns enacted similar bans on the sale of plastic goods, the environmental benefits were not discernible for several years.

(D) Since most townspeople prefer plastic goods to paper goods in many instances, they are likely to purchase them in neighboring towns where plastic goods are available for sale.

(E) Products other than those derived from wood pulp are often used in the manufacture of paper goods that are entirely biodegradable.

Evaluation of a Plan

Situation	A town council considers banning the sale of disposable plastic goods for which there are paper substitutes because paper is biodegradable and therefore environmentally preferable.
Reasoning	<i>What problem might there be in the council's plan?</i> The plan is intended to reduce the amount of plastic used by the citizens of the town. The town council's plan is, however, only as effective as the support it has from the town's citizens. If the citizens prefer disposable plastic goods and if the goods are also readily available in neighboring towns, there is nothing to stop them from buying the plastic goods elsewhere if that is their preference.

A The existence of biodegradable plastic does not make the town's plan to ban disposable plastic goods unsuitable to its environmental goal, which is to reduce nonbiodegradable waste.

B That the local factory will increase production of biodegradable paper goods makes it more likely that a sufficient amount of such products will be available for townspeople who wish to switch from disposable plastic goods, so this does not indicate that the council's plan is ill suited for its goals.

C Environmental benefits need not be immediate. Even though benefits were not perceived *for several years* after similar bans, the benefits did occur.

D Correct. This statement properly identifies the problem with the council's plan.

E The specific materials that go into making nonbiodegradable paper are not in question. This statement is irrelevant to the plan.

The correct answer is D.

6. Since the mayor's publicity campaign for Greenville's bus service began six months ago, morning automobile traffic into the midtown area of the city has decreased 7 percent. During the same period, there has been an equivalent rise in the number of persons riding buses into the midtown area. Obviously, the mayor's publicity campaign has convinced many people to leave their cars at home and ride the bus to work.

Which of the following, if true, casts the most serious doubt on the conclusion

drawn above?

- (A) Fares for all bus routes in Greenville have risen an average of 5 percent during the past six months.
- (B) The mayor of Greenville rides the bus to City Hall in the city's midtown area.
- (C) Road reconstruction has greatly reduced the number of lanes available to commuters in major streets leading to the midtown area during the past six months.
- (D) The number of buses entering the midtown area of Greenville during the morning hours is exactly the same now as it was one year ago.
- (E) Surveys show that longtime bus riders are no more satisfied with the Greenville bus service than they were before the mayor's publicity campaign began.

Argument Evaluation

Situation	Traffic into midtown has decreased by 7 percent, and bus ridership has increased by an equivalent amount. The mayor's publicity campaign is responsible for this change.
Reasoning	<i>What casts doubt on this conclusion?</i> Another reasonable explanation of what caused the decrease in automobile traffic and the increase in bus ridership would make this conclusion suspect. Road construction impeding access to midtown over the same period of time is a reasonable alternative explanation. The road construction projects would likely have discouraged people from driving to midtown; many of these people have probably taken the bus.

A An increase in fares might be a reasonable explanation for a decrease in ridership, but not for an increase.

B The mayor's decision to ride the bus sets a good example for citizens, so this would tend to strengthen rather than weaken support for the conclusion.

C Correct. This statement properly identifies an explanation that weakens support for the conclusion.

D If more buses were running, then more seats would be available for people traveling into midtown. Ruling out this scenario helps strengthen, not weaken, support for the conclusion.

E Passengers perceive bus service to be the same, so better service can be eliminated as a possible cause of the increased ridership.

The correct answer is C.

7. Although Ackerburg's subway system is currently operating at a deficit, the transit authority will lower subway fares next year. The authority projects that the lower fares will result in a ten percent increase in the number of subway riders. Since the additional income from the larger ridership will more than offset the decrease due to lower fares, the transit authority actually expects the fare reduction to reduce or eliminate the subway system's operating deficit for next year.

Which of the following, if true, provides the most support for the transit authority's expectation of reducing the subway system's operating deficit?

- (A) Throughout the years that the subway system has operated, fares have never before been reduced.
- (B) The planned fare reduction will not apply to students, who can already ride the subway for a reduced fare.
- (C) Next year, the transit authority will have to undertake several large-scale track maintenance projects.
- (D) The subway system can accommodate a ten percent increase in ridership without increasing the number of trains it runs each day.
- (E) The current subway fares in Ackerburg are higher than subway fares in other cities in the region.

Argument Evaluation

Situation	Ackerburg's transit authority plans to lower subway fares, projecting that this will increase ridership by 10 percent and thereby reduce or eliminate the subway system's operating deficit.
Reasoning	<i>What evidence would support the expectation that lowering subway fares will reduce the operating deficit?</i> The passage says the additional income from the projected increase in ridership will more than offset the decrease due to the lowered fares. The claim that lowering fares will reduce the operating deficit could be supported either by additional evidence that lowering the fares will increase ridership at least as much as projected or by evidence that the plan will not increase overall operating expenses.

A The fact that fares have never been reduced provides no evidence about what would happen if they were reduced.

B This suggests that the planned fare reduction would not affect revenue from student riders, but it does not suggest how it would affect revenue from all other riders.

C These maintenance projects will probably increase the operating deficit, making it less likely that the fare reduction will reduce or eliminate that deficit.

D Correct. This indicates that the plan will not involve extra operating expenses for running trains and thus increases the likelihood that the plan will reduce the operating deficit.

E Ackerburg may differ from other cities in the region in ways that make the higher fares optimal for Ackerburg's subway system.

The correct answer is D.

8. People's television-viewing habits could be monitored by having television sets, when on, send out low-level electromagnetic waves that are reflected back to the sets. The reflected waves could then be analyzed to determine how many persons are within the viewing area of the sets. Critics fear adverse health effects of such a monitoring system, but a proponent responds, "The average dose of radiation is less than one chest x-ray. As they watch, viewers won't feel a thing."

Which of the following issues would it be most important to resolve in evaluating the dispute concerning the health effects of the proposed system?

- (A) Whether the proposed method of monitoring viewership can distinguish between people and pets
- (B) Whether radar speed monitors also operate on the principle of analyzing reflected waves of electromagnetic radiation
- (C) Whether the proposed system has been tried out in various areas of the country or in a single area only
- (D) What uses are foreseen for the viewership data
- (E) Whether the average dose that the proponent describes is a short-term dose or a lifetime cumulative dose

Evaluation of a Plan

Situation	People's television habits could be tracked using electromagnetic waves. Critics of this plan are concerned that the electromagnetic waves would prove detrimental to people's health, but proponents say that viewers will feel nothing, for the average dose of radiation is less than one chest x-ray.
Reasoning	<i>What would it be most useful to know in order to resolve the dispute?</i> The dispute centers on the potential dangers of the radiation directed at those around the television. If the proponent's claim is accurate, then presumably people have nothing to worry about. But there is a significant ambiguity in the proponent's claim: what " <i>average</i> " is the proponent talking about? Over what length of time is this " <i>average</i> " dose of radiation administered by the television—a day, a year, a lifetime? Resolving this question would go a long way toward establishing whether the critics of the plan are

justified in their concerns.

A This speaks to whether the data obtained from the radiation plan will be useful to those who wish to monitor people's television habits, not to whether the monitoring system will produce adverse health effects.

B This is tangentially related to the dispute, for it could be said that if reflected waves of radiomagnetic radiation were in fact dangerous, radar speed monitors would never have been approved for use. But since no information is given about whether the amount of radiation to which people are exposed by radar speed monitors is comparable to the amount to which they would be exposed by the proposed television system, the information given would not help to resolve the dispute.

C It would be useful to know whether the health effects of the proposed system have been investigated through trials of the system. But merely knowing whether the system has been tried out in various areas of the country or in only a single area would not in itself help in determining how likely the system is to produce adverse health effects.

D The uses to which the viewership data will be put are unrelated to the question of whether the proposed system will have adverse health effects.

E Correct. This statement properly identifies an issue that, if resolved, would help to determine the health effects of the proposed system.

The correct answer is E.

9. Patrick usually provides child care for six children. Parents leave their children at Patrick's house in the morning and pick them up after work. At the end of each workweek, the parents pay Patrick at an hourly rate for the child care provided that week. The weekly income Patrick receives is usually adequate but not always uniform, particularly in the winter, when children are likely to get sick and be unpredictably absent.

Which of the following plans, if put into effect, has the best prospect of making Patrick's weekly income both uniform and adequate?

(A) Pool resources with a neighbor who provides child care under similar arrangements, so that the two of them cooperate in caring for twice as many children as Patrick currently does.

(B) Replace payment by actual hours of child care provided with a fixed weekly fee based upon the number of hours of child care that Patrick would typically be expected to provide.

(C) Hire a full-time helper and invest in facilities for providing child care to sick children.

(D) Increase the hourly rate to a level that would provide adequate income

even in a week when half of the children Patrick usually cares for are absent.

(E) Increase the number of hours made available for child care each day, so that parents can leave their children in Patrick's care for a longer period each day at the current hourly rate.

Evaluation of a Plan

Situation	At the end of the workweek, Patrick is paid a certain amount for each hour of child care he has provided. Patrick usually receives adequate weekly income under this arrangement, but in the winter Patrick's income fluctuates, because children are unpredictably absent due to illness.
Reasoning	<i>Which plan would be most likely to meet the two goals of uniform weekly income and adequate weekly income?</i> Patrick must find a way to ensure that his weekly income is both adequate—that is, not reduced significantly from current levels—and uniform—that is, not subject to seasonal or other fluctuations. A successful plan would thus most likely be one that does not increase Patrick's costs. Further, the plan need not increase Patrick's weekly income; it must merely ensure that that income is more reliable. It should therefore also provide some way to mitigate the unexpected loss of income from children's absences.

A This plan might raise Patrick's income slightly, because he and the neighbor might pay out less in costs if they pool their resources. But this plan would have no effect on the problem that unpredictable absences pose for Patrick's weekly income.

B Correct. This statement properly identifies a plan that would most likely keep Patrick's income adequate (he would probably receive approximately the same amount of money per child as he does now) and uniform (he would receive the money regardless of whether a child was present or absent).

C While this plan might somewhat mitigate the unpredictability in Patrick's income that results from sick children's absences—because parents would be less likely to keep sick children at home—it would increase Patrick's costs. Paying a helper and investing in different facilities would reduce Patrick's income and might thus result in that income being inadequate.

D Under this plan, if we assume that parents did not balk at the increase in Patrick's hourly rate and find alternative child care, Patrick's income would most likely be adequate. But this plan would not help make Patrick's weekly income uniform. His income would continue to fluctuate when children are absent. Remember, there are two goals with regard to Patrick's income:

adequacy and uniformity.

E This plan might increase Patrick's income, in that he might be paid for more hours of child care each week. The goals here, however, are to make Patrick's weekly income both adequate and uniform, and this plan does not address the issue of uniformity.

The correct answer is B.

10. A computer equipped with signature-recognition software, which restricts access to a computer to those people whose signatures are on file, identifies a person's signature by analyzing not only the form of the signature but also such characteristics as pen pressure and signing speed. Even the most adept forgers cannot duplicate all of the characteristics the program analyzes.

Which of the following can be logically concluded from the passage above?

- (A) The time it takes to record and analyze a signature makes the software impractical for everyday use.
- (B) Computers equipped with the software will soon be installed in most banks.
- (C) Nobody can gain access to a computer equipped with the software solely by virtue of skill at forging signatures.
- (D) Signature-recognition software has taken many years to develop and perfect.
- (E) In many cases even authorized users are denied legitimate access to computers equipped with the software.

Argument Construction

Situation	Forgers cannot duplicate all the characteristics that signature-recognition software analyzes, including the form of a signature, pen pressure, and signing speed. Computers equipped with this software restrict access to those whose signatures are on file.
Reasoning	<i>What conclusion can be reached about computers equipped with this software?</i> The passage states that the software detects more characteristics in a signature than the most accomplished forger can possibly reproduce. Thus, skill at forging signatures is not enough to allow someone to gain access to a computer equipped with the software.

A No information about the speed of the analysis is given, so no such conclusion can be drawn.

B Although the software would likely be of benefit to banks, we cannot conclude that it will be installed in most banks because the passage doesn't

rule out, e.g., that the software may be too costly or that there may be proprietary constraints.

C Correct. This statement properly identifies a conclusion that can be drawn from the passage.

D Although it seems reasonable to think that the software took a long time to develop, nothing in the passage justifies the claim that it took years.

E Nothing in the passage rules out the possibility that the software functions so well that authorized users will never be denied legitimate access to computers equipped with the software.

The correct answer is C.

11. Extinction is a process that can depend on a variety of ecological, geographical, and physiological variables. These variables affect different species of organisms in different ways, and should, therefore, yield a random pattern of extinctions. However, the fossil record shows that extinction occurs in a surprisingly definite pattern, with many species vanishing at the same time.

Which of the following, if true, forms the best basis for at least a partial explanation of the patterned extinctions revealed by the fossil record?

(A) Major episodes of extinction can result from widespread environmental disturbances that affect numerous different species.

(B) Certain extinction episodes selectively affect organisms with particular sets of characteristics unique to their species.

(C) Some species become extinct because of accumulated gradual changes in their local environments.

(D) In geologically recent times, for which there is no fossil record, human intervention has changed the pattern of extinctions.

(E) Species that are widely dispersed are the least likely to become extinct.

Argument Construction

Situation	The fossil record reveals that species become extinct in a surprisingly definite pattern, with multiple species vanishing simultaneously.
Reasoning	<i>Which point provides a basis for explaining the pattern?</i> The passage states that the process of extinction depends on so many variables—in the ecology and geography of the environment and in the physiology of the species—that the expected outcome would be a random pattern of extinctions. Yet a definite pattern is found instead. What could explain the disappearance of multiple species at the same time? If there were significant widespread changes in the environment, multiple species could be affected simultaneously,

causing their extinction.

A Correct. This statement properly identifies a basis for explaining the pattern of many species becoming extinct simultaneously.

B This explanation of selective extinction does not explain how many species become extinct at the same time.

C This explanation addresses only some species, not *many species*.

D The passage is based on what the fossil record suggests; more recent times, having no fossil record, are outside the consideration of the passage.

E Indicating which species are least likely to become extinct does not explain a pattern of simultaneous extinction of many species.

The correct answer is A.

12. Shelby Industries manufactures and sells the same gauges as Jones Industries. Employee wages account for 40 percent of the cost of manufacturing gauges at both Shelby Industries and Jones Industries. Shelby Industries is seeking a competitive advantage over Jones Industries. Therefore, to promote this end, Shelby Industries should lower employee wages.

Which of the following, if true, would most weaken the argument above?

(A) Because they make a small number of precision instruments, gauge manufacturers cannot receive volume discounts on raw materials.

(B) Lowering wages would reduce the quality of employee work, and this reduced quality would lead to lowered sales.

(C) Jones Industries has taken away 20 percent of Shelby Industries' business over the last year.

(D) Shelby Industries pays its employees, on average, 10 percent more than does Jones Industries.

(E) Many people who work for manufacturing plants live in areas in which the manufacturing plant they work for is the only industry.

Evaluation of a Plan

Situation	Two companies manufacture the same product, and employee wages at both companies account for the same percentage of the manufacturing cost. One company seeks a competitive edge by lowering employee wages.
Reasoning	<i>What point weakens the argument in favor of lowering wages?</i> The company anticipates that the result of lowering wages will be a competitive edge, presumably gained through offering its products at lower prices as the result of having lower production costs. If

evidence can be shown that lowering wages will not result in gaining a competitive advantage, the argument is weakened. If instead the result of lowered wages is lowered employee morale, and thus a lower quality of work and products, the declining quality could lead to a competitive disadvantage, lowering sales.

A Because the company is unable to get lower costs on its raw materials, it is more likely to seek other ways of lowering its costs, such as reducing wages. This statement tends to support the argument.

B Correct. This statement properly identifies a factor that weakens the argument.

C The loss of business would only help explain why Shelby Industries is in need of a competitive edge; it indicates nothing about whether cutting employee wages is a good way to do so.

D Its relatively higher employee wages show only why the company might reduce wages; the support for the conclusion about gaining a competitive advantage is strengthened rather than weakened.

E We do not know whether this applies to either of the companies.

The correct answer is B.

13. In parts of South America, vitamin-A deficiency is a serious health problem, especially among children. In one region, agriculturists are attempting to improve nutrition by encouraging farmers to plant a new variety of sweet potato called SPK004 that is rich in beta-carotene, which the body converts into vitamin A. The plan has good chances of success, since sweet potato is a staple of the region's diet and agriculture, and the varieties currently grown contain little beta-carotene.

Which of the following, if true, most strongly supports the prediction that the plan will succeed?

- (A) The growing conditions required by the varieties of sweet potato currently cultivated in the region are conditions in which SPK004 can flourish.
- (B) The flesh of SPK004 differs from that of the currently cultivated sweet potatoes in color and texture, so traditional foods would look somewhat different when prepared from SPK004.
- (C) There are no other varieties of sweet potato that are significantly richer in beta-carotene than SPK004 is.
- (D) The varieties of sweet potato currently cultivated in the region contain some important nutrients that are lacking in SPK004.
- (E) There are other vegetables currently grown in the region that contain

more beta-carotene than the currently cultivated varieties of sweet potato do.

Evaluation of a Plan

Situation	Agriculturists believe that if farmers in a particular South American region plant a new beta-carotene-rich variety of sweet potato, SPK004, the vitamin-A deficiency suffered in that region can be alleviated. Even though sweet potatoes are a staple of the region and the body can convert a sweet potato's beta-carotene into vitamin A, the varieties currently grown there contain little beta-carotene.
Reasoning	<i>What would most support the success of the plan to improve nutrition by encouraging farmers to plant SPK004? What, that is, would make farmers respond positively to encouragement to plant SPK004? Farmers in the region would probably be inclined to substitute SPK004 for the varieties of sweet potato they currently grow if they could be assured that SPK004 would grow as well as those other varieties do. This would in turn most likely lead to SPK004 being substituted for current varieties of sweet potato in staple dishes, and thus to an improvement in nutrition in the region.</i>

A Correct. This statement properly identifies a factor that would support a prediction of the plan's success.

B If dishes made with SPK004 look different than traditional sweet potato dishes in the region do, people might be less likely to eat those dishes; in such a situation, the plan's success would be less likely, rather than more likely.

C It is SPK004's beta-carotene content relative to the beta-carotene content of the sweet potatoes currently grown in the region that is relevant here, so it does not matter if there are other varieties of sweet potato that are richer in beta-carotene than SPK004 is.

D This suggests that switching from currently grown sweet potatoes to SPK004 could negatively affect nutrition in the region; this undermines, rather than supports, the prediction that the plan to improve nutrition will succeed.

E These other vegetables, despite their beta-carotene content being higher than that of the currently cultivated varieties of sweet potato, are clearly not sufficient to prevent a vitamin-A deficiency in the region. This information does nothing to support the prediction that encouraging farmers to plant SPK004 will help to meet those beta-carotene needs.

The correct answer is A.

14. Which of the following most logically completes the argument?

The last members of a now-extinct species of a European wild deer called the giant deer lived in Ireland about 16,000 years ago. Prehistoric cave paintings in France depict this animal as having a large hump on its back. Fossils of this animal, however, do not show any hump. Nevertheless, there is no reason to conclude that the cave paintings are therefore inaccurate in this regard, since _____.

- (A) some prehistoric cave paintings in France also depict other animals as having a hump
- (B) fossils of the giant deer are much more common in Ireland than in France
- (C) animal humps are composed of fatty tissue, which does not fossilize
- (D) the cave paintings of the giant deer were painted well before 16,000 years ago
- (E) only one currently existing species of deer has any anatomical feature that even remotely resembles a hump

Argument Construction

Situation	Representations found in prehistoric cave paintings in France of the now-extinct giant deer species—the last members of which lived in Ireland about 16,000 years ago—depict the deer as having a hump on its back. Fossils of the deer, however, do not feature a hump.
Reasoning	<i>What point would most logically complete the argument? That is, what would show that the cave paintings are not inaccurate even though fossils of the giant deer show no hump? How could it be the case that the paintings show a hump while the fossils do not? One way in which this could be so is if the humps are not part of the fossils—that is, if there is some reason why a hump would not be preserved with the rest of an animal’s remains.</i>

A We do not know whether these other cave paintings accurately depict the animals as having humps, so this provides no reason to think that the depictions of giant deer are accurate.

B Where giant deer fossils are found has no bearing on whether cave paintings of giant deer that show a hump on the animal’s back are inaccurate. It could be that this suggests that the painters responsible for the representations would not be very familiar with the species; if this were so, it would give some reason to conclude that the representations *were* inaccurate.

C Correct. This statement properly identifies a point that logically completes the argument. A hump would not be found as part of a giant deer’s fossilized remains if the humps were fatty tissue that would not be

fossilized.

D That the cave paintings were painted well before 16,000 years ago shows that they were executed before the giant deer became extinct, but this does not help to explain the discrepancy between the paintings' depiction of a hump on the deer's back and the fossil record's lack of such a hump. It could be that even though the cave painters coexisted with the giant deer, they were not sufficiently familiar with them to depict them accurately.

E That currently existing species of deer lack humps, or even that one species does have a feature resembling a hump, has little bearing on whether cave paintings in France accurately depict the giant deer as having a hump.

The correct answer is C.

15. High levels of fertilizer and pesticides, needed when farmers try to produce high yields of the same crop year after year, pollute water supplies. Experts therefore urge farmers to diversify their crops and to rotate their plantings yearly.

To receive governmental price-support benefits for a crop, farmers must have produced that same crop for the past several years.

The statements above, if true, best support which of the following conclusions?

- (A) The rules for governmental support of farm prices work against efforts to reduce water pollution.
- (B) The only solution to the problem of water pollution from fertilizers and pesticides is to take farmland out of production.
- (C) Farmers can continue to make a profit by rotating diverse crops, thus reducing costs for chemicals, but not by planting the same crop each year.
- (D) New farming techniques will be developed to make it possible for farmers to reduce the application of fertilizers and pesticides.
- (E) Governmental price supports for farm products are set at levels that are not high enough to allow farmers to get out of debt.

Argument Construction

Situation	Farmers are urged to rotate crops annually because the chemicals they must use when continuing to produce the same crops pollute water supplies. On the other hand, farmers may receive federal price-support benefits only if they have been producing the same crop for the past several years.
Reasoning	<i>What conclusion can be drawn from this information?</i> Farmers wish to receive the price-support benefits offered by the government, so they grow the same crop for several years. In order to continue

getting good yields, they use the high levels of chemicals necessary when the same crop is grown from year to year. The result is water pollution. The government's rules for price-support benefits work against the efforts to reduce water pollution.

A Correct. This statement properly identifies the conclusion supported by the evidence.

B The experts cited in the passage believe that the rotation of crops is the solution, not the removal of farmland from production.

C The conclusion that farmers cannot make a profit by producing the same crop year after year is not justified by the information given in the premises. The information given suggests that this conclusion would actually be false, since these farmers would benefit by price-support measures for such a crop.

D No information in the passage supports a conclusion about farming techniques other than crop diversification and rotation, which are clearly existing farming techniques and not new or yet to be developed.

E This conclusion is unwarranted because there is no information in the two statements about the levels of the price supports and of the farmers' debts.

The correct answer is A.

16. Ten years ago the number of taxpayers in Greenspace County was slightly greater than the number of registered voters. The number of taxpayers has doubled over the last ten years, while the number of registered voters has increased, but at a lower rate than has the number of taxpayers.

Which of the following must be true in Greenspace County if the statements above are true?

- (A) The number of taxpayers is now smaller than the number of registered voters.
- (B) Everyone who is a registered voter is also a taxpayer.
- (C) The proportion of registered voters to taxpayers has increased over the last ten years.
- (D) The proportion of registered voters to taxpayers has decreased over the last ten years.
- (E) The proportion of registered voters to taxpayers has remained unchanged over the last ten years.

Argument Evaluation

Situation	Ten years ago a county had slightly more taxpayers than registered

	voters. Since then the number of taxpayers has doubled, while the number of registered voters has increased less.
Reasoning	<i>What can be deduced from the information about the changing numbers of taxpayers and registered voters?</i> There were already slightly more taxpayers than registered voters ten years ago, but since then the number of taxpayers has increased more than proportionately to the number of registered voters. It follows that there must still be more taxpayers than registered voters, that the absolute number of taxpayers must have increased more than the absolute number of registered voters has, and that the ratio of taxpayers to registered voters must have increased.

A Since there were already more taxpayers than registered voters ten years ago, and since the number of taxpayers has increased more than the number of registered voters, there must still be more taxpayers than registered voters.

B Although there are more taxpayers than registered voters overall, there could still be many individual registered voters who are not taxpayers.

C Since the number of taxpayers has doubled while the number of registered voters has less than doubled, the proportion of registered voters to taxpayers must have decreased, not increased as this option claims.

D Correct. Since the number of taxpayers has doubled while the number of registered voters has less than doubled, the proportion of registered voters to taxpayers must have decreased.

E Since the number of taxpayers has doubled while the number of registered voters has less than doubled, the proportion of registered voters to taxpayers must have decreased, not remained unchanged.

The correct answer is D.

17. The interview is an essential part of a successful hiring program because, with it, job applicants who have personalities that are unsuited to the requirements of the job will be eliminated from consideration. The argument above logically depends on which of the following assumptions?

(A) A hiring program will be successful if it includes interviews.

(B) The interview is a more important part of a successful hiring program than is the development of a job description.

(C) Interviewers can accurately identify applicants whose personalities are unsuited to the requirements of the job.

(D) The only purpose of an interview is to evaluate whether job applicants' personalities are suited to the requirements of the job.

(E) The fit of job applicants' personalities to the requirements of the job was once the most important factor in making hiring decisions.

Argument Construction

Situation	The interview is a necessary part of hiring because candidates with unsuitable personalities are eliminated from consideration.
Reasoning	<i>What is being assumed in this argument?</i> The argument puts forth one reason that the interview is important: it eliminates candidates with unsuitable personalities. This presupposes that interviewers can, with a fair degree of accuracy, rule out those candidates whose personalities do not fit the needs of the job.

A The argument does not go so far as to say that interviews guarantee a successful hiring program.

B The argument does not prioritize the parts of a hiring program.

C Correct. This statement properly identifies the assumption underlying the argument.

D The argument gives one reason that the interview is important, but it does not say it is the *only* reason.

E This concerns past practices in hiring, and is irrelevant to the argument.

The correct answer is C.

18. A major health insurance company in Lagolia pays for special procedures prescribed by physicians only if the procedure is first approved as “medically necessary” by a company-appointed review panel. The rule is intended to save the company the money it might otherwise spend on medically unnecessary procedures. The company has recently announced that in order to reduce its costs, it will abandon this rule.

Which of the following, if true, provides the strongest justification for the company's decision?

(A) Patients often register dissatisfaction with physicians who prescribe nothing for their ailments.

(B) Physicians often prescribe special procedures that are helpful but not altogether necessary for the health of the patient.

(C) The review process is expensive and practically always results in approval of the prescribed procedure.

(D) The company's review process does not interfere with the prerogative of physicians, in cases where more than one effective procedure is available, to select the one they personally prefer.

(E) The number of members of the company-appointed review panel who review a given procedure depends on the cost of the procedure.

Evaluation of a Plan

Situation	In order to cut costs, a major health insurance company is abandoning a rule stating that it will pay for special procedures only if the procedure is approved as medically necessary by a review panel.
Reasoning	<i>What piece of information would most help to justify the company's decision?</i> For the company to save money, it would need to be in some way cutting its costs by abandoning the rule. Under what circumstances might the rule cost, rather than save, the company money? The panel itself might be expensive to convene, for example. Further, the cost savings achieved by the panel might be minimal if the panel did not deny significant numbers of procedures.

A This suggests that patients might be pressuring their physicians to prescribe certain unnecessary procedures for their ailments, which in turn suggests that the panel is reviewing these procedures and denying them. But if so, then the panel is probably saving the insurance company money, so abandoning the panel's review would not reduce the company's costs.

B This suggests that certain procedures that are being prescribed by physicians are not medically necessary, which in turn suggests that the panel reviewing these procedures may be denying them. If this is the case, then the panel is probably saving the insurance company a significant amount of money, so abandoning the panel's review may well increase rather than decrease the company's costs.

C Correct. This statement properly identifies information that would help to justify the company's decision.

D Even if the panel does not interfere with physicians' choices when more than one medically effective procedure is available, the panel may still be denying pay for many procedures that are not medically necessary. In such cases the panel may be saving the insurance company money, and abandoning the review process would not reduce the company's costs.

E This suggests that the more expensive the procedure under review, the more expensive the panel itself is. Even so, if the panel denies payment for very expensive procedures, it may nonetheless save the company significantly more than the company has to pay to convene the panel, so abandoning the review process would not reduce the company's costs.

The correct answer is C.

19. To evaluate a plan to save money on office-space expenditures by having its

employees work at home, XYZ Company asked volunteers from its staff to try the arrangement for six months. During this period, the productivity of these employees was as high as or higher than before.

Which of the following, if true, would argue most strongly against deciding, on the basis of the trial results, to implement the company's plan?

- (A) The employees who agreed to participate in the test of the plan were among the company's most self-motivated and independent workers.
- (B) The savings that would accrue from reduced office-space expenditures alone would be sufficient to justify the arrangement for the company, apart from any productivity increases.
- (C) Other companies that have achieved successful results from work-at-home plans have workforces that are substantially larger than that of XYZ.
- (D) The volunteers who worked at home were able to communicate with other employees as necessary for performing the work.
- (E) Minor changes in the way office work is organized at XYZ would yield increases in employee productivity similar to those achieved in the trial.

Evaluation of a Plan

Situation	To save money on office space expenditures, a company considers having employees work at home. A six-month trial with employees who have volunteered to test the plan shows their productivity to be as high as or higher than before.
Reasoning	<i>Why would the trial results NOT provide a good reason to implement the plan?</i> Generalizing from a small sample to the group depends on having a sample that is representative. In this case, the employees who participated in the trial are not representative of all employees. The employees who volunteered for the trial may be the type of employees who would be most likely to work successfully at home. It would not be wise to base a generalization about all employees on this sample.

A Correct. This statement properly identifies a flaw in the trial that is the basis for the plan.

B This statement supports the implementation of the plan. Moreover, it is not based on the trial results, so it does not answer the question.

C The passage gives no information about how company size might affect the implementation of the plan or the reliability of the trial results.

D If anything, this would tend to support the plan.

E The goal of the plan is to save money on office space, not to increase

productivity, so an alternative plan to increase productivity is irrelevant.

The correct answer is A.

20. Consumer health advocate: Your candy company adds caffeine to your chocolate candy bars so that each one delivers a specified amount of caffeine. Since caffeine is highly addictive, this indicates that you intend to keep your customers addicted.

Candy manufacturer: Our manufacturing process results in there being less caffeine in each chocolate candy bar than in the unprocessed cacao beans from which the chocolate is made.

The candy manufacturer's response is flawed as a refutation of the consumer health advocate's argument because it

(A) fails to address the issue of whether the level of caffeine in the candy bars sold by the manufacturer is enough to keep people addicted

(B) assumes without warrant that all unprocessed cacao beans contain a uniform amount of caffeine

(C) does not specify exactly how caffeine is lost in the manufacturing process

(D) treats the consumer health advocate's argument as though it were about each candy bar rather than about the manufacturer's candy in general

(E) merely contradicts the consumer health advocate's conclusion without giving any reason to believe that the advocate's reasoning is unsound

Argument Evaluation

Situation	A candy manufacturer is accused of adding caffeine, an addictive substance, to its chocolate candy bars with the intent of keeping its customers addicted. The candy manufacturer responds to this accusation by saying that there is less caffeine in each chocolate candy bar than in the unprocessed cacao beans from which the chocolate is made.
Reasoning	<i>What is the flaw in the candy manufacturer's response?</i> First consider whether the response indeed refutes the advocate's charge. In actuality, instead of focusing on the details of the accusation—adding caffeine to its chocolate bars to keep customers addicted—the manufacturer substitutes an entirely different subject, the amount of caffeine in cacao beans. The manufacturer's response is a diversion, not an answer.

A Correct. This statement properly identifies the flaw in the response. The candy manufacturer does not answer the question whether adding caffeine to candy bars is designed to make them addictive.

B Even if the manufacturer did make this assumption, the information is not relevant to the accusation, which is not concerned with naturally occurring caffeine in cacao beans.

C The precise amount of caffeine lost in the manufacturing process is not at issue.

D The manufacturer does not treat the health advocate's argument this way.

E The manufacturer does not contradict the accusation, but rather avoids it.

The correct answer is A.

21. Nutritionists are advising people to eat more fish, since the omega-3 fatty acids in fish help combat many diseases. If everyone took this advice, however, there would not be enough fish in oceans, rivers, and lakes to supply the demand; the oceans are already being overfished. The obvious method to ease the pressure on wild fish populations is for people to increase their consumption of farmed fish.

Which of the following, if true, raises the most serious doubt concerning the prospects for success of the solution proposed above?

A. Aquaculture, or fish farming, raises more fish in a given volume of water than are generally present in the wild.

B. Some fish farming, particularly of shrimp and other shellfish, takes place in enclosures in the ocean.

C. There are large expanses of ocean waters that do not contain enough nutrients to support substantial fish populations.

D. The feed for farmed ocean fish is largely made from small wild-caught fish, including the young of many popular food species.

E. Some of the species that are now farmed extensively were not commonly eaten when they were only available in the wild.

Argument Evaluation

Situation	Nutritionists advise people to eat fish for the omega-3 fatty acids, but there would not be enough fish to meet the demand if everyone followed this advice. Therefore, people should increase their consumption of farmed fish to ease pressure of wild fish populations.
Reasoning	<i>What evidence would suggest that increasing consumption of farmed fish would not ease pressure on wild fish populations? Any evidence suggesting that significantly increasing consumption of farmed fish would diminish the habitat or food available for wild fish would also suggest that increasing consumption of farmed fish would not ease pressure on wild fish populations.</i>

A Probably the less space fish farming requires, the less pressure it creates

on wild fish habitats and populations, other things being equal.

B Whether any fish farming takes place in enclosures in the ocean is not clearly relevant to whether it eases pressure on wild fish populations.

C Substantial fish populations may thrive in other large expanses of ocean water that contain more nutrients, and in rivers and lakes.

D Correct. This suggests that increasing consumption of farmed fish would require increased use of wild fish as feed for farmed fish and therefore would not ease pressure on wild fish populations.

E Even if some farmed fish are different species from the wild fish that are commonly eaten, increased consumption of the farmed fish could reduce demand for the wild fish and thereby ease pressure on wild fish populations.

The correct answer is D.

22. Crops can be traded on the futures market before they are harvested. If a poor corn harvest is predicted, prices of corn futures rise; if a bountiful corn harvest is predicted, prices of corn futures fall. This morning meteorologists are predicting much-needed rain for the corn-growing region starting tomorrow. Therefore, since adequate moisture is essential for the current crop's survival, prices of corn futures will fall sharply today.

Which of the following, if true, most weakens the argument above?

(A) Corn that does not receive adequate moisture during its critical pollination stage will not produce a bountiful harvest.

(B) Futures prices for corn have been fluctuating more dramatically this season than last season.

(C) The rain that meteorologists predicted for tomorrow is expected to extend well beyond the corn-growing region.

(D) Agriculture experts announced today that a disease that has devastated some of the corn crop will spread widely before the end of the growing season.

(E) Most people who trade in corn futures rarely take physical possession of the corn they trade.

Argument Evaluation

Situation	Crop futures rise when a harvest is expected to be small and drop when a harvest is expected to be large. Today's weather forecast for the corn-growing area predicts much-needed rain, so corn futures will fall today.
Reasoning	<i>What information weakens the argument that corn futures will fall?</i> The prediction that corn futures will drop sharply today is made

solely on the basis of the forecast of rain, which would lead futures buyers to expect an abundant crop. However, if it becomes known that some harmful circumstance such as a devastating disease will severely affect the corn crop before the end of the growing season, this knowledge may lead buyers of futures to expect a smaller harvest, causing prices of futures to rise rather than fall.

A This statement tells at what exact point in the growing cycle rain is critical to a good harvest, but it gives no information about this year's harvest.

B This comparison of past price fluctuations does not affect what will happen to today's corn futures on account of the predicted rain. The argument is not weakened.

C The only rain that matters is the rain that affects the corn-growing region, not areas beyond it; this statement is irrelevant to the prediction.

D Correct. This statement properly identifies information that weakens the argument.

E Physical possession of the corn is irrelevant to the price of corn futures.

The correct answer is D.

23. Large national budget deficits do not cause large trade deficits. If they did, countries with the largest budget deficits would also have the largest trade deficits. In fact, when deficit figures are adjusted so that different countries are reliably comparable to each other, there is no such correlation.

If the statements above are all true, which of the following can properly be inferred on the basis of them?

(A) Countries with large national budget deficits tend to restrict foreign trade.

(B) Reliable comparisons of the deficit figures of one country with those of another are impossible.

(C) Reducing a country's national budget deficit will not necessarily result in a lowering of any trade deficit that country may have.

(D) When countries are ordered from largest to smallest in terms of population, the smallest countries generally have the smallest budget and trade deficits.

(E) Countries with the largest trade deficits never have similarly large national budget deficits.

Argument Construction

Situation	No correlation is found between large national budget deficits and

	large trade deficits.
Reasoning	<i>What inference can be drawn from this information?</i> Since the passage states that national budget deficits do not correlate with trade deficits, it is logical to anticipate an inference about the independent nature of the relationship between the two kinds of deficits. One possible inference is that reducing one deficit need not result in a reduction of the other.

A This would receive some support if there were information indicating that there was a correlation between large budget deficits and small trade deficits, but no such information is given.

B The passage states that reliable comparisons have been developed.

C Correct. This statement properly identifies an inference that can be drawn from the given information.

D The passage gives no indication as to whether either type of deficit correlates in any way with the population size of a country.

E Though there is no general correlation between the two kinds of deficits, it cannot be inferred that there are no countries in which both kinds of deficits are large.

The correct answer is C.

24. Which of the following best completes the passage below?

The more worried investors are about losing their money, the more they will demand a high potential return on their investment; great risks must be offset by the chance of great rewards. This principle is the fundamental one in determining interest rates, and it is illustrated by the fact that

(A) successful investors are distinguished by an ability to make very risky investments without worrying about their money

(B) lenders receive higher interest rates on unsecured loans than on loans backed by collateral

(C) in times of high inflation, the interest paid to depositors by banks can actually be below the rate of inflation

(D) at any one time, a commercial bank will have a single rate of interest that it will expect all of its individual borrowers to pay

(E) the potential return on investment in a new company is typically lower than the potential return on investment in a well-established company

Argument Construction

Situation	The principle of determining interest rates is related to the risk

	involved in making the investment of a loan. Potentially greater rewards will lead lenders (investors) to accept greater risks.
Reasoning	<i>Which example illustrates the principle that greater risks should produce greater rewards?</i> The example must be about the relationship of risk to benefit. Lenders take a greater risk when loans are unsecured (not backed by collateral) because there is a chance they could lose their money entirely. The principle indicates that the lenders—who by definition are investors—would demand the reward of higher interest rates.

A The freedom from anxiety enjoyed by some investors is not relevant. While risky investments are mentioned, this statement does not mention their return.

B Correct. This statement properly identifies an example that shows that riskier loans—those not backed by collateral—receive the benefit of higher interest rates.

C This discussion of interest rates in times of inflation does not mention potential risk or potential benefit.

D A single rate of interest for all investments, no matter the level of risk, contradicts the principle and so cannot possibly be an example of it.

E New companies are generally riskier than established ones. A lower rate of return for such riskier new companies contradicts the principle.

The correct answer is B.

25. It is often said that high rates of inflation tend to diminish people's incentive to save and invest. This view must be incorrect, however, because people generally saved and invested more of their income in the 1970's when inflation rates were high than they did in the 1980's when inflation rates were low.

Of the following, the best criticism of the argument above is that it overlooks the possibility that

- (A) all people do not respond in the same way to a given economic stimulus
- (B) certain factors operating in the 1980's but not in the 1970's diminished people's incentive to save and invest
- (C) the population was larger in the 1980's than it was in the 1970's
- (D) the proponents of the view cited would stand to gain if inflation rates become lower
- (E) a factor that affects people's savings behavior in a certain way could affect people's investment behavior quite differently

Argument Evaluation

Situation	People generally saved and invested more in the 1970's when inflation was high than in the 1980s when inflation was low, despite the fact that it is commonly believed that high inflation discourages savings and investment.
Reasoning	<i>Why does the observation about savings, investment, and inflation rates in the 1970's and 1980's not justify the conclusion that high inflation does not generally diminish people's incentive to save and invest?</i> The argument observes that over the course of two decades there was a positive rather than a negative correlation between inflation on the one hand and savings and investment on the other. It infers from this that high rates of inflation do not tend to diminish people's incentive to save and invest. Is this inference justified? Note that the claim that this argument is trying to discredit is not that high rates of inflation always diminished people's incentive to save and invest. Rather, the claim is merely that high rates of inflation tend to do this. The argument overlooks the possibility that during the two decades in question other factors may have caused a positive correlation to briefly appear even if in general the correlation is negative.

A The argument is compatible with the hypothesis that some people respond to inflation by saving and investing more, while others do not.

B Correct. If these other factors, unrelated to the inflation rate, that operated in the 1980's but not the 1970's, created an even greater disincentive to savings and investment than high inflation rates provide, then those trends do not provide evidence about the general relationship among savings, investment, and inflation.

C The argument appears to concern savings and investment per capita, so total population size should be irrelevant. But increasing population would not explain declining total amounts of savings and investment, either.

D If anything, the possibility that the proponents' ulterior motives distorted their reasoning would help to support the argument's conclusion that the proponents' view is incorrect.

E The argument addresses this possibility by presenting evidence that inflation was positively correlated with both savings and investment during the 1970's and 1980's.

The correct answer is B.

26. Company Alpha buys free-travel coupons from people who are awarded the coupons by Bravo Airlines for flying frequently on Bravo airplanes. The coupons are sold to people who pay less for the coupons than they would pay by purchasing

- tickets from Bravo. This marketing of coupons results in lost revenue for Bravo. To discourage the buying and selling of free-travel coupons, it would be best for Bravo Airlines to restrict the
- (A) number of coupons that a person can be awarded in a particular year
 - (B) use of the coupons to those who were awarded the coupons and members of their immediate families
 - (C) days that the coupons can be used to Monday through Friday
 - (D) amount of time that the coupons can be used after they are issued
 - (E) number of routes on which travelers can use the coupons

Evaluation of a Plan

Situation	A company that buys and sells travel coupons reduces the revenue of an airline. The airline wants to discourage the trade in coupons.
Reasoning	<i>How can the airline discourage its customers from selling their coupons?</i> Limiting the use of the coupons to those who earned them and their immediate families rewards passengers for flying the airline and encourages them to continue to do so while at the same time making the sale of the coupons useless.

A Limiting the number of coupons awarded a year does nothing to discourage their resale.

B Correct. This statement properly identifies a limitation that makes the sale of coupons useless while maintaining the coupons' value as a reward.

C Limiting the time of use to weekdays does not discourage resale and makes the coupons less valuable to the airline's customers.

D Imposing a date by which the coupons must be used does not discourage resale and diminishes the coupons' value as a reward.

E Restricting the routes available does not discourage resale but does reduce the coupons' value as a reward.

The correct answer is B.

27. A proposed ordinance requires the installation in new homes of sprinklers automatically triggered by the presence of a fire. However, a home builder argued that because more than 90 percent of residential fires are extinguished by a household member, residential sprinklers would only marginally decrease property damage caused by residential fires.

Which of the following, if true, would most seriously weaken the home builder's argument?

- (A) Most individuals have no formal training in how to extinguish fires.
- (B) Since new homes are only a tiny percentage of available housing in the city, the new ordinance would be extremely narrow in scope.
- (C) The installation of smoke detectors in new residences costs significantly less than the installation of sprinklers.
- (D) In the city where the ordinance was proposed, the average time required by the fire department to respond to a fire was less than the national average.
- (E) The largest proportion of property damage that results from residential fires is caused by fires that start when no household member is present.

Argument Evaluation

Situation	A home builder claims that requiring automatic sprinklers in new homes will not significantly decrease property damage from residential fires because more than 90 percent of home fires are put out by a household member.
Reasoning	<i>Which point weakens the argument?</i> The home builder's argument implicitly recognizes that there are some residential fires that are not extinguished by household members. For instance, fires may occur when no one is home to put out the fire—a situation that automatic sprinklers would remedy. If such fires lead to considerable damage, then the home builder's conclusion is not justified.

A If more than 90 percent of residential fires are successfully extinguished by the individuals who live there, then no formal training appears to be necessary.

B The small percentage of new homes supports the builder's position; it does not weaken the argument.

C The argument is about sprinkler systems, not smoke detection devices.

D The argument is not about a comparison between fire departments and sprinkler systems.

E Correct. This statement properly identifies a weakness in the home builder's argument by showing that the most damage occurs when no household member is present to put out the fire.

The correct answer is E.

28. Which of the following most logically completes the argument below?

Within the earth's core, which is iron, pressure increases with depth. Because the temperature at which iron melts increases with pressure, the inner core is solid and the outer core is molten. Physicists can determine the melting temperature of

iron at any given pressure and the pressure for any given depth in the earth. Therefore, the actual temperature at the boundary of the earth's outer and inner cores—the melting temperature of iron there—can be determined, since _____.

- (A) the depth beneath the earth's surface of the boundary between the outer and inner cores is known
- (B) some of the heat from the earth's core flows to the surface of the earth
- (C) pressures within the earth's outer core are much greater than pressures above the outer core
- (D) nowhere in the earth's core can the temperature be measured directly
- (E) the temperatures within the earth's inner core are higher than in the outer core

Argument Construction

Situation	Pressure within the earth's iron core increases with depth. Because the melting temperature of iron increases with pressure, the inner core is solid and the outer core molten. Physicists can determine iron's melting temperature at any pressure and the pressure it is under at any depth.
Reasoning	<i>What further premise, combined with the information provided, would support the conclusion that physicists can determine the temperature at the boundary between the outer and inner cores?</i> Since physicists can determine iron's melting temperature at any pressure and the pressure it is under at any depth, they must be able to determine its melting temperature at any depth. The temperature at the boundary between the inner and outer cores must exactly equal the melting temperature there, since that is the boundary between the molten and solid parts of the core. To determine the temperature at the boundary, therefore, it would suffice to know the depth of the boundary.

A Correct. If physicists know the depth of the boundary between the inner and outer cores, they can determine the temperature at the boundary.

B The fact that *some heat* flows from the core to the surface is too vague to help in determining exact temperatures anywhere.

C The difference in pressures between the outer core and the region above it is only vaguely described here and is not clearly relevant to the temperature at the boundary between the outer core and the inner core below it.

D An absence of information would not be helpful in determining the temperature at the boundary between the outer and inner cores.

E This information is not sufficiently specific to show that the temperature at the boundary between the outer and inner cores can be determined.

The correct answer is A.

29. Which of the following most logically completes the reasoning?

Either food scarcity or excessive hunting can threaten a population of animals. If the group faces food scarcity, individuals in the group will reach reproductive maturity later than otherwise. If the group faces excessive hunting, individuals that reach reproductive maturity earlier will come to predominate. Therefore, it should be possible to determine whether prehistoric mastodons became extinct because of food scarcity or human hunting, since there are fossilized mastodon remains from both before and after mastodon populations declined, and _____.

- (A) there are more fossilized mastodon remains from the period before mastodon populations began to decline than from after that period
- (B) the average age at which mastodons from a given period reached reproductive maturity can be established from their fossilized remains
- (C) it can be accurately estimated from fossilized remains when mastodons became extinct
- (D) it is not known when humans first began hunting mastodons
- (E) climate changes may have gradually reduced the food available to mastodons

Argument Construction

Situation	In a population of animals, food scarcity causes later reproductive maturity; if that population is hunted excessively, earlier-maturing animals will be more numerous in the population.
Reasoning	<i>What point would most logically complete the argument?</i> For the information given to be of use in determining what caused mastodons' extinction, mastodon fossils would need to indicate the age at which mastodons reached reproductive maturity, since that is what the argument suggests can indicate cause of extinction. If fossilized remains exist from before and after mastodon populations began to decline, and if the age at which those fossilized mastodons reached reproductive maturity can be determined, then we will have a good idea of what caused their extinction: if they reached reproductive maturity late, it was probably food scarcity, but if they matured earlier, it was most likely hunting.

A This fact only helps indicate that there was a decline; it tells us nothing about what caused the decline.

B Correct. This statement properly identifies a point that logically completes the argument: it explains how the fossilized mastodon remains could be used to help determine what caused mastodons’ extinction.

C The point at which mastodons became extinct is not part of this argument, which is concerned with the cause of their extinction. The only way in which this could be relevant to the issue at hand is if mastodons became extinct before humans took up hunting mastodons—but the argument includes no information on whether this was so.

D Not knowing when humans began hunting mastodons would have no effect on the argument, which is concerned with how mastodon fossils, combined with knowledge about how food scarcity and hunting affect mastodon reproductive maturity, can help determine how mastodons became extinct.

E This fact only shows that food scarcity *may* have led to mastodon’s decline. It tells us nothing about whether fossilized remains can help determine whether it was food scarcity or human hunting that actually led to the decline.

The correct answer is B.

30. Unlike the wholesale price of raw wool, the wholesale price of raw cotton has fallen considerably in the last year. Thus, although the retail price of cotton clothing at retail clothing stores has not yet fallen, it will inevitably fall.

Which of the following, if true, most seriously weakens the argument above?

- (A) The cost of processing raw cotton for cloth has increased during the last year.
- (B) The wholesale price of raw wool is typically higher than that of the same volume of raw cotton.
- (C) The operating costs of the average retail clothing store have remained constant during the last year.
- (D) Changes in retail prices always lag behind changes in wholesale prices.
- (E) The cost of harvesting raw cotton has increased in the last year.

Argument Evaluation

Situation	Since the wholesale price of raw cotton has fallen significantly, the retail price of cotton clothing in stores will inevitably fall.
Reasoning	<i>What point weakens this argument?</i> Consider carefully the difference between the two products for which costs are being compared: cotton and cloth. This argument assumes that lower wholesale prices for a raw product must necessarily result in lower

retail prices for a processed product. What other factors could have an impact on the final retail prices of cotton clothing? If any of the costs of transforming the raw product into a processed product increase, then the retail prices of cotton clothing will not necessarily fall.

A Correct. This statement properly identifies a weakness in the argument.

B The relative prices of raw wool and raw cotton are irrelevant to price changes in raw cotton and processed cotton.

C One step between wholesale and retail prices is the operating cost of the retail store. If that operating cost has been constant rather than rising, it is possible that the retail prices could follow the lower wholesale prices. Thus the argument is not weakened.

D The argument notes that the wholesale price has fallen *in the last year* and that though the retail price *has not yet fallen, it will inevitably fall*. The argument has already taken the lag into account and is not weakened by this statement.

E Harvesting costs are part of the assumed increased price of raw cotton and do not affect current retail prices.

The correct answer is A.

31. A recent spate of launching and operating mishaps with television satellites led to a corresponding surge in claims against companies underwriting satellite insurance. As a result, insurance premiums shot up, making satellites more expensive to launch and operate. This, in turn, had added to the pressure to squeeze more performance out of currently operating satellites.

Which of the following, if true, taken together with the information above, best supports the conclusion that the cost of television satellites will continue to increase?

(A) Since the risk to insurers of satellites is spread over relatively few units, insurance premiums are necessarily very high.

(B) When satellites reach orbit and then fail, the causes of failure are generally impossible to pinpoint with confidence.

(C) The greater the performance demands placed on satellites, the more frequently those satellites break down.

(D) Most satellites are produced in such small numbers that no economies of scale can be realized.

(E) Since many satellites are built by unwieldy international consortia, inefficiencies are inevitable.

Argument Evaluation

Situation	A rise in the number of claims after a series of accidents has forced insurance companies to raise prices for coverage of television satellites. Consequently, new satellites are more expensive, and existing satellites must perform more. The cost of television satellites will continue to increase.
Reasoning	<i>Why might the cost continue to increase?</i> The passage says that the existing satellites are being asked to work harder than previously. If that increase in workload brings with it an increased number of breakdowns, growing satellite repair and replacement costs will add to the already increased cost of insurance premiums.

A The high rate of premiums is a given; nothing in this statement reflects why the costs would increase further.

B The difficulty of diagnosing the causes of satellite failure shows one reason the costs are high; it does not show why they are increasing.

C Correct. This statement properly identifies a factor that explains why costs will continue to increase.

D The small number of satellites shows one reason they are expensive; it does not explain why costs would continue to increase.

E The inefficiencies may partially account for initial high costs; nothing in this statement explains an increase in costs.

The correct answer is C.

32. If the airspace around centrally located airports were restricted to commercial airliners and only those private planes equipped with radar, most of the private-plane traffic would be forced to use outlying airfields. Such a reduction in the amount of private-plane traffic would reduce the risk of midair collision around the centrally located airports.

The conclusion drawn in the first sentence depends on which of the following assumptions?

- (A) Outlying airfields would be as convenient as centrally located airports for most pilots of private planes.
- (B) Most outlying airfields are not equipped to handle commercial-airline traffic.
- (C) Most private planes that use centrally located airports are not equipped with radar.
- (D) Commercial airliners are at greater risk of becoming involved in midair collisions than are private planes.

(E) A reduction in the risk of midair collision would eventually lead to increases in commercial airline traffic.

Argument Construction

Situation	Only commercial airliners and private planes with radar would be allowed to use the airspace around centrally located airports; most private-plane traffic would use outlying airfields instead. The result would be fewer midair collisions around centrally located airports.
Reasoning	<i>What assumption underlies the conclusion that most private planes would be forced to use outlying airfields?</i> The argument assumes that if the proposed restriction were put in place, most private-plane traffic would be rerouted to outlying airports. Because the restriction allows private planes that have radar to land at the centrally located airports, it must be assumed that the planes involved in most private-plane traffic at those airports are not equipped with radar.

A Convenience is not at issue.

B The capacity of outlying airfields to handle commercial airlines is outside the scope of the question.

C Correct. This statement properly identifies the assumption that most of these private planes lack radar and would no longer be allowed to land at the centrally located airports.

D Private-plane traffic could be diverted to outlying airfields even if this statement were not true.

E The future of commercial airline traffic is beyond the scope of the question.

The correct answer is C.

33. Many office buildings designed to prevent outside air from entering have been shown to have elevated levels of various toxic substances circulating through the air inside, a phenomenon known as sick building syndrome. Yet the air in other office buildings does not have elevated levels of these substances, even though those buildings are the same age as the “sick” buildings and have similar designs and ventilation systems.

Which of the following, if true, most helps to explain why not all office buildings designed to prevent outside air from entering have air that contains elevated levels of toxic substances?

(A) Certain adhesives and drying agents used in particular types of furniture, carpets, and paint contribute the bulk of the toxic substances that circulate in the air of office buildings.

(B) Most office buildings with sick building syndrome were built between 1950 and 1990.

(C) Among buildings designed to prevent outside air from entering, houses are no less likely than office buildings to have air that contains elevated levels of toxic substances.

(D) The toxic substances that are found in the air of “sick” office buildings are substances that are found in at least small quantities in nearly every building.

(E) Office buildings with windows that can readily be opened are unlikely to suffer from sick building syndrome.

Argument Evaluation

Situation	Many office buildings designed to prevent outside air from entering have elevated levels of toxic substances in their interior air, but other such buildings similar in age, design, and ventilation do not.
Reasoning	<i>What would help to explain the difference in air quality among buildings similar in age, design, and ventilation?</i> If office buildings are designed to prevent outside air from entering, toxic substances emitted into the interior air might not be ventilated out quickly, and thus might become more concentrated inside the building. But if such toxic substances are not emitted into a building’s interior air in the first place, they will not become concentrated there, even if the building is poorly ventilated. So any factor that suggests why toxic substances are emitted into the interior air of some buildings but not others of similar age and design would help to explain the difference in the buildings’ air quality.

A Correct. Some buildings may have these types of furniture, carpets, and paint, while other buildings similar in age, design, and ventilation do not.

B Since all these buildings were built during the same period, this does not help to explain the difference in air quality among buildings similar in age.

C The passage concerns air quality in office buildings only, not in houses.

D This does not help to explain why these toxic substances are more concentrated in some office buildings than in others.

E The passage concerns the differences in air quality only among office buildings that were designed to prevent outside air from entering.

The correct answer is A.

34. A discount retailer of basic household necessities employs thousands of people and pays most of them at the minimum wage rate. Yet following a federally mandated

increase of the minimum wage rate that increased the retailer's operating costs considerably, the retailer's profits increased markedly.

Which of the following, if true, most helps to resolve the apparent paradox?

- (A) Over half of the retailer's operating costs consist of payroll expenditures; yet only a small percentage of those expenditures go to pay management salaries.
- (B) The retailer's customer base is made up primarily of people who earn, or who depend on the earnings of others who earn, the minimum wage.
- (C) The retailer's operating costs, other than wages, increased substantially after the increase in the minimum wage rate went into effect.
- (D) When the increase in the minimum wage rate went into effect, the retailer also raised the wage rate for employees who had been earning just above minimum wage.
- (E) The majority of the retailer's employees work as cashiers, and most cashiers are paid the minimum wage.

Argument Evaluation

Situation	A discount retailer of household necessities pays the minimum wage to most of its employees. When the minimum wage rate went up, the retailer's operating costs rose. However, its profits also rose.
Reasoning	<i>What information helps explain the paradoxical situation that the retailer's profits rose even though its costs rose? Consider the nature of the cost increase: wages have gone up. If the retailer's customer base includes many people who earn minimum wage, their buying power has risen with the minimum wage and they can spend more. This would explain the rise in profits.</i>

A This statement helps explain the impact of the wage-rate increase on costs but does not explain how rising costs could lead to profits.

B Correct. This statement properly explains the surprising impact of the wage-rate increase on profits.

C If the retailer's other costs also rose, then the paradox of the retailer's profits is even more mysterious.

D Increasing other wages contributes to even higher operating costs; there is no information to explain how higher costs could lead to profits.

E This detail about minimum-wage jobs does not explain how the retailer could be gaining profits when costs are rising.

The correct answer is B.

35. Premature babies who receive regular massages are more active than premature babies who do not. Even when all the babies drink the same amount of milk, the massaged babies gain more weight than do the unmassaged babies. This is puzzling because a more active person generally requires a greater food intake to maintain or gain weight.

Which of the following, if true, best reconciles the apparent discrepancy described above?

- (A) Increased activity leads to increased levels of hunger, especially when food intake is not also increased.
- (B) Massage increases premature babies’ curiosity about their environment, and curiosity leads to increased activity.
- (C) Increased activity causes the intestines of premature babies to mature more quickly, enabling the babies to digest and absorb more of the nutrients in the milk they drink.
- (D) Massage does not increase the growth rate of babies over one year old, if the babies had not been previously massaged.
- (E) Premature babies require a daily intake of nutrients that is significantly higher than that required by babies who were not born prematurely.

Argument Construction

Situation	Premature babies who receive regular massages are more active and gain more weight than unmassaged premature babies do, even when they drink the same amount of milk.
Reasoning	<i>What would help to explain how the massaged babies could be more active than the unmassaged babies and yet still gain more weight without consuming more milk?</i> If the massaged babies are burning more calories than unmassaged babies through their extra activity, but are not consuming more calories in the form of milk, then how are they gaining more weight than the unmassaged babies? Possible explanations could cite factors suggesting how the massaged babies might not actually burn more calories despite their greater activity; how they might consume or absorb more calories even without consuming more milk; or how they might gain more weight without extra calorie intake.

A Increased hunger without increased food intake would not help to explain why the massaged babies are gaining more weight.

B This only helps to explain why the massaged babies are more active, not why they are gaining more weight without consuming more milk.

C **Correct.** This suggests that the increased activity of the massaged babies

could increase their calorie and nutrient intake from a given amount of milk, thereby explaining how they could gain extra weight without drinking more milk.

D This suggests that the apparent discrepancy is only present in premature babies under one year old, but it does not explain why that discrepancy exists.

E The passage does not compare premature babies to babies that were not born prematurely, but rather only compares premature babies that are massaged to premature babies that are not massaged.

The correct answer is C.

36. An eyeglass manufacturer tried to boost sales for the summer quarter by offering its distributors a special discount if their orders for that quarter exceeded those for last year's summer quarter by at least 20 percent. Many distributors qualified for this discount. Even with much merchandise discounted, sales increased enough to produce a healthy gain in net profits. The manufacturer plans to repeat this success by offering the same sort of discount for the fall quarter.

Which of the following, if true, most clearly points to a flaw in the manufacturer's plan to repeat the successful performance of the summer quarter?

(A) In general, a distributor's orders for the summer quarter are no higher than those for the spring quarter.

(B) Along with offering special discounts to qualifying distributors, the manufacturer increased newspaper and radio advertising in those distributors' sales areas.

(C) The distributors most likely to qualify for the manufacturer's special discount are those whose orders were unusually low a year earlier.

(D) The distributors who qualified for the manufacturer's special discount were free to decide how much of that discount to pass on to their own customers.

(E) The distributors' ordering more goods in the summer quarter left them overstocked for the fall quarter.

Evaluation of a Plan

Situation	A manufacturer successfully boosted sales and gained net profits for the summer quarter by giving distributors a discount if their orders exceeded the previous summer's orders by 20 percent. The manufacturer plans to repeat the success by offering the discount again in the fall quarter.
Reasoning	<i>What is the flaw in the manufacturer's plan?</i> The plan assumes that an action that succeeded once will work a second time. Why might

the plan not work this time? If the distributors increased their orders during the summer simply because they were eager to take advantage of the discount, the result may be that they are now overstocked for the fall quarter. If so, they will not need to place orders for more goods, and the plan of continuing the discount will have less chance of success now.

A This is irrelevant to the plan since relevant quarters—fall and summer—are not being compared.

B Increased advertising should continue to contribute to the plan's success.

C Even if the qualifying distributors reached only normal levels of sales, there may be other distributors who will qualify in the fall because they had low sales one year earlier.

D The distributors' freedom to decide how much of the discount to pass on to customers is equally true in both summer and fall quarters and should not affect the success of the plan.

E Correct. This statement properly identifies a flaw in the plan.

The correct answer is E.

37. Vitacorp, a manufacturer, wishes to make its information booth at an industry convention more productive in terms of boosting sales. The booth offers information introducing the company's new products and services. To achieve the desired result, Vitacorp's marketing department will attempt to attract more people to the booth. The marketing director's first measure was to instruct each salesperson to call his or her five best customers and personally invite them to visit the booth.

Which of the following, if true, most strongly supports the prediction that the marketing director's first measure will contribute to meeting the goal of boosting sales?

(A) Vitacorp's salespeople routinely inform each important customer about new products and services as soon as the decision to launch them has been made.

(B) Many of Vitacorp's competitors have made plans for making their own information booths more productive in increasing sales.

(C) An information booth that is well attended tends to attract visitors who would not otherwise have attended the booth.

(D) Most of Vitacorp's best customers also have business dealings with Vitacorp's competitors.

(E) Vitacorp has fewer new products and services available this year than it

had in previous years.

Evaluation of a Plan

Situation	A manufacturer wants increased sales from its information booth at an industry convention. To boost sales, the marketing department seeks to attract more people to the booth, and the marketing director tells the salespeople to invite their best customers to visit the booth.
Reasoning	<i>Which point best supports the marketing director's plan?</i> First ask what would be a valid reason for inviting faithful customers to visit the booth. Such invitations should assure that the booth will generally be busy with visitors. If people are more attracted to a well-attended booth than to an empty one, then more potential customers are likely to visit the busy booth, and more visitors should produce more sales. The marketing director is operating on the principle that success breeds success. Making sure that the booth is well attended by Vitacorp's current customers is likely to attract more potential customers and thus boost sales.

A If the best customers already have all available new product and service information, they are unlikely to respond to the invitation to visit the booth; this point is a weakness in the plan.

B Competitors' efforts toward the same goal may hurt Vitacorp's efforts, so this point does not support the plan.

C Correct. This statement properly identifies a point supporting the marketing director's plan.

D The plan simply aims to attract more visitors to Vitacorp's booth to encourage more sales and does not address the fact that Vitacorp shares its customers with its competitors.

E This information, if anything, would suggest that the plan would be less successful.

The correct answer is C.

38. Budget constraints have made police officials consider reassigning a considerable number of officers from traffic enforcement to work on higher-priority, serious crimes. Reducing traffic enforcement for this reason would be counterproductive, however, in light of the tendency of criminals to use cars when engaged in the commission of serious crimes. An officer stopping a car for a traffic violation can make a search that turns up evidence of serious crime.

Which of the following, if true, most strengthens the argument given?

(A) An officer who stops a car containing evidence of the commission of a serious crime risks a violent confrontation, even if the vehicle was stopped

only for a traffic violation.

(B) When the public becomes aware that traffic enforcement has lessened, it typically becomes lax in obeying traffic rules.

(C) Those willing to break the law to commit serious crimes are often in committing such crimes unwilling to observe what they regard as the lesser constraints of traffic law.

(D) The offenders committing serious crimes who would be caught because of traffic violations are not the same group of individuals as those who would be caught if the arresting officers were reassigned from traffic enforcement.

(E) The great majority of persons who are stopped by officers for traffic violations are not guilty of any serious crimes.

Argument Construction

Situation	Budget constraints have made police officials consider reassigning many officers from traffic enforcement to work on serious crimes. But criminals often drive when committing serious crimes, and police who stop cars for traffic violations can find evidence of those crimes.
Reasoning	<i>What additional information, when combined with the argument provided, would suggest that it would be counterproductive to reassign officers from traffic enforcement to work on serious crimes?</i> The argument implicitly reasons that because officers working on traffic enforcement can turn up evidence of serious crimes by searching cars that commit traffic violations, reassigning those officers would hinder police efforts to prevent serious crime, even if the officers were reassigned to work directly on serious crime. The argument could be strengthened by information suggesting that traffic enforcement may increase the probability that evidence relating to serious crimes will be discovered.

A If anything, this risk of violence might discourage traffic enforcement officers from stopping and searching as many cars, thus reducing their effectiveness at preventing serious crimes.

B This suggests that reassigning officers from traffic enforcement to work on serious crimes would increase the number of unpunished minor traffic violations, not the number of unpunished serious crimes.

C Correct. This suggests that people committing serious crimes often commit traffic violations as well, increasing the likelihood that traffic enforcement officers will stop and search their cars and find evidence of those crimes.

D The question at issue is not whether the same offenders would be caught if the officers were reassigned, but rather whether more or fewer offenders would be caught.

E This weakens the argument by suggesting that most work by traffic enforcement officers is unrelated to preventing serious crimes.

The correct answer is C.

39. Pro-Tect Insurance Company has recently been paying out more on car-theft claims than it expected. Cars with special antitheft devices or alarm systems are much less likely to be stolen than are other cars. Consequently Pro-Tect, as part of an effort to reduce its annual payouts, will offer a discount to holders of car-theft policies if their cars have antitheft devices or alarm systems.

Which of the following, if true, provides the strongest indication that the plan is likely to achieve its goal?

- (A) The decrease in the risk of car theft conferred by having a car alarm is greatest when only a few cars have such alarms.
- (B) The number of policyholders who have filed a claim in the past year is higher for Pro-Tect than for other insurance companies.
- (C) In one or two years, the discount that Pro-Tect is offering will amount to more than the cost of buying certain highly effective antitheft devices.
- (D) Currently, Pro-Tect cannot legally raise the premiums it charges for a given amount of insurance against car theft.
- (E) The amount Pro-Tect has been paying out on car-theft claims has been greater for some models of car than for others.

Evaluation of a Plan

Situation	An insurance company is paying more money on car-theft claims than anticipated. To reduce these payments, the company is planning to offer discounts to customers whose cars have antitheft devices or alarm systems, because such cars are less likely to be stolen.
Reasoning	<i>What piece of information would indicate that the plan is likely to succeed?</i> Pro-Tect wishes to reduce its annual payouts, and one way for that to happen is for fewer cars insured by Pro-Tect to be stolen. To help accomplish this, Pro-Tect is offering discounts to policyholders whose cars are so equipped, because cars equipped with antitheft devices or alarm systems are less likely to be stolen than are cars without such devices. What would interfere with the success of Pro-Tect's plan? Car owners would probably resist investing in antitheft devices or alarm systems if the cost of such systems is higher than the discount they will receive. So if Pro-Tect

sets the discount at a level that makes installing antitheft devices seem like a bargain to car owners, the plan will most likely succeed.

A Pro-Tect's plan is designed to increase the number of cars equipped with car alarms. If having more cars equipped with car alarms reduces those alarms' effectivity in preventing thefts, then Pro-Tect's plan is unlikely to achieve its goal.

B Pro-Tect's claims in relation to those of other insurance companies are not relevant to whether Pro-Tect's plan to reduce its own car-theft claims will achieve its goal.

C Correct. This statement suggests that Pro-Tect's plan will provide an effective incentive for car owners to install antitheft devices; this statement therefore properly identifies information that indicates the plan is likely to achieve its goal.

D Because Pro-Tect's plan does not involve raising the premiums it charges, restrictions on its ability to do so are irrelevant to whether that plan will achieve its goal.

E Pro-Tect's plan does not distinguish among different models of car, so this statement indicates nothing about whether the proposed plan will succeed.

The correct answer is C.

40. Start-up companies financed by venture capitalists have a much lower failure rate than companies financed by other means. Source of financing, therefore, must be a more important causative factor in the success of a start-up company than are such factors as the personal characteristics of the entrepreneur, the quality of strategic planning, or the management structure of the company.

Which of the following, if true, most seriously weakens the argument above?

- (A) Venture capitalists tend to be more responsive than other sources of financing to changes in a start-up company's financial needs.
- (B) The strategic planning of a start-up company is a less important factor in the long-term success of the company than are the personal characteristics of the entrepreneur.
- (C) More than half of all new companies fail within five years.
- (D) The management structures of start-up companies are generally less formal than the management structures of ongoing businesses.
- (E) Venture capitalists base their decisions to fund start-up companies on such factors as the characteristics of the entrepreneur and quality of strategic planning of the company.

Argument Evaluation

Situation	When venture capitalists fund start-up companies, the failure rate is much lower than when the companies are funded by other means. The success of start-up companies, then, may be attributed more to their source of funding than to any other factor.
Reasoning	<i>What point weakens the argument?</i> The argument concludes that the source of funding is the single most important factor in determining the success of a start-up company. But what if the source of that funding, venture capitalists, considers other factors before making its investment? Venture capitalists may evaluate the characteristics of the entrepreneur as well as the company's strategic plan and management structure before deciding to fund the start-up company. If this is the case, then the most important causative factor in the success of the company cannot be said to be the source of the funding.

A The responsiveness of venture capitalists is a point in favor of the argument, not against it.

B This statement about the relative importance of strategic planning and the personality of the entrepreneur does not weaken the argument because it does not address the importance of these factors in relation to financial backing.

C The argument concerns only successful start-up companies, so high failure rates are irrelevant.

D The argument deals with the success rates of start-up companies based on their sources of funding. A comparison of start-up companies in general with ongoing businesses has no bearing on the argument.

E Correct. This statement properly identifies evidence that weakens the argument.

The correct answer is E.

41. Art restorers who have been studying the factors that cause Renaissance oil paintings to deteriorate physically when subject to climatic changes have found that the oil paint used in these paintings actually adjusts to these changes well. The restorers therefore hypothesize that it is a layer of material called gesso, which is under the paint, that causes the deterioration.

Which of the following, if true, most strongly supports the restorers' hypothesis?

- (A) Renaissance oil paintings with a thin layer of gesso are less likely to show deterioration in response to climatic changes than those with a thicker layer.
- (B) Renaissance oil paintings are often painted on wooden panels, which

swell when humidity increases and contract when it declines.

(C) Oil paint expands and contracts readily in response to changes in temperature, but it absorbs little water and so is little affected by changes in humidity.

(D) An especially hard and nonabsorbent type of gesso was the raw material for moldings on the frames of Renaissance oil paintings.

(E) Gesso layers applied by Renaissance painters typically consisted of a coarse base layer onto which several increasingly fine-grained layers were applied.

Argument Evaluation

Situation	Renaissance paintings are subject to deterioration due to changes in climate, but their actual paint is not a factor in this deterioration. Instead, restorers hypothesize, it is gesso, the material under the paint, that causes problems for the paintings.
Reasoning	<i>What would most strongly support the hypothesis that gesso is causing the deterioration?</i> An indication that gesso is affected by climatic changes would be most helpful in supporting the hypothesis. What could show that gesso is affected in this way? If the extent of a painting's deterioration is directly related to the amount of gesso used under that painting, then the gesso clearly plays some part in that deterioration.

A Correct. This statement properly identifies a point supporting the hypothesis.

B This suggests that another factor—the wood of the panels—has a role in the paintings' deterioration. Thus it weakens the hypothesis that gesso causes the deterioration.

C This merely reinforces given information, that the paint itself is not responsible for the paintings' deterioration.

D Because this gives no information about any connection between this especially hard and nonabsorbent type of gesso and the type of gesso used under the paint in Renaissance paintings, the properties and usage of the former type of gesso are irrelevant to the question of whether gesso is responsible for the paintings' deterioration.

E Because we are told nothing about whether this technique of gesso application increases or decreases the likelihood that gesso will be affected by climatic change, it does not support the restorers' hypothesis.

The correct answer is A.

42. Automobile Dealer’s Advertisement:

The Highway Traffic Safety Institute reports that the PZ 1000 has the fewest injuries per accident of any car in its class. This shows that the PZ 1000 is one of the safest cars available today.

Which of the following, if true, most seriously weakens the argument in the advertisement?

- (A) The Highway Traffic Safety Institute report listed many cars in other classes that had more injuries per accident than did the PZ 1000.
- (B) In recent years many more PZ 1000s have been sold than have any other kind of car in its class.
- (C) Cars in the class to which the PZ 1000 belongs are more likely to be involved in accidents than are other types of cars.
- (D) The difference between the number of injuries per accident for the PZ 1000 and that for other cars in its class is quite pronounced.
- (E) The Highway Traffic Safety Institute issues reports only once a year.

Argument Evaluation

Situation	An advertisement claims that the PZ 1000 is one of the safest cars available; it bases this claim on the Highway Traffic Safety Institute’s report that this model had the fewest injuries per accident of any car in its class.
Reasoning	<i>What point weakens the advertisement’s claim?</i> Examine closely the difference between the report and the conclusion the advertisement draws from it. While the Highway Traffic Safety Institute compares the PZ 1000 to other cars <i>in its class</i> , the advertisement compares the PZ 1000 to <i>all cars available today</i> . What if the class of cars to which the PZ 1000 belongs is a more dangerous class of cars? In that case, while the PZ 1000 may be the safest car of a dangerous class, it cannot be said to be one of the safest cars available.

A The higher incidence of injuries per accident in other classes of cars supports rather than weakens the advertisement’s argument.

B The fact that the PZ 1000 is the best selling car in its class might be explained by the fact that it is the safest car in its class, but if this has any effect on the argument at all, it would be to strengthen rather than weaken it.

C Correct. This statement properly identifies a weakness in the advertisement’s argument.

D This slightly strengthens, rather than weakens, the argument.

E The frequency of the reports is irrelevant to the advertisement's claim.

The correct answer is C.

43. Which of the following most logically completes the passage?

It is generally believed that people receiving frequent medical checkups are likely to need hospitalization less frequently than they would otherwise; after all, many things can be done following a checkup to prevent problems that, if ignored, might become acute and then require hospitalization. But for people with chronic illnesses, frequent medical checkups are likely to lead to more frequent hospitalization since _____.

(A) the recommended treatments for complications of many chronic illnesses involve hospitalization even if those complications are detected while barely noticeable

(B) medical checkups sometimes do not reveal early symptoms of those chronic illnesses that are best treated in a hospital

(C) the average length of a hospital stay is the same for those who receive frequent checkups as for those who do not

(D) people with chronic illnesses generally receive medical checkups more frequently than people who are not chronically ill

(E) the average length of a hospital stay for people with a chronic illness tends to increase as the illness progresses

Argument Construction

Situation	Actions taken after medical checkups can prevent problems that might otherwise become acute and require hospitalization. But for people with chronic illnesses, frequent medical checkups tend to lead to more frequent hospitalizations.
Reasoning	<i>What would help to explain why more frequent medical checkups tend to lead to more frequent hospitalizations for people with chronic illnesses?</i> The first sentence of the passage suggests that medical checkups should make hospitalization less frequent by catching medical problems before they become severe enough to require hospitalization. But if the medical problems that checkups typically catch in people with chronic illnesses already require hospitalization when they are caught, the checkups might result in such people being hospitalized more frequently rather than less frequently.

A Correct. This suggests that in people with chronic illnesses, checkups may more often result in treatments that require hospitalization than in treatments that could prevent hospitalization.

B The fact that occasionally a checkup fails to reveal early symptoms of a chronic illness best treated in a hospital does not indicate that frequent checkups of people with chronic illnesses would lead to more frequent hospitalization than less frequent checkups would.

C The question at issues concerns the frequency of hospitalization, not the average length of hospital stays.

D The question at issue is why people with chronic illnesses who have more frequent checkups tend to be hospitalized more frequently than other chronically ill people, not why they tend to be hospitalized more frequently than people who are not chronically ill.

E Again, the question at issue concerns the frequency of hospitalization, not the average length of hospital stays. In any case, we are not told whether people with chronic illnesses tend to have checkups more or less frequently as their illnesses progress.

The correct answer is A.

44. Two decades after the Emerald River Dam was built, none of the eight fish species native to the Emerald River was still reproducing adequately in the river below the dam. Since the dam reduced the annual range of water temperature in the river below the dam from 50 degrees to 6 degrees, scientists have hypothesized that sharply rising water temperatures must be involved in signaling the native species to begin the reproductive cycle.

Which of the following statements, if true, would most strengthen the scientists' hypothesis?

(A) The native fish species were still able to reproduce only in side streams of the river below the dam where the annual temperature range remains approximately 50 degrees.

(B) Before the dam was built, the Emerald River annually overflowed its banks, creating backwaters that were critical breeding areas for the native species of fish.

(C) The lowest recorded temperature of the Emerald River before the dam was built was 34 degrees, whereas the lowest recorded temperature of the river after the dam was built has been 43 degrees.

(D) Nonnative species of fish, introduced into the Emerald River after the dam was built, have begun competing with the declining native fish species for food and space.

(E) Five of the fish species native to the Emerald River are not native to any other river in North America.

Argument Evaluation

Situation	The construction of a dam has significantly reduced the range of water temperatures in the river below the dam. Scientists have implicated this change in the failure of native fish species to reproduce adequately.
Reasoning	<i>What evidence would strengthen the hypothesis?</i> To test the hypothesis, scientists need to study the same fish in the same river, but with only one variable changed: the temperature range of the water. If the same species of fish successfully reproduce in water that retains the same temperature range that the river had had before the dam was built, then the scientists have likely found the cause of the problem.

A Correct. This statement properly identifies evidence that strengthens the scientists' hypothesis.

B The overflow's creation of breeding areas offers an alternative hypothesis; it rivals rather than strengthens the hypothesis about temperature range.

C These differences in lowest recorded temperatures are simply specific data points related to the proposed cause; they do nothing to support the hypothesis.

D The introduction of nonnative species competing for food and space is an additional variable, and thus offers an alternative hypothesis.

E The rareness of certain species points to the severity of the problem, not to its cause.

The correct answer is A.

45. Dental researchers recently discovered that toothbrushes can become contaminated with bacteria that cause pneumonia and strep throat. They found that contamination usually occurs after toothbrushes have been used for four weeks. For that reason, people should replace their toothbrushes at least once a month.

Which of the following, if true, would most weaken the conclusion above?

(A) The dental researchers could not discover why toothbrush contamination usually occurred only after toothbrushes had been used for four weeks.

(B) The dental researchers failed to investigate contamination of toothbrushes by viruses, yeasts, and other pathogenic microorganisms.

(C) The dental researchers found that among people who used toothbrushes contaminated with bacteria that cause pneumonia and strep throat, the incidence of these diseases was no higher than among people who used uncontaminated toothbrushes.

(D) The dental researchers found that people who rinsed their toothbrushes thoroughly in hot water after each use were as likely to have contaminated toothbrushes as were people who only rinsed their toothbrushes hurriedly in cold water after each use.

(E) The dental researchers found that, after six weeks of use, greater length of use of a toothbrush did not correlate with a higher number of bacteria being present.

Argument Evaluation

Situation	Researchers have found that, after four weeks of use, toothbrushes may become contaminated with disease bacteria. Therefore, toothbrushes should be replaced once a month.
Reasoning	<i>What information weakens the conclusion?</i> The passage concludes that contaminated toothbrushes should be replaced monthly. Clearly, the assumption underlying this conclusion is that such replacement is necessary because the bacterial contamination is potentially harmful to the user of the toothbrush. Do people actually become ill because of their use of contaminated toothbrushes? If a comparison of disease rates for people using uncontaminated toothbrushes and for people using contaminated toothbrushes shows no difference between the groups, then the assumption about the potential harm is proven wrong and support for the conclusion is thereby weakened.

A The recommendation to change every four weeks is not weakened simply because researchers cannot explain why it takes that long for contamination to occur.

B The failure to investigate other possible contaminants of toothbrushes does not weaken the recommendation.

C Correct. This statement properly identifies the information that weakens the conclusion: using contaminated toothbrushes is no more likely to result in disease than using uncontaminated ones, and thus changing toothbrushes every month is unnecessary.

D Since even careful maintenance of toothbrushes does not reduce contamination, the recommendation is strengthened.

E If the contamination still remains at six weeks, even if it is not worse, the recommendation based on the bacteria existing at four weeks is not weakened.

The correct answer is C.

46. Meat from chickens contaminated with salmonella bacteria can cause serious food poisoning. Capsaicin, the chemical that gives chili peppers their hot flavor, has

antibacterial properties. Chickens do not have taste receptors for capsaicin and will readily eat feed laced with capsaicin. When chickens were fed such feed and then exposed to salmonella bacteria, relatively few of them became contaminated with salmonella.

In deciding whether the feed would be useful in raising salmonella-free chicken for retail sale, it would be most helpful to determine which of the following?

- (A) Whether feeding capsaicin to chickens affects the taste of their meat
- (B) Whether eating capsaicin reduces the risk of salmonella poisoning for humans
- (C) Whether chicken is more prone to salmonella contamination than other kinds of meat
- (D) Whether appropriate cooking of chicken contaminated with salmonella can always prevent food poisoning
- (E) Whether capsaicin can be obtained only from chili peppers

Argument Evaluation

Situation	Chickens will readily eat feed laced with capsaicin, which appears to protect them from contamination with salmonella bacteria that can cause food poisoning.
Reasoning	<i>What information would help determine whether using the feed would be an effective strategy for raising salmonella-free chicken for retail sale?</i> In order for the strategy to be effective, it must be economically feasible for farmers to raise chickens using the feed, and there must be enough consumer demand for chickens raised this way. So any information about factors likely to affect either the economic feasibility of raising the chickens or consumer demand for them could be helpful in determining how useful the feed would be.

A Correct. If chicken producers tried to market meat from capsaicin-fed chickens without knowing whether the taste is affected, they would risk alienating consumers. Of course, if they found that the taste is affected, they would then need to do further investigations to determine how consumers would likely respond to the difference. If consumers did not like the taste, this could negatively affect demand for the chickens. In that case, using the feed would not be an effective way to raise chickens for retail sale.

B There are two ways this might be considered relevant. First, it might be thought that because capsaicin reduces the risk of salmonella poisoning in humans, it will also do so in chickens; but we already have good evidence of that in the argument. Second, it might be thought that, if the capsaicin does not produce chickens that are totally salmonella free, then if any capsaicin

remains in the chickens, it will help prevent any humans who consume the chicken from getting salmonella poisoning. But the relevant issue is whether the capsaicin will make the chickens salmonella free, not whether humans will be protected whether the chickens are salmonella free or not.

C The susceptibility of other types of meat to salmonella contamination would not affect the usefulness of the feed for preventing such contamination in chicken.

D Presumably many people do not cook contaminated chicken appropriately, so consumers could still benefit from salmonella-free chicken whether or not appropriate cooking methods could prevent food poisoning.

E Regardless of whether capsaicin can be obtained from other sources, chili peppers may be a perfectly viable source.

The correct answer is A.

47. Laws requiring the use of headlights during daylight hours can prevent automobile collisions. However, since daylight visibility is worse in countries farther from the equator, any such laws would obviously be more effective in preventing collisions in those countries. In fact, the only countries that actually have such laws are farther from the equator than is the continental United States.

Which of the following conclusions could be most properly drawn from the information given above?

(A) Drivers in the continental United States who used their headlights during the day would be just as likely to become involved in a collision as would drivers who did not use their headlights.

(B) In many countries that are farther from the equator than is the continental United States, poor daylight visibility is the single most important factor in automobile collisions.

(C) The proportion of automobile collisions that occur in the daytime is greater in the continental United States than in the countries that have daytime headlight laws.

(D) Fewer automobile collisions probably occur each year in countries that have daytime headlight laws than occur within the continental United States.

(E) Daytime headlight laws would probably do less to prevent automobile collisions in the continental United States than they do in the countries that have the laws.

Argument Construction

Situation	Laws requiring the use of headlights during the daytime are more

	effective at preventing car collisions in countries with lower daylight visibility, that is, in countries at greater distances from the equator. The only countries having these laws are those located farther from the equator than is the continental United States.
Reasoning	<i>What conclusion can be drawn from this information?</i> Countries with daytime headlight laws are all farther from the equator than is the continental United States. The location is significant because daytime visibility is worse in those countries than it is in the continental United States. How effective at preventing collisions would such laws be in the continental United States with its greater proximity to the equator? It is reasonable to conclude that such laws would be less effective at preventing collisions there than they are in the countries farther from the equator.

A Although daytime headlight use may be less effective in countries with more daylight, it cannot be concluded that U.S. drivers using daytime headlights would gain no benefit from them and would be just as likely to have collisions as those who do not use them.

B The passage offers no evidence for the conclusion that poor visibility is the *greatest* cause for collisions in these countries.

C Many factors besides use of headlights during daylight hours influence accident rates, and these factors may vary widely from one country to another. We are given no information about these other factors or about their relative impact in various countries.

D Without specific data, no conclusion can be drawn about the relative number of accidents that occur.

E Correct. This statement properly identifies a conclusion to be drawn from the given information.

The correct answer is E.

48. In the past most airline companies minimized aircraft weight to minimize fuel costs. The safest airline seats were heavy, and airlines equipped their planes with few of these seats. This year the seat that has sold best to airlines has been the safest one—a clear indication that airlines are assigning a higher priority to safe seating than to minimizing fuel costs.

Which of the following, if true, most seriously weakens the argument above?

- (A) Last year's best-selling airline seat was not the safest airline seat on the market.
- (B) No airline company has announced that it would be making safe seating a higher priority this year.

(C) The price of fuel was higher this year than it had been in most of the years when the safest airline seats sold poorly.

(D) Because of increases in the cost of materials, all airline seats were more expensive to manufacture this year than in any previous year.

(E) Because of technological innovations, the safest airline seat on the market this year weighed less than most other airline seats on the market.

Argument Evaluation

Situation	The safest airline seats were heavy, but since additional weight meant higher fuel costs, airlines had bought few of these seats. Because the best-selling seats this year are the safest ones, the airlines have clearly reset their priorities, choosing safe seating over minimizing fuel costs.
Reasoning	<i>What information weakens this argument?</i> Previously, the safest seats were heavy, so the airlines purchased lighter—and less safe—seats to minimize fuel costs. But if the safest seat this year is among the lightest, the airlines may simply be pursuing their previous priority of minimizing fuel costs by reducing weight.

A The new information does little more than corroborate information already provided in the premises.

B This weakens the argument only if the argument assumes that if such a change in priorities *had* occurred, it *would have* been announced. But this is not assumed.

C This tends to strengthen rather than weaken the argument. In a time of high fuel costs, if an airline chooses the safest seat regardless of weight, that choice suggests that the airline is making safety a greater priority than fuel economy.

D This information does not weaken the argument, since it suggests no reason for purchasing one type of seat as opposed to another.

E Correct. This statement disconfirms a critically important assumption made by the argument—namely that the currently safest seat would also be heavier than the less safe seats.

The correct answer is E.

49. Division manager: I want to replace the Microton computers in my division with Vitech computers.

General manager: Why?

Division manager: It costs 28 percent less to train new staff on the Vitech.

General manager: But that is not a good enough reason. We can simply hire only

people who already know how to use the Microton computer.

Which of the following, if true, most seriously undermines the general manager's objection to the replacement of Microton computers with Vitechs?

- (A) Currently all employees in the company are required to attend workshops on how to use Microton computers in new applications.
- (B) Once employees learn how to use a computer, they tend to change employers more readily than before.
- (C) Experienced users of Microton computers command much higher salaries than do prospective employees who have no experience in the use of computers.
- (D) The average productivity of employees in the general manager's company is below the average productivity of the employees of its competitors.
- (E) The high costs of replacement parts make Vitech computers more expensive to maintain than Microton computers.

Argument Evaluation

Situation	A division manager wants to replace Microton computers with Vitech computers in order to reduce training costs for new staff. The general manager objects to this reasoning, arguing that the company can hire only those people who already know how to use the Microton computers.
Reasoning	<i>What point weakens the general manager's argument?</i> The division manager's preference for Vitech equipment is based on reduced training costs for newly hired staff. The general manager rejects this cost-reduction rationale and counters by suggesting a way to avoid these costs altogether. Both managers thus accept costs as the basis for making the decision between the two brands. Any evidence that overall costs would be higher when using the Microton computers weakens the general manager's argument. If the costs associated with employing experienced Microton users are greater, then hiring exclusively from this pool and paying their <i>much higher</i> salaries may result in higher overall costs for the company than the costs for training new staff on the Vitechs.

A This information about Microton suggests that even staff who have Microton skills when hired would still have to be trained with all other staff in new applications. Does this undermine the general manager's reply? No—because the information given about training costs by the division manager refers only to the costs of training newly hired staff.

B The information that computer-skilled staff move easily to a new job suggests that it might be possible to do what the general manager recommends. Obviously that does not undermine the general manager's recommendation.

C Correct. This statement properly identifies evidence that undermines the general manager's argument.

D Productivity at the company and at its competitors is not at issue.

E Only staff-related costs, not the cost of maintaining the computers, are being discussed in the argument.

The correct answer is C.

50. Which of the following most logically completes the argument below?

When mercury-vapor streetlights are used in areas inhabited by insect-eating bats, the bats feed almost exclusively around the lights, because the lights attract flying insects. In Greenville, the mercury-vapor streetlights are about to be replaced with energy-saving sodium streetlights, which do not attract insects. This change is likely to result in a drop in the population of insect-eating bats in Greenville, since _____.

- (A) the bats do not begin to hunt until after sundown
- (B) the bats are unlikely to feed on insects that do not fly
- (C) the highway department will be able to replace mercury-vapor streetlights with sodium streetlights within a relatively short time and without disrupting the continuity of lighting at the locations of the streetlights
- (D) in the absence of local concentrations of the flying insects on which bats feed, the bats expend much more energy on hunting for food, requiring much larger quantities of insects to sustain each bat
- (E) bats use echolocation to catch insects and therefore gain no advantage from the fact that insects flying in the vicinity of streetlights are visible at night

Argument Construction

Situation	In areas with mercury-vapor streetlights, any insect-eating bats feed almost exclusively around the lights, which attract flying insects. In Greenville, mercury-vapor streetlights will soon be replaced with sodium streetlights that do not attract insects.
Reasoning	<i>What evidence would suggest that the change in streetlights will reduce Greenville's population of insect-eating bats?</i> Since the sodium streetlights will not attract flying insects, the bats will

probably stop focusing their feeding around Greenville's streetlights after the lights are changed. A statement providing evidence that this will make it harder for the bats to get enough food to sustain themselves would support the conclusion that the change is likely to reduce Greenville's bat population and thus would logically complete the argument.

A Insect-eating bats existed long before streetlights did, so they can probably find insects away from streetlights even if they hunt only after sundown.

B Greenville will almost certainly still have flying insects for the bats to eat after the change, even if those insects no longer gather around the streetlights.

C If anything, such a smooth transition would be less likely to disturb the bats and therefore less likely to reduce their population.

D Correct. Since there will be no local concentrations of flying insects around Greenville streetlights after the change, the bats will most likely have more trouble getting enough to eat, and that their local population will therefore fall.

E The advantage that the bats gain from mercury-vapor streetlights comes from the high concentration of insects. The fact that the bats get no additional advantage from the insects' visibility tells us nothing about what affect the change to a different type of light might have.

The correct answer is D.

51. There is a great deal of geographical variation in the frequency of many surgical procedures—up to tenfold variation per hundred thousand people between different areas in the numbers of hysterectomies, prostatectomies, and tonsillectomies.

To support a conclusion that much of the variation is due to unnecessary surgical procedures, it would be most important to establish which of the following?

(A) A local board of review at each hospital examines the records of every operation to determine whether the surgical procedure was necessary.

(B) The variation is unrelated to factors (other than the surgical procedures themselves) that influence the incidence of diseases for which surgery might be considered.

(C) There are several categories of surgical procedure (other than hysterectomies, prostatectomies, and tonsillectomies) that are often performed unnecessarily.

(D) For certain surgical procedures, it is difficult to determine after the operation whether the procedures were necessary or whether alternative

treatment would have succeeded.

(E) With respect to how often they are performed unnecessarily, hysterectomies, prostatectomies, and tonsillectomies are representative of surgical procedures in general.

Argument Construction

Situation	The frequency of certain surgical procedures, e.g., hysterectomies, prostatectomies, and tonsillectomies, varies dramatically by geographical region. It may be possible to conclude that the disparity is to a large extent the result of the performance of unnecessary surgeries.
Reasoning	<i>What additional information must be true for this conclusion to hold?</i> Is it possible that different factors in different regions might reasonably account for the variation? Diseases or medical conditions for which these surgical procedures are appropriate might be more common in one geographical area than another. Unless the possibility of such geographical variations in the incidence of pertinent medical conditions is ruled out, it would be risky to conclude that the variation is attributable to unnecessary surgical procedures.

A This statement undermines such a conclusion since it cites a process in place for preventing or reducing unnecessary procedures.

B Correct. This statement suggests the geographical variation is not due to variations in incidence of certain diseases—and by eliminating this possibility, it helps to support the claim that unnecessary surgeries are being performed in some places.

C The argument is concerned only with hysterectomies, prostatectomies, and tonsillectomies; other surgical procedures are irrelevant.

D This information indicates that there is a fuzzy line dividing necessary from unnecessary surgeries—but this would apply in every place, not just in some; so it provides no support for the intended conclusion.

E The argument involves only the three kinds of surgery cited in the passage, so this statement is irrelevant to the conclusion.

The correct answer is B.

52. Rats injected with morphine exhibit decreased activity of the immune system, the bodily system that fights off infections. These same rats exhibited heightened blood levels of corticosteroids, chemicals secreted by the adrenal glands. Since corticosteroids can interfere with immune-system activity, scientists hypothesized that the way morphine reduces immune responses in rats is by stimulating the

adrenal glands to secrete additional corticosteroids into the bloodstream.

Which of the following experiments would yield the most useful results for evaluating the scientists' hypothesis?

- (A) Injecting morphine into rats that already have heightened blood levels of corticosteroids and then observing their new blood levels of corticosteroids
- (B) Testing the level of immune-system activity of rats, removing their adrenal glands, and then testing the rats' immune-system activity levels again
- (C) Injecting rats with corticosteroids and then observing how many of the rats contracted infections
- (D) Removing the adrenal glands of rats, injecting the rats with morphine, and then testing the level of the rats' immune-system responses
- (E) Injecting rats with a drug that stimulates immune-system activity and then observing the level of corticosteroids in their bloodstreams

Argument Evaluation

Situation	Rats injected with morphine exhibit decreased immune-system activity and increased levels of corticosteroids, which are secreted by the adrenal glands and can interfere with immune-system activity.
Reasoning	<i>What further experiment would help determine whether morphine reduces immune responses in rats by stimulating the adrenal glands to release more corticosteroids?</i> Contrary to the scientists' hypothesis, the experimental results might have occurred because the morphine injections directly reduced immune-system activity. Or the injections might have blocked some mechanism that reduces corticosteroid levels in the blood, even if the morphine did not stimulate the adrenal glands to produce more corticosteroids. To evaluate whether the scientists' hypothesis is more plausible than these rival hypotheses, it would be helpful to know whether similar experimental results would occur after morphine injections even if adrenal gland activity did not change.

A Morphine could stimulate the adrenal glands of rats with normal corticosteroid levels to produce more corticosteroids, whether or not it does so in rats whose corticosteroid levels are already heightened.

B Such an experiment would not involve morphine and thus would not help to determine how morphine affects immune-system activity in rats.

C Whether or not rats contract infections may not reliably indicate their levels of immune-system activity.

D Correct. If the immune system responses decreased after the morphine injections in this experiment, the hypothesis that it was by stimulation of the adrenal glands that morphine reduced immune-system activity would be undermined. But if no decrease in immune-system responses occurred, the hypothesis would be confirmed.

E Even if the mechanism by which a drug other than morphine increases immune-system activity were discovered, this discovery would not necessarily reveal the mechanism by which morphine reduces immune-system activity.

The correct answer is D.

53. Curator: If our museum lends *Venus* to the Hart Institute for their show this spring, they will lend us their Rembrandt etchings for our print exhibition next fall. Having those etchings will increase attendance to the exhibition and hence increase revenue from our general admission fee.

Museum Administrator: But *Venus* is our biggest attraction. Moreover the Hart's show will run for twice as long as our exhibition. So on balance the number of patrons may decrease.

The point of the administrator's response to the curator is to question

- (A) whether getting the Rembrandt etchings from the Hart Institute is likely to increase attendance at the print exhibition
- (B) whether the Hart Institute's Rembrandt etchings will be appreciated by those patrons of the curator's museum for whom the museum's biggest attraction is *Venus*
- (C) whether the number of patrons attracted by the Hart Institute's Rembrandt etchings will be larger than the number of patrons who do not come in the spring because *Venus* is on loan
- (D) whether, if *Venus* is lent, the museum's revenue from general admission fees during the print exhibition will exceed its revenue from general admission fees during the Hart Institute's exhibition
- (E) whether the Hart Institute or the curator's museum will have the greater financial gain from the proposed exchange of artworks

Argument Construction

Situation	A curator and a museum administrator debate whether lending a particular artwork to the Hart Institute in exchange for a loan of some of the Hart Institute's artworks would increase or decrease attendance and revenue at the museum.
Reasoning	<i>Which of the curator's explicit or implicit claims is the museum administrator questioning?</i> The administrator's statements that

Venus is the museum's biggest attraction and that the Hart Institute's show will run twice as long as the museum's exhibition do not directly conflict with any statement or assumption made by the curator. However, the administrator's conclusion is that on balance the number of patrons at the museum may decrease if the curator's proposal is followed. This conclusion calls into question the curator's claim that the proposal will increase revenue from the general admission fee, since that claim presupposes that on balance the proposal will increase the number of visitors to the museum. (The context suggests that the administrator is using the term *patrons* to mean visitors rather than donors.)

A The administrator does not dispute that the Rembrandt etchings would probably increase attendance at the print exhibition but rather suggests that this increase would be exceeded by the loss of visitors to the museum while the Hart Institute borrows *Venus*.

B Neither the curator nor the administrator comments on whether the patrons attracted to the Rembrandt etchings would be the same people attracted to *Venus*.

C Correct. The curator implicitly infers that the former number will be larger than the latter, whereas the administrator questions this by asserting that the latter number may be larger than the former.

D The administrator does not question whether the revenue during the print exhibition will exceed the revenue during the Hart Institute's exhibition, but rather whether it will exceed the loss of revenue during the Hart Institute's exhibition.

E Neither the curator nor the administrator comments on whether the museum would gain more or less from the exchange than the Hart Institute would.

The correct answer is C.

54. Which of the following best completes the passage below?

At a recent conference on environmental threats to the North Sea, most participating countries favored uniform controls on the quality of effluents, whether or not specific environmental damage could be attributed to a particular source of effluent. What must, of course, be shown, in order to avoid excessively restrictive controls, is that _____.

(A) any uniform controls that are adopted are likely to be implemented without delay

(B) any substance to be made subject to controls can actually cause environmental damage

(C) the countries favoring uniform controls are those generating the largest quantities of effluents

(D) all of any given pollutant that is to be controlled actually reaches the North Sea at present

(E) environmental damage already inflicted on the North Sea is reversible

Argument Construction

Situation	In the face of environmental threats to the North Sea, restrictions on effluents are considered.
Reasoning	<i>How can excessively restrictive controls be avoided?</i> To prevent pollutants from entering the North Sea, countries decide to control the quality of effluents. They need to control only those effluents that cause environmental damage. There is no need to restrict harmless effluents.

A The immediacy of adopting controls does not prevent the controls from being overly restrictive.

B Correct. This statement properly identifies the fact that controls on harmless effluents would be excessively restrictive and so should be avoided.

C Avoiding unnecessary restrictions involves analyzing the quality of the effluents, not the composition of the countries favoring the restrictions.

D It is not necessary to prove that all of a pollutant reaches the North Sea. It is necessary to prove only that some of it does.

E The environmental damage that has already been caused is outside the scope of the restrictions. Finding that the damage is reversible will do nothing to prevent unnecessary restrictions.

The correct answer is B.

55. On May first, in order to reduce the number of overdue books, a children's library instituted a policy of forgiving fines and giving bookmarks to children returning all of their overdue books. On July first there were twice as many overdue books as there had been on May first, although a record number of books had been returned during the interim.

Which of the following, if true, most helps to explain the apparent inconsistency in the results of the library's policy?

(A) The librarians did not keep accurate records of how many children took advantage of the grace period, and some of the children returning overdue books did not return all of their overdue books.

(B) Although the grace period enticed some children to return all of their

overdue books, it did not convince all of the children with overdue books to return all of their books.

(C) The bookmarks became popular among the children, so in order to collect the bookmarks, many children borrowed many more books than they usually did and kept them past their due date.

(D) The children were allowed to borrow a maximum of five books for a two-week period, and hence each child could keep a maximum of fifteen books beyond their due date within a two-month period.

(E) Although the library forgave overdue fines during the grace period, the amount previously charged the children was minimal; hence, the forgiveness of the fines did not provide enough incentive for them to return their overdue books.

Argument Construction

Situation	After a library started forgiving fines and giving bookmarks to children who returned all their overdue books, the number of books returned greatly increased, but so did the number of overdue books.
Reasoning	<i>Why might the policy have simultaneously increased the number of overdue books and the number of books being returned?</i> In order to increase both these numbers, the policy must have resulted in more books being checked out, kept past their due dates, and then returned. But why would the policy have promoted that behavior? One possibility is that it rewarded the behavior. The policy involved giving children bookmarks as rewards for returning overdue books, while removing the fines that penalized the children for doing so. If the children liked the bookmarks, they might have tried to get more of them by deliberately checking books out in order to keep them past their due dates before returning them to get the bookmarks.

A Failing to keep accurate records of the number of children would not clearly increase the number of books being returned. And the policy change did not apply to children who returned only some of their overdue books.

B This suggests that the policy had limited effects, but does not help to explain why it had apparently inconsistent effects.

C Correct. This explains how the policy gave the children a motive to check out and return more books while also allowing them to keep more of the books past the due dates.

D This restriction would have limited the number of overdue books and thus would not help to explain why that number increased.

E This suggests that the policy had little effect but does not help to explain

why it had apparently inconsistent effects.

The correct answer is C.

56. Often patients with ankle fractures that are stable, and thus do not require surgery, are given follow-up x-rays because their orthopedists are concerned about possibly having misjudged the stability of the fracture. When a number of follow-up x-rays were reviewed, however, all the fractures that had initially been judged stable were found to have healed correctly. Therefore, it is a waste of money to order follow-up x-rays of ankle fractures initially judged stable.

Which of the following, if true, most strengthens the argument?

- (A) Doctors who are general practitioners rather than orthopedists are less likely than orthopedists to judge the stability of an ankle fracture correctly.
- (B) Many ankle injuries for which an initial x-ray is ordered are revealed by the x-ray not to involve any fracture of the ankle.
- (C) X-rays of patients of many different orthopedists working in several hospitals were reviewed.
- (D) The healing of ankle fractures that have been surgically repaired is always checked by means of a follow-up x-ray.
- (E) Orthopedists routinely order follow-up x-rays for fractures of bones other than ankle bones.

Argument Evaluation

Situation	Often patients with ankle fractures that their orthopedists have judged not to require surgery are given follow-up x-rays to check whether the fracture healed correctly. An examination of a sample of those x-rays found that the ankle had, in each case, healed properly.
Reasoning	<i>The question is which of the options, if true, would most strengthen the argument.</i> The argument is based on data concerning follow-up x-rays, each of which revealed no problem with the orthopedist's initial judgment that the ankle fracture was stable (and would heal without surgery). This invites the question whether the follow-up x-rays are really needed. The argument concludes that they are a waste of money. But was the x-ray data truly representative of orthopedists generally? After all, some orthopedists—perhaps more experienced, better-trained, or employed at a facility with better staff or facilities—may be much better than others at judging ankle fractures. If we add the information that the data for the conclusion comes from many orthopedists working at many different hospitals, we have greater assurance that the x-ray data is representative, and the argument will be made much stronger.

A Neither the study nor the conclusion that is drawn from it concerns general practitioners, so this point is irrelevant.

B Naturally many ankle injuries do not involve fractures—x-rays may sometimes be used to determine this—but the argument concerns only cases where there have been ankle fractures.

C Correct. This shows that the sample of x-ray data examined was probably sufficiently representative of cases of ankle fracture judged to be stable by orthopedists.

D The argument does not concern cases of ankle fracture that have been surgically repaired.

E The argument concerns only x-rays of ankles. From the information given here, we cannot infer that orthopedists are generally wasteful in routinely ordering follow-up x-rays.

The correct answer is C.

57. Traditionally, decision making by managers that is reasoned step-by-step has been considered preferable to intuitive decision making. However, a recent study found that top managers used intuition significantly more than did most middle- or lower-level managers. This confirms the alternative view that intuition is actually more effective than careful, methodical reasoning.

The conclusion above is based on which of the following assumptions?

- (A) Methodical, step-by-step reasoning is inappropriate for making many real-life management decisions.
- (B) Top managers have the ability to use either intuitive reasoning or methodical, step-by-step reasoning in making decisions.
- (C) The decisions made by middle- and lower-level managers can be made as easily by using methodical reasoning as by using intuitive reasoning.
- (D) Top managers use intuitive reasoning in making the majority of their decisions.
- (E) Top managers are more effective at decision making than middle- or lower-level managers.

Argument Construction

Situation	Intuition, used significantly more by top managers than by middle- or lower-level managers, is found to be more effective than step-by-step reasoning in making decisions.
Reasoning	<i>What assumption does the argument make?</i> The study shows that top managers use intuition more in decision making than the other

managers do. The conclusion is then drawn that intuition is more effective. But the stated premises on their own provide inadequate support for the conclusion, so it is reasonable to think that the argument must be based on an unstated assumption, such as the assumption that top managers, when employing intuitive decision making, make more effective decisions than middle- and lower-level managers. Without some such assumption, the argument fails.

A While the argument is consistent with this idea, the inappropriateness of step-by-step reasoning is not assumed.

B Top managers' ability to switch decision methods does not help to show that one method is better than the other.

C The effectiveness of decision-making methods, not the ease with which the methods are applied, is the subject of the argument.

D The argument would not necessarily fail if something incompatible with this statement were assumed—for example, if it were assumed that top managers use intuition only in *half* of their decisions. Thus this statement does not have to be assumed. Moreover, even if this statement were to be added as an assumption to the stated premises, the support for the conclusion would still be inadequate unless some additional assumption were made.

E Correct. This is the best choice for the missing assumption. Without some such assumption, the argument would fail.

The correct answer is E.

58. A company plans to develop a prototype weeding machine that uses cutting blades with optical sensors and microprocessors that distinguish weeds from crop plants by differences in shade of color. The inventor of the machine claims that it will reduce labor costs by virtually eliminating the need for manual weeding.

Which of the following is a consideration in favor of the company's implementing its plan to develop the prototype?

(A) There is a considerable degree of variation in shade of color between weeds of different species.

(B) The shade of color of some plants tends to change appreciably over the course of their growing season.

(C) When crops are weeded manually, overall size and leaf shape are taken into account in distinguishing crop plants from weeds.

(D) Selection and genetic manipulation allow plants of virtually any species to be economically bred to have a distinctive shade of color without altering their other characteristics.

(E) Farm laborers who are responsible for the manual weeding of crops carry out other agricultural duties at times in the growing season when extensive weeding is not necessary.

Evaluation of a Plan

Situation	A company plans to develop an automated weeding machine that would distinguish weeds from crop plants by differences in shade of color. It is supposed to reduce labor costs by eliminating the need for manual weeding.
Reasoning	<i>Which option describes a consideration that would favor the company's plan?</i> The passage supports the plan by claiming that the machine would reduce labor costs by virtually eliminating weeding by hand. The correct option will be one that adds to this support. Labor costs will be reduced only if the machine works well. The machine relies on shade of color to distinguish between weeds and crop plants. If crop plants can be bred to have distinctive color without sacrificing other qualities, it would be more likely that the machine could be used effectively.

A Greater variation among weed plants would make it more difficult for the machine to distinguish between weeds and crop plants, and this would make it less likely that the machine would be effective.

B This option tends to disfavor the effectiveness of the machine. The more changeable the colors of the plants to be distinguished, the more complex the task of distinguishing between weeds and crop plants based on their color.

C This option tends to disfavor the likely benefits of the machine because it indicates that manual weeding distinguishes weeds from crop plants by using criteria that the machine does not take into account. If the machine does not distinguish weeds from crop plants as accurately and reliably as manual weeding does, then the machine is less apt to make manual weeding unnecessary.

D Correct. Making crop plants easily distinguishable from weeds would facilitate the effective use of the weeding machine.

E This does not favor the company's implementing the plan to develop the machine. There would still be tasks other than weeding that would require hiring staff. Thus there would still be labor costs even if the need for manual weeding were eliminated.

The correct answer is D.

59. A certain mayor has proposed a fee of five dollars per day on private vehicles entering the city, claiming that the fee will alleviate the city's traffic congestion.

The mayor reasons that, since the fee will exceed the cost of round-trip bus fare from many nearby points, many people will switch from using their cars to using the bus.

Which of the following statements, if true, provides the best evidence that the mayor's reasoning is flawed?

- (A) Projected increases in the price of gasoline will increase the cost of taking a private vehicle into the city.
- (B) The cost of parking fees already makes it considerably more expensive for most people to take a private vehicle into the city than to take a bus.
- (C) Most of the people currently riding the bus do not own private vehicles.
- (D) Many commuters opposing the mayor's plan have indicated that they would rather endure traffic congestion than pay a five-dollar-per-day fee.
- (E) During the average workday, private vehicles owned and operated by people living within the city account for 20 percent of the city's traffic congestion.

Evaluation of a Plan

Situation	In order to alleviate traffic congestion, the mayor proposes a five-dollar daily fee on private vehicles entering the city. Since the fee is more than the round-trip bus fare, the mayor believes many drivers will switch to buses.
Reasoning	<i>What flaw exists in the mayor's reasoning?</i> The mayor apparently believes that saving money is the decisive issue for drivers. If, however, drivers are already paying considerably more in parking fees than they would in fares as bus commuters, then saving money is not the primary reason they are choosing to drive their cars rather than take the bus. This suggests that drivers may not change their behavior simply to save money.

A This statement does not indicate whether the increased cost will dissuade people from taking private vehicles into the city, and therefore does not indicate whether the mayor's reasoning is flawed.

B Correct. This statement properly identifies a flaw in the mayor's reasoning.

C Current bus riders are not relevant to the mayor's plan, which anticipates only that people currently driving private vehicles into the city will become bus riders.

D Many drivers may continue to commute in their private vehicles, but others might switch to buses. The mayor's plan does not anticipate a switch

by all drivers.

E The 20 percent figure shows that most congestion is caused by vehicles entering from outside the city; this does not point out a weakness in the mayor's plan.

The correct answer is B.

60. Aroca City currently funds its public schools through taxes on property. **In place of this system, the city plans to introduce a sales tax of three percent on all retail sales in the city.** Critics protest that 3 percent of current retail sales falls short of the amount raised for schools by property taxes. The critics are correct on this point. **Nevertheless, implementing the plan will probably not reduce the money going to Aroca's schools.** Several large retailers have selected Aroca City as the site for huge new stores, and these are certain to draw large numbers of shoppers from neighboring municipalities, where sales are taxed at rates of six percent and more. In consequence, retail sales in Aroca City are bound to increase substantially.

In the argument given, the two portions in **boldface** play which of the following roles?

- (A) The first presents a plan that the argument concludes is unlikely to achieve its goal; the second expresses that conclusion.
- (B) The first presents a plan that the argument concludes is unlikely to achieve its goal; the second presents evidence in support of that conclusion.
- (C) The first presents a plan that the argument contends is the best available; the second is a conclusion drawn by the argument to justify that contention.
- (D) The first presents a plan one of whose consequences is at issue in the argument; the second is the argument's conclusion about that consequence.
- (E) The first presents a plan that the argument seeks to defend against a certain criticism; the second is that criticism.

Argument Evaluation

Situation	Aroca City plans to switch the source of its public school funding from property taxes to a new local sales tax.
Reasoning	<i>What argumentative roles do the two portions in boldface play in the passage?</i> The first boldface portion simply describes the city's plan. The next two sentences in the passage describe an observation some critics have made in objecting to the plan and say that the observation is correct. But then the second boldface portion rejects the critics' implicit conclusion that the plan will reduce school funding. The final two sentences in the passage present reasons to

accept the statement in the second boldface portion, so they are premises supporting it as a conclusion.

A The argument concludes that the plan is unlikely to reduce funding for the schools. The passage does not mention the plan's goal, but presumably that goal is not to reduce school funding.

B The second boldface portion presents the argument's conclusion, not evidence to support the conclusion. The passage does not mention the plan's goal, but presumably that goal is not to reduce school funding.

C The passage does not say whether the plan is better than any other possible school funding plans.

D Correct. The plan's likely effect on the amount of school funding is at issue in the argument, whose conclusion is that the plan probably will not reduce that funding.

E The second boldface portion does not criticize the plan, but rather rejects a criticism of the plan by stating that the plan will probably not reduce school funding.

The correct answer is D.

61. Tanco, a leather manufacturer, uses large quantities of common salt to preserve animal hides. New environmental regulations have significantly increased the cost of disposing of salt water that results from this use, and, in consequence, Tanco is considering a plan to use potassium chloride in place of common salt. Research has shown that Tanco could reprocess the by-product of potassium chloride use to yield a crop fertilizer, leaving a relatively small volume of waste for disposal.

In determining the impact on company profits of using potassium chloride in place of common salt, it would be important for Tanco to research all of the following EXCEPT:

- (A) What difference, if any, is there between the cost of the common salt needed to preserve a given quantity of animal hides and the cost of the potassium chloride needed to preserve the same quantity of hides?
- (B) To what extent is the equipment involved in preserving animal hides using common salt suitable for preserving animal hides using potassium chloride?
- (C) What environmental regulations, if any, constrain the disposal of the waste generated in reprocessing the by-product of potassium chloride?
- (D) How closely does leather that results when common salt is used to preserve hides resemble that which results when potassium chloride is used?

(E) Are the chemical properties that make potassium chloride an effective means for preserving animal hides the same as those that make common salt an effective means for doing so?

Evaluation of a Plan

Situation	New environmental regulations will increase the costs of disposing of the salt water that results from the use of large amounts of common salt in leather manufacturing. The manufacturer is considering switching from common salt to potassium chloride, because the by-product of the latter could be reprocessed to yield a crop fertilizer, with little waste left over to be disposed.
Reasoning	<i>In order to determine whether it would be profitable to switch from using common salt to using potassium chloride, which of the five questions does the manufacturer NOT need to answer?</i> The chemical properties making potassium chloride an effective means of preserving animal hides might be quite different from those that make common salt effective, but there is no particular reason for thinking that this would impact the profitability of switching to potassium chloride. The relevant effects on the preserved hides might be the same even if the properties that brought about those effects were quite different. Thus, without more information than is provided in the passage, this question is irrelevant.

A The savings in waste disposal costs that would be gained by switching to potassium chloride could be cancelled out if the cost of potassium chloride needed far exceeded that for common salt.

B If switching to potassium chloride would force the manufacturer to replace the equipment it uses for preserving hides, then it might be less profitable to switch.

C Even though there is said to be relatively little waste associated with using potassium chloride in the process, if the costs of this disposal are very high due to environmental regulations, it might be less profitable to switch.

D If the leather that results from the use of potassium chloride looks substantially different from that which results when common salt has been used, then the leather might be less attractive to consumers, which would adversely affect the economics of switching to potassium chloride.

E Correct. Note that the question as stated here presupposes that potassium chloride and salt are both effective means for preserving animal hides—so it does not raise any issue as to whether potassium chloride is adequately effective or as effective as salt (clearly, an issue of effectiveness *would* be relevant to profitability).

The correct answer is E.

62. Colorless diamonds can command high prices as gemstones. A type of less valuable diamonds can be treated to remove all color. Only sophisticated tests can distinguish such treated diamonds from naturally colorless ones. However, only 2 percent of diamonds mined are of the colored type that can be successfully treated, and many of those are of insufficient quality to make the treatment worthwhile. Surely, therefore, the vast majority of colorless diamonds sold by jewelers are naturally colorless.

A serious flaw in the reasoning of the argument is that

- (A) comparisons between the price diamonds command as gemstones and their value for other uses are omitted
- (B) information about the rarity of treated diamonds is not combined with information about the rarity of naturally colorless, gemstone diamonds
- (C) the possibility that colored diamonds might be used as gemstones, even without having been treated, is ignored
- (D) the currently available method for making colorless diamonds from colored ones is treated as though it were the only possible method for doing so
- (E) the difficulty that a customer of a jeweler would have in distinguishing a naturally colorless diamond from a treated one is not taken into account

Argument Evaluation

Situation	Colored diamonds of a type that comprises 2 percent of all mined diamonds can be treated so that they are not easily distinguishable from more valuable, naturally colorless diamonds, but many are too low in quality for the treatment to be worthwhile.
Reasoning	<i>Why do the argument's premises not justify the conclusion that the vast majority of colorless diamonds sold by jewelers are naturally colorless?</i> Since the type of colored diamonds that can be treated make up only 2 percent of all mined diamonds, and many diamonds of that type are too low in quality for treatment to be worthwhile, the vast majority of mined diamonds must not be treated to have their color removed. However, we are not told what proportion of all mined diamonds are naturally colorless. Naturally colorless diamonds may be far rarer even than the uncommon diamonds that have been treated to have their color removed. Thus, for all we can tell from the passage, it could well be that most colorless diamonds sold by jewelers have been treated to remove all color.

A Even if some types of diamonds command higher prices for uses other

than as gemstones, the types discussed in the passage evidently command high enough prices as gemstones to be sold as such by jewelers.

B Correct. The argument does not work if naturally colorless diamonds are rarer than treated diamonds, as they may be for all we can tell from the information provided.

C The argument’s conclusion is only that jewelers sell more naturally colorless diamonds than diamonds treated to be colorless. Whether jewelers sell any colored diamonds or other gemstones is irrelevant.

D The argument only concerns the types of colorless diamonds sold now, not the types that may be sold in the future if other treatment methods are discovered.

E The argument does suggest this difficulty but implies that even so there are too few treated diamonds available for jewelers to sell in place of naturally colorless ones.

The correct answer is B.

63. Boreal owls range over a much larger area than do other owls of similar size. The reason for this behavior is probably that the small mammals on which owls feed are especially scarce in the forests where boreal owls live, and the relative scarcity of prey requires the owls to range more extensively to find sufficient food.

Which of the following, if true, most helps to confirm the explanation above?

(A) Some boreal owls range over an area eight times larger than the area over which any other owl of similar size ranges.

(B) Boreal owls range over larger areas in regions where food of the sort eaten by small mammals is sparse than they do in regions where such food is abundant.

(C) After their young hatch, boreal owls must hunt more often than before in order to feed both themselves and their newly hatched young.

(D) Sometimes individual boreal owls hunt near a single location for many weeks at a time and do not range farther than a few hundred yards.

(E) The boreal owl requires less food, relative to its weight, than is required by members of other owl species.

Argument Evaluation

Situation	The small mammals on which owls prey are relatively scarce in the forests where boreal owls live. That is why boreal owls range more extensively than do other, similarly sized owls in search of food.
Reasoning	<i>Which choice, if true, would most help confirm the proposed explanation?</i> One way to confirm an explanation is by finding further

information that one would expect to be true *if* the explanation is valid. If the explanation in the passage is valid, then one would expect that variations in the population density of available small-animal prey for boreal owls would be accompanied by variations in the ranges of the boreal owls. Naturally the population density of available small-animal prey is likely to be affected by how plentiful food is for those small animals.

A The comparison between different groups of boreal owls is not relevant to the comparison between boreal owls and other owls.

B Correct. This indicates that abundance of food for the boreal owls' small-animal prey in an area (and therefore abundance of small animals in that area) correlates with a smaller range for the boreal owls there. This strengthens the proposed explanation.

C This option concerns a correlation between owls' need for food and the frequency with which owls hunt, whereas the phenomenon described in the passage and the proposed explanation have to do with the range over which owls hunt.

D If one were to assume that boreal owls never hunt near a single location for weeks, that would in no way undermine the proposed explanation.

E If anything, this option tends to undermine the proposed explanation, because it suggests the possibility that boreal owls need not make up for the relative scarcity of prey in their habitats by ranging over larger areas.

The correct answer is B.

64. Historian: Newton developed mathematical concepts and techniques that are fundamental to modern calculus. Leibniz developed closely analogous concepts and techniques. It has traditionally been thought that these discoveries were independent. Researchers have, however, recently discovered notes of Leibniz's that discuss one of Newton's books on mathematics. Several scholars have argued that since **the book includes a presentation of Newton's calculus concepts and techniques**, and since the notes were written before Leibniz's own development of calculus concepts and techniques, it is virtually certain that **the traditional view is false**. A more cautious conclusion than this is called for, however. Leibniz's notes are limited to early sections of Newton's book, sections that precede the ones in which Newton's calculus concepts and techniques are presented.

In the historian's reasoning, the two portions in **boldface** play which of the following roles?

(A) The first is a claim that the historian rejects; the second is a position that that claim has been used to support.

(B) The first is evidence that has been used to support a conclusion about which the historian expresses reservations; the second is that conclusion.

(C) The first provides evidence in support of a position that the historian defends; the second is that position.

(D) The first and the second each provide evidence in support of a position that the historian defends.

(E) The first has been used in support of a position that the historian rejects; the second is a conclusion that the historian draws from that position.

Argument Construction

Situation	A historian discusses a controversy about whether or not Leibniz developed calculus concepts and techniques independently of Newton.
Reasoning	<i>What argumentative roles do the two portions in boldface play in the passage?</i> The first four sentences of the passage simply provide background information. Both boldface sections are within the fifth sentence, which reports an argument by <i>several scholars</i> . The key word <i>since</i> indicates that the first boldface section is a premise in the scholars' argument. A second premise preceded by another <i>since</i> follows in the next clause. The final clause of the fifth sentence reveals that the second boldface section is the conclusion of the scholars' argument. In the sixth sentence, the historian expresses misgivings about the scholars' conclusion, for reasons presented in the seventh and final sentence.

A The historian does not reject the claim that Newton's book includes a presentation of Newton's calculus concepts and techniques. Instead, the historian merely points out that Leibniz's notes do not cover those sections of Newton's book.

B Correct. The first boldface section is one of two premises in the scholars' argument, and the second boldface section is that argument's conclusion. In the following sentence the historian expresses reservations about that conclusion.

C The historian does not defend the scholars' conclusion but rather expresses misgivings about it.

D The second boldface section is the scholars' conclusion and does not present any evidence. Nor does it support the historian's position that a more cautious conclusion is called for.

E The second boldface section presents not the historian's conclusion but

rather the scholars' conclusion, about which the historian expresses misgivings.

The correct answer is B.

65. Meteorite explosions in the Earth's atmosphere as large as the one that destroyed forests in Siberia, with approximately the force of a twelve-megaton nuclear blast, occur about once a century. The response of highly automated systems controlled by complex computer programs to unexpected circumstances is unpredictable.

Which of the following conclusions can most properly be drawn, if the statements above are true, about a highly automated nuclear-missile defense system controlled by a complex computer program?

- (A) Within a century after its construction, the system would react inappropriately and might accidentally start a nuclear war.
- (B) The system would be destroyed if an explosion of a large meteorite occurred in the Earth's atmosphere.
- (C) It would be impossible for the system to distinguish the explosion of a large meteorite from the explosion of a nuclear weapon.
- (D) Whether the system would respond inappropriately to the explosion of a large meteorite would depend on the location of the blast.
- (E) It is not certain what the system's response to the explosion of a large meteorite would be, if its designers did not plan for such a contingency.

Argument Construction

Situation	A meteorite explosion equivalent to a nuclear blast occurs approximately once a century. Automated systems, controlled by computer programs, respond to unexpected occurrences unpredictably.
Reasoning	<i>What conclusion can be drawn about such a highly automated defense system?</i> The response of the system to <i>unexpected circumstances</i> is <i>unpredictable</i> , which means that no reliable information is available about how the system would respond to such unexpected circumstances, that is, to an event that the system was not designed to handle.

A The fact that the system's response would be unpredictable does not justify a prediction that such a response would actually be inappropriate; it could just as well be appropriate. Neither are we told whether any particular meteorite event would produce such *unexpected circumstances*.

B The premises offer no evidence that the system would be destroyed.

C The given information does not tell us whether a system could be

designed to distinguish between a nuclear blast and a meteorite explosion.

D No information is given in the two premises about how the location of the explosion would affect the system.

E Correct. This statement properly identifies the conclusion that the system's response to a meteorite explosion would be uncertain if the system had not been designed to handle such an event.

The correct answer is E.

66. A milepost on the towpath read "21" on the side facing the hiker as she approached it and "23" on its back. She reasoned that the next milepost forward on the path would indicate that she was halfway between one end of the path and the other. However, the milepost one mile further on read "20" facing her and "24" behind.

Which of the following, if true, would explain the discrepancy described above?

- (A) The numbers on the next milepost had been reversed.
- (B) The numbers on the mileposts indicate kilometers, not miles.
- (C) The facing numbers indicate miles to the end of the path, not miles from the beginning.
- (D) A milepost was missing between the two the hiker encountered.
- (E) The mileposts had originally been put in place for the use of mountain bikers, not for hikers.

Argument Construction

Situation	A hiker sees a milepost marked 21 on one side and 23 on the other. She expects the next milepost to read 22 on both sides. However, the actual sign says 20 and 24.
Reasoning	<i>What explains the discrepancy?</i> The hiker assumes that the number facing her is the distance she has traveled from her journey's beginning and that the other number is the distance to her journey's end. That is, at the first milepost she believes she has come 21 miles and has 23 miles left to go. In fact, the numbers are actually the reverse of her reasoning. At the second milepost she has 20 miles left to go and has come 24 miles.

A Reversing the numbers would not make any difference; according to the hiker's (incorrect) reasoning, both numbers would be 22.

B What unit of measurement is used is irrelevant to the hiker's misinterpretation of the mileposts.

C Correct. This statement resolves the discrepancy between the true meaning of the mileposts and the hiker's expectation about them by

showing how the hiker misinterpreted the mileposts.

D A missing milepost would not explain the discrepancy. If there had been a missing milepost with 22 on each side, its discrepancy with the 20/24 milepost would also need explanation.

E The numbers are measures of distance, not time, so the mode of transportation is irrelevant.

The correct answer is C.

67. For over two centuries, no one had been able to make Damascus blades—blades with a distinctive serpentine surface pattern—but a contemporary sword maker may just have rediscovered how. Using iron with trace impurities that precisely matched those present in the iron used in historic Damascus blades, this contemporary sword maker seems to have finally hit on an intricate process by which he can produce a blade indistinguishable from a true Damascus blade.

Which of the following, if true, provides the strongest support for the hypothesis that trace impurities in the iron are essential for the production of Damascus blades?

- (A) There are surface features of every Damascus blade—including the blades produced by the contemporary sword maker—that are unique to that blade.
- (B) The iron with which the contemporary sword maker made Damascus blades came from a source of iron that was unknown two centuries ago.
- (C) Almost all the tools used by the contemporary sword maker were updated versions of tools that were used by sword makers over two centuries ago.
- (D) Production of Damascus blades by sword makers of the past ceased abruptly after those sword makers' original source of iron became exhausted.
- (E) Although Damascus blades were renowned for maintaining a sharp edge, the blade made by the contemporary sword maker suggests that they may have maintained their edge less well than blades made using what is now the standard process for making blades.

Argument Evaluation

Situation	A sword maker may have recently rediscovered how to make Damascus blades using iron with trace impurities matching those in the iron from which historic Damascus blades were wrought.
Reasoning	<i>What evidence would suggest that the trace impurities are essential for producing Damascus blades?</i> The passage says the sword maker seems to have created blades indistinguishable from historic

Damascus blades by using iron with the same trace impurities found in those blades. But that does not prove the trace impurities are essential to the process. Evidence suggesting that Damascus blades have never been made from iron without the trace impurities would support the hypothesis that the trace impurities are essential to their manufacture.

A Damascus blades could vary in their surface features whether or not trace impurities are essential for their manufacture.

B Whatever the source of the iron the contemporary sword maker used, it contains the same trace impurities as the iron historically used to make Damascus blades, which is what the hypothesis is about.

C If anything, this might cast doubt on the hypothesis by suggesting that the special tools rather than the trace impurities could account for the distinctive features of Damascus blades.

D Correct. This suggests that when the historic sword makers lost access to the special iron with its trace impurities, they could no longer make Damascus blades. Thus, it supports the hypothesis that the trace impurities are necessary for manufacturing Damascus blades.

E Even if Damascus blades maintained their edges less well than most contemporary blades do, the trace impurities may not have been essential for manufacturing them.

The correct answer is D.

68. Images from ground-based telescopes are invariably distorted by the Earth's atmosphere. Orbiting space telescopes, however, operating above Earth's atmosphere, should provide superbly detailed images. Therefore, ground-based telescopes will soon become obsolete for advanced astronomical research purposes.

Which of the following statements, if true, would cast the most doubt on the conclusion drawn above?

(A) An orbiting space telescope due to be launched this year is far behind schedule and over budget, whereas the largest ground-based telescope was both within budget and on schedule.

(B) Ground-based telescopes located on mountain summits are not subject to the kinds of atmospheric distortion which, at low altitudes, make stars appear to twinkle.

(C) By careful choice of observatory location, it is possible for large-aperture telescopes to avoid most of the kind of wind turbulence that can distort image quality.

(D) When large-aperture telescopes are located at high altitudes near the equator, they permit the best Earth-based observations of the center of the Milky Way Galaxy, a prime target of astronomical research.

(E) Detailed spectral analyses, upon which astronomers rely for determining the chemical composition and evolutionary history of stars, require telescopes with more light-gathering capacity than space telescopes can provide.

Argument Evaluation

Situation	Earth's atmosphere distorts images from ground-based telescopes, whereas space telescopes orbiting above the atmosphere should provide superbly detailed images.
Reasoning	<i>What evidence would undermine the claim that ground-based telescopes will soon become obsolete for advanced astronomical research?</i> The argument implicitly assumes that advanced astronomical research can be accomplished more effectively with the more detailed, less distorted images produced by space telescopes and that therefore almost all advanced astronomical research will soon be conducted with space telescopes. This reasoning would be undermined by evidence that ground-based telescopes have substantial advantages for advanced astronomical research despite their distorted images or by evidence that space telescopes will not soon become common or affordable enough to support most advanced astronomical research.

A Even if this is true, there may be several orbiting space telescopes that will be, or have been, launched on schedule and within budget, so this option does not cast doubt on the conclusion of the argument.

B Ground-based telescopes on mountain summits are still subject to more atmospheric distortion than are space telescopes orbiting above the atmosphere.

C Atmospheric distortion of telescopic images may result mainly from factors other than wind turbulence.

D Even the best Earth-based observations of the center of the Milky Way Galaxy may be vastly inferior to space-based observations.

E Correct. This indicates an inherent limitation of space-based telescopes: unlike Earth-based telescopes, they lack the light-gathering capacity that astronomers need to perform one of their primary tasks, i.e., detailed spectral analyses. So Earth-based telescopes are unlikely to soon become obsolete.

The correct answer is E.

69. Generally scientists enter their field with the goal of doing important new research and accept as their colleagues those with similar motivation. Therefore, when any scientist wins renown as an expounder of science to general audiences, most other scientists conclude that this popularizer should no longer be regarded as a true colleague.

The explanation offered above for the low esteem in which scientific popularizers are held by research scientists assumes that

- (A) serious scientific research is not a solitary activity, but relies on active cooperation among a group of colleagues
- (B) research scientists tend not to regard as colleagues those scientists whose renown they envy
- (C) a scientist can become a famous popularizer without having completed any important research
- (D) research scientists believe that those who are well known as popularizers of science are not motivated to do important new research
- (E) no important new research can be accessible to or accurately assessed by those who are not themselves scientists

Argument Construction

Situation	Research scientists desire to do important new research and treat as colleagues just those who have a similar desire. When a scientist becomes popular among a general audience for explaining principles of science, other scientists have less esteem for this popularizer, no longer regarding such a scientist as a serious colleague.
Reasoning	<i>What assumption do research scientists make about scientists who become popularizers?</i> The community of scientists shares a common goal: to do important new research. What would cause this community to disapprove of a popularizer and to cease to regard the popularizer as a colleague? It must be because many scientists believe that becoming a popularizer is incompatible with desiring to do important new research.

A Many scientists make this assumption, of course—but it is not an assumption on which the explanation specifically depends. The explanation concerns the scientists' motivation, not their style of doing research.

B This statement gives another reason that scientists may reject a popularizer, but because it is not the reason implied in the passage, it is not assumed.

C Even if this is true, it does not address the core issue of the argument: what scientists believe about the *motivation* of popularizers.

D Correct. This statement properly identifies an assumption on which the explanation for scientists' rejection of popularizers depends.

E The passage is not concerned with whether nonscientists can understand new research, but rather with the beliefs and motivations of scientists who reject popularizers as colleagues.

The correct answer is D.

70. Which of the following most logically completes the argument?

Utrania was formerly a major petroleum exporter, but in recent decades economic stagnation and restrictive regulations inhibited investment in new oil fields. In consequence, Utranian oil exports dropped steadily as old fields became depleted. Utrania's currently improving economic situation, together with less-restrictive regulations, will undoubtedly result in the rapid development of new fields. However, it would be premature to conclude that the rapid development of new fields will result in higher oil exports, because _____.

(A) the price of oil is expected to remain relatively stable over the next several years

(B) the improvement in the economic situation in Utrania is expected to result in a dramatic increase in the proportion of Utranians who own automobiles

(C) most of the investment in new oil fields in Utrania is expected to come from foreign sources

(D) new technology is available to recover oil from old oil fields formerly regarded as depleted

(E) many of the new oil fields in Utrania are likely to be as productive as those that were developed during the period when Utrania was a major oil exporter

Argument Construction

Situation	A country that had been a major oil exporter has seen its exports decline in recent decades due to economic stagnation, a failure to invest in new fields, and the steady depletion of its old fields. But looser regulations and an improving economy will bring rapid development of new oil fields in the country.
Reasoning	<i>Which of the options would most logically complete the argument?</i> The passage describes the conditions that led to Utrania's no longer being a major oil exporter: a lack of investment in new oil fields due to a stagnant economy and restrictive regulations. The passage then says that due to changed regulatory and economic conditions, there will now be rapid development of new oil fields. Nonetheless, this

might not bring about an increase in Utrania's oil exports. To logically complete the argument, one must explain how oil exports might not increase even when the condition that led to decreased oil exports has been removed. Suppose there were an increase in domestic oil consumption. A dramatic increase in the rate of car ownership in Utrania could reasonably be expected to significantly increase domestic oil consumption, which could eat up the added oil production from the new fields.

A This choice is incorrect. There is no reason why stable oil prices should prevent Utrania's oil exports from increasing.

B Correct. An increase in car ownership would increase Utrania's oil consumption—and this supports the claim that oil exports might not increase.

C If anything, this suggests that oil exports should increase. So it would not be a good choice for completion of the argument.

D The advent of new technology allowing oil to be extracted from fields previously thought to be depleted would mean that there is even more reason to think that Utrania's oil exports will increase.

E This does not help to explain why exports would not increase. On the contrary, it suggests that the new fields will lead to increased exports.

The correct answer is B.

71. Which of the following, if true, most logically completes the argument?

Some dairy farmers in the province of Takandia want to give their cows a synthetic hormone that increases milk production. Many Takandians, however, do not want to buy milk from cows given the synthetic hormone. For this reason Takandia's legislature is considering a measure requiring milk from cows given the hormone to be labeled as such. Even if the measure is defeated, dairy farmers who use the hormone will probably lose customers, since _____.

(A) it has not been proven that any trace of the synthetic hormone exists in the milk of cows given the hormone

(B) some farmers in Takandia who plan to use the synthetic hormone will probably not do so if the measure were passed

(C) milk from cows that have not been given the synthetic hormone can be labeled as such without any legislative action

(D) the legislature's consideration of the bill has been widely publicized

(E) milk that comes from cows given the synthetic hormone looks and tastes the same as milk from cows that have not received the hormone

Argument Construction

Situation	Some dairy farmers in a province want to give their dairy cows a synthetic hormone, but many people in the province do not want to buy milk that is from cows given the hormone. The provincial legislature is considering a measure requiring milk from cows given the hormone to be labeled as such.
Reasoning	<i>What would be a reason to believe that dairy farmers who use the hormone will lose customers even if the measure is defeated?</i> If the measure passes, the dairy farmers who give cows the hormone may lose the many customers who do not want to buy such milk. If the measure is defeated, then milk produced with the hormone will not have to be labeled—so what would lead one to believe that hormone-using farmers would nevertheless lose customers? A statement that provides an answer to this question would logically complete the argument.

A At best, this lack of proof might mitigate hormone-using farmers' loss of customers, whatever the outcome of the legislature's consideration of the measure.

B The argument's conclusion is mainly about what will happen if the measure is defeated, not what will happen if it passes.

C Correct. If the measure is defeated, the milk produced by farmers who avoid using the hormone would likely gain a market advantage if the milk was labeled as produced without use of the hormone. As a result, dairy farmers who use the hormone would probably lose customers.

D Publicity could affect consumers' attitudes about hormone-produced milk, but if the measure is defeated and labeling practices do not change, customers would have no way of knowing which milk was produced by use of the hormone.

E This suggests that, in the absence of labeling, consumers would be unable to decide which milk was produced by use of the hormone, so dairy farmers who used the hormone would be unlikely to lose customers if the labeling measure is defeated.

The correct answer is C.

72. In order to reduce dependence on imported oil, the government of Jalica has imposed minimum fuel-efficiency requirements on all new cars, beginning this year. The more fuel-efficient a car, the less pollution it produces per mile driven. As Jalicans replace their old cars with cars that meet the new requirements, annual pollution from car traffic is likely to decrease in Jalica.

Which of the following, if true, most seriously weakens the argument?

- (A) In Jalica, domestically produced oil is more expensive than imported oil.
- (B) The Jalican government did not intend the new fuel-efficiency requirement to be a pollution-reduction measure.
- (C) Some pollution-control devices mandated in Jalica make cars less fuel-efficient than they would be without those devices.
- (D) The new regulation requires no change in the chemical formulation of fuel for cars in Jalica.
- (E) Jalicans who get cars that are more fuel-efficient tend to do more driving than before.

Argument Evaluation

Situation	The Jalican government is requiring all new cars to meet minimum fuel-efficiency requirements starting this year. Cars that are more fuel efficient produce less pollution per mile driven.
Reasoning	<i>What evidence would suggest that annual pollution from car traffic will not decrease in Jalica, despite the new policy?</i> Air pollution from car traffic is unlikely to decrease if the new standards will result in more cars on the road or more miles driven per car; or if air pollution from car traffic in Jalica is increasing because of unrelated factors such as growing numbers of Jalicans who can afford cars, construction of more roads, etc. Evidence that any of these factors is present would cast doubt on the argument's conclusion and thus weaken the argument.

A The question at issue is not whether the new policy will reduce dependence on imported oil as the government intends, but rather whether it will reduce air pollution from car traffic.

B A government policy may have consequences that the government did not intend it to have.

C Even if these pollution-control devices make cars less fuel efficient, the new fuel-efficiency standards may still improve cars' average fuel efficiency and thereby reduce air pollution.

D Even if the fuel is unchanged, the new fuel-efficiency standards may still result in cars using less fuel and may thereby reduce air pollution.

E Correct. If the new fuel-efficient cars are driven more miles per year than older cars are, they may produce as much or more pollution per year than older cars do even though they produce less pollution per mile driven.

The correct answer is E.

bollworms, a major cause of crop failure, sustained little bollworm damage until this year. This year the plantings are being seriously damaged by bollworms. Bollworms, however, are not necessarily developing resistance to the cotton's insecticide. Bollworms breed on corn, and last year more corn than usual was planted throughout cotton-growing regions. So it is likely that the cotton is simply being overwhelmed by corn-bred bollworms.

In evaluating the argument, which of the following would it be most useful to establish?

- (A) Whether corn could be bioengineered to produce the insecticide
- (B) Whether plantings of cotton that does not produce the insecticide are suffering unusually extensive damage from bollworms this year
- (C) Whether other crops that have been bioengineered to produce their own insecticide successfully resist the pests against which the insecticide was to protect them
- (D) Whether plantings of bioengineered cotton are frequently damaged by insect pests other than bollworms
- (E) Whether there are insecticides that can be used against bollworms that have developed resistance to the insecticide produced by the bioengineered cotton

Argument Evaluation

Situation	Although plantings of cotton bioengineered to produce an insecticide to combat bollworms were little damaged by the pests in previous years, they are being severely damaged this year. Since the bollworms breed on corn, and there has been more corn planted this year in cotton-growing areas, the cotton is probably being overwhelmed by the corn-bred bollworms.
Reasoning	<i>In evaluating the argument, which question would it be most useful to have answered?</i> The argument states that the bioengineered cotton crop failures this year (1) have likely been due to the increased corn plantings and (2) not due to the pests having developed a resistance to the insecticide. This also implies (3) that the failures are not due to some third factor.

It would be useful to know how the bioengineered cotton is faring in comparison to the rest of this year's cotton crop. If the bioengineered cotton is faring better against the bollworms, that fact would support the argument because it would suggest that the insecticide is still combating bollworms. If, on the other hand, the bioengineered cotton is being more severely ravaged by bollworms than is other cotton, that suggests that there is some third cause that is primarily at fault.

A This would probably be useful information to those trying to alleviate the bollworm problem in bioengineered cotton. But whether such corn could be developed has no bearing on what is causing the bioengineered cotton to be damaged by bollworms this year.

B Correct. If bollworm damage on non-bioengineered cotton is worse than usual this year, then bollworm infestation in general is simply worse than usual, so pesticide resistance does not need to be invoked to explain the bollworm attacks on the bioengineered cotton.

C Even if other crops that have been bioengineered to resist pests have not successfully resisted them, that fact would not mean that the same is true of this cotton. Furthermore, the facts already suggest that the bioengineered cotton has resisted bollworms.

D Whether other types of pests often damage bioengineered cotton has no bearing on why bollworms are damaging this type of cotton more this year than in the past.

E This, too, might be useful information to those trying to alleviate the bollworm problem in bioengineered cotton, but it is not particularly useful in evaluating the argument. Even if there are pesticides that could be used against bollworms that have developed resistance to the insecticide of the bioengineered cotton, that does not mean that such pesticides are being used this year.

The correct answer is B.

74. Manufacturers sometimes discount the price of a product to retailers for a promotion period when the product is advertised to consumers. Such promotions often result in a dramatic increase in amount of product sold by the manufacturers to retailers. Nevertheless, the manufacturers could often make more profit by not holding the promotions.

Which of the following, if true, most strongly supports the claim above about the manufacturers' profit?

- (A) The amount of discount generally offered by manufacturers to retailers is carefully calculated to represent the minimum needed to draw consumers' attention to the product.
- (B) For many consumer products the period of advertising discounted prices to consumers is about a week, not sufficiently long for consumers to become used to the sale price.
- (C) For products that are not newly introduced, the purpose of such promotions is to keep the products in the minds of consumers and to attract consumers who are currently using competing products.

(D) During such a promotion retailers tend to accumulate in their warehouses inventory bought at discount; they then sell much of it later at their regular price.

(E) If a manufacturer fails to offer such promotions but its competitor offers them, that competitor will tend to attract consumers away from the manufacturer's product.

Argument Construction

Situation	During promotion periods, manufacturers discount prices and dramatically increase the amount of product sold to retailers. However, manufacturers might make more profit without the promotions.
Reasoning	<i>How could promotion periods cut profits?</i> It is stated that promotion periods result in increased product sales to retailers. How could such sales decrease the manufacturers' potential profits? If retailers buy more than they can sell during the promotion period, they will store the surplus in warehouses and sell it later at the regular price. Manufacturers lose their normal profits on these sales; moreover, the manufacturer will not be filling orders while the surplus exists. The resulting losses may be greater than any gains from increasing sales or winning new customers during the brief promotion period.

A Calculating the minimum amount of discount should lead to greater profit for manufacturers, so this statement does not explain the potential loss of profit.

B The brevity of the promotion period favors manufacturers because consumers do not become accustomed to the lower price.

C Attracting customers' attention should contribute to higher, not lower, profit.

D Correct. This statement properly identifies a factor that strengthens the argument.

E Since the failure to offer promotions results in loss of customers to competitors, this statement shows that manufacturers gain by promotions.

The correct answer is D.

75. Many gardeners believe that the variety of clematis vine that is most popular among gardeners in North America is *jackmanii*. This belief is apparently correct since, of the one million clematis plants sold per year by the largest clematis nursery in North America, ten percent are *jackmanii*.

Which of the following is an assumption on which the argument depends?

- (A) The nursery sells more than ten different varieties of clematis.
- (B) The largest clematis nursery in North America sells nothing but clematis plants.
- (C) Some of the *jackmanii* sold by the nursery are sold to gardeners outside North America.
- (D) Most North American gardeners grow clematis in their gardens.
- (E) For all nurseries in North America that specialize in clematis, at least ten percent of the clematis plants they sell are *jackmanii*.

Argument Construction

Situation	Of the clematis plants sold by the largest clematis nursery in North America, 10 percent are <i>jackmanii</i> , which many gardeners believe to be the most popular variety of clematis in North America.
Reasoning	<i>What must be true in order for the fact that 10 percent of the clematis sold at the nursery are jackmanii to provide evidence that jackmanii is the most popular variety of clematis in North America?</i> The argument assumes that sales of different varieties of clematis at the nursery reflect the relative levels of popularity of those varieties among North American gardeners. It also assumes that <i>jackmanii</i> is the best-selling clematis variety at the nursery, an assumption which requires that less than 10 percent of the nursery's clematis sales are of any one variety other than <i>jackmanii</i>.

A Correct. Suppose the nursery sold ten or fewer varieties of clematis. Then at least one variety other than *jackmanii* would have to account for at least 10 percent of the nursery's clematis sales, so *jackmanii* would not be the best-selling clematis variety at the nursery as the argument assumes.

B The argument only concerns how popular *jackmanii* is relative to other varieties of clematis, not relative to any plants other than clematis that the nursery may sell.

C If anything, this would weaken the argument by suggesting that the nursery's *jackmanii* sales might reflect *jackmanii*'s popularity outside North America more than its popularity within North America.

D This would indicate that clematis is a popular plant among North American gardeners, not that *jackmanii* is the most popular variety of clematis.

E Even if *jackmanii* accounts for less than 10 percent of clematis sales at a few individual nurseries, it may still account for 10 percent or more of North American clematis sales overall.

The correct answer is A.

76. A compelling optical illusion called the illusion of velocity and size makes objects appear to be moving more slowly the larger the objects are. Therefore, a motorist's estimate of the time available for crossing a highway with a small car approaching is bound to be lower than it would be with a large truck approaching.

The conclusion above would be more properly drawn if it were made clear that the

- (A) truck's speed is assumed to be lower than the car's
- (B) truck's speed is assumed to be the same as the car's
- (C) truck's speed is assumed to be higher than the car's
- (D) motorist's estimate of time available is assumed to be more accurate with cars approaching than with trucks approaching
- (E) motorist's estimate of time available is assumed to be more accurate with trucks approaching than with cars approaching

Argument Construction

Situation	An optical illusion makes objects appear to be moving more slowly the larger they are. It is concluded that a driver's estimate of the time available to cross a highway is lower with a small car approaching than with a large truck approaching.
Reasoning	<i>What underlying assumption is made in the reasoning?</i> From the given premise about the optical illusion, we can infer that, to a motorist crossing a highway, a car actually approaching at 60 miles an hour seems significantly faster than a large truck that is approaching at the same speed. The motorist's estimate of time available to cross will thus be larger for the truck than for the car. The assumption stated here, but not stated in the passage, is that the car and truck are approaching <i>at the same speed</i> .

A If the truck is moving more slowly than the car, then the driver's perception is accurate, and not affected by the optical illusion.

B Correct. This statement properly identifies an assumption implicit in the reasoning.

C If the truck is moving faster than the car, the motorist might judge that the two vehicles were moving at the same speed—or even that the truck was moving faster.

D It does not matter for which type of vehicle the driver's estimate of lead time is more accurate; this assumption is not helpful in explaining the conclusion that the illusion makes larger objects appear to be moving more slowly than small objects.

E This contradicts information in the passage indicating that the larger the vehicle, the larger the distortion in the perceived speed.

The correct answer is B.

77. Country Y uses its scarce foreign-exchange reserves to buy scrap iron for recycling into steel. Although the steel thus produced earns more foreign exchange than it costs, that policy is foolish. Country Y's own territory has vast deposits of iron ore, which can be mined with minimal expenditure of foreign exchange.

Which of the following, if true, provides the strongest support for Country Y's policy of buying scrap iron abroad?

- (A) The price of scrap iron on international markets rose significantly in 1987.
- (B) Country Y's foreign-exchange reserves dropped significantly in 1987.
- (C) There is virtually no difference in quality between steel produced from scrap iron and that produced from iron ore.
- (D) Scrap iron is now used in the production of roughly half the steel used in the world today, and experts predict that scrap iron will be used even more extensively in the future.
- (E) Furnaces that process scrap iron can be built and operated in Country Y with substantially less foreign exchange than can furnaces that process iron ore.

Evaluation of a Plan

Situation	A country could mine its vast deposits of iron ore with minimal expenditure of foreign exchange. Nevertheless, it uses its scarce foreign-exchange reserves to buy scrap iron for recycling into steel; this steel earns more foreign exchange than it costs to produce.
Reasoning	<i>Which statement supports the policy of buying scrap iron abroad?</i> The country is using scant foreign-exchange reserves to buy scrap iron when it could instead be mining its own iron ore with minimal expenditure of foreign exchange. But if processing the scrap iron involves far less expenditure of foreign exchange than processing the raw iron ore, the policy is justified.

A A significant increase in the international price of scrap iron would be a reason against the policy.

B A significant drop in foreign-exchange reserves means that conserving the reserves is all the more important, so this statement provides no support for the current policy.

C This statement helps to preempt a possible objection to the present policy

—namely that steel from scrap iron is inferior to steel from iron ore. But it equally helps to preempt a possible objection to *changing* the present policy —namely that steel from iron ore is inferior to steel from scrap iron. It therefore provides no evidence that would weigh distinctly in favor of maintaining the present policy, as opposed to changing it.

D The increasing use of scrap iron for recycling into steel merely suggests that steel from scrap iron is an acceptable alternative to steel from iron ore. This general claim does not address the issue of whether Country Y's policy involves a prudent use of foreign exchange.

E Correct. This statement properly identifies a factor that supports the policy.

The correct answer is E.

78. Since 1990 the percentage of bacterial sinus infections in Aqadestan that are resistant to the antibiotic perxicillin has increased substantially. Bacteria can quickly develop resistance to an antibiotic when it is prescribed indiscriminately or when patients fail to take it as prescribed. Since perxicillin has not been indiscriminately prescribed, health officials hypothesize that the increase in perxicillin-resistant sinus infections is largely due to patients' failure to take this medication as prescribed.

Which of the following, if true of Aqadestan, provides most support for the health officials' hypothesis?

- (A) Resistance to several other commonly prescribed antibiotics has not increased since 1990 in Aqadestan.
- (B) A large number of Aqadestanis never seek medical help when they have a sinus infection.
- (C) When it first became available, perxicillin was much more effective in treating bacterial sinus infections than any other antibiotic used for such infections at the time.
- (D) Many patients who take perxicillin experience severe side effects within the first few days of their prescribed regimen.
- (E) Aqadestani health clinics provide antibiotics to their patients at cost.

Argument Construction

Situation	In Aqadestan the percentage of bacterial sinus infections resistant to the antibiotic perxicillin has been increasing even though perxicillin has not been indiscriminately prescribed.
Reasoning	<i>What evidence most strongly suggests that the main reason perxicillin-resistant sinus infections are becoming more common is that patients are failing to take perxicillin as prescribed? Any</i>

evidence suggesting that patients have in fact been failing to take perxicillin as prescribed would support the hypothesis, as would any evidence casting doubt on other possible explanations for the increasing proportion of perxicillin-resistant sinus infections.

A This suggests that some factor specific to perxicillin is increasing bacterial resistance to it, but that could be true whether or not the factor is patients' failure to take perxicillin as prescribed.

B If anything, this weakens the argument by suggesting that most people with sinus infections are never prescribed perxicillin, and that therefore relatively few people are getting prescriptions and then failing to follow them.

C The relative effectiveness of perxicillin when it first became available does not suggest that the reason it is now becoming less effective is that many patients are failing to take it as prescribed.

D Correct. These side effects would discourage patients from taking perxicillin as prescribed, so their existence provides evidence that many patients are not taking it as prescribed.

E If the clinics do not charge extra for perxicillin, that would make it more affordable and hence easier for many patients to take as prescribed.

The correct answer is D.

79. A product that represents a clear technological advance over competing products can generally command a high price. Because **technological advances tend to be quickly surpassed** and companies want to make large profits while they still can, **many companies charge the maximum possible price for such a product**. But large profits on the new product will give competitors a strong incentive to quickly match the new product's capabilities. Consequently, the strategy to maximize overall profit from a new product is to charge less than the greatest possible price.

In the argument above, the two portions in **boldface** play which of the following roles?

- (A) The first is a consideration raised to argue that a certain strategy is counterproductive; the second presents that strategy.
- (B) The first is a consideration raised to support the strategy that the argument recommends; the second presents that strategy.
- (C) The first is a consideration raised to help explain the popularity of a certain strategy; the second presents that strategy.
- (D) The first is an assumption, rejected by the argument, that has been used to justify a course of action; the second presents that course of action.

(E) The first is a consideration that has been used to justify adopting a certain strategy; the second presents the intended outcome of that strategy.

Argument Construction

Situation	Often, when a company comes out with an innovative product, it will price the product as high as it can to maximize profits before the competitors quickly catch up. But this is not a good strategy because the very high price of the new product only encourages competitors to match the technological advance more quickly.
Reasoning	<i>Which option best describes the roles that the boldface portions play in the argument?</i> This type of item concerns only the argument's structure—the way it is intended to work, not the quality of the argument or what might strengthen or weaken the argument. So even if a boldface portion could be used by the argument in a certain way, all that matters is its actual intended role. The fact that <i>technological advances tend to be quickly surpassed</i> serves to partly explain why <i>many companies charge the maximum possible price for such a product</i> . In other words, the first boldface portion helps explain the popularity of the strategy presented in the second boldface portion. The conclusion of the argument, however, is that the strategy exemplified in this latter boldface portion is unwise, so the argument as a whole opposes that strategy.

A Although the first boldface portion could be used as part of an argument that the strategy presented in the second boldface portion is counterproductive, that is not how it is used here. Rather, it immediately follows the word *because* and serves to explain the occurrence of what is described in the second boldface portion.

B This is clearly wrong because the second boldface portion presents the strategy that the argument opposes.

C Correct. It is the only choice that is consistent with the analysis of the reasoning presented above.

D The first boldface portion is not an assumption rejected by the argument; rather, it is affirmed in the argument.

E The argument does not expressly claim that the first boldface portion has been used to justify the strategy of setting the price as high as possible, although it implies that this is part of the justification that those adopting the strategy would give. More clearly, the second boldface portion does not describe the intended outcome of the strategy, but rather the means of bringing about that intended outcome (maximizing profits, by means of high prices).

The correct answer is C.

80. Gortland has long been narrowly self-sufficient in both grain and meat. However, as per capita income in Gortland has risen toward the world average, per capita consumption of meat has also risen toward the world average, and it takes several pounds of grain to produce one pound of meat. Therefore, since per capita income continues to rise, whereas domestic grain production will not increase, Gortland will soon have to import either grain or meat or both.

Which of the following is an assumption on which the argument depends?

- (A) The total acreage devoted to grain production in Gortland will not decrease substantially.
- (B) The population of Gortland has remained relatively constant during the country's years of growing prosperity.
- (C) The per capita consumption of meat in Gortland is roughly the same across all income levels.
- (D) In Gortland, neither meat nor grain is subject to government price controls.
- (E) People in Gortland who increase their consumption of meat will not radically decrease their consumption of grain.

Argument Construction

Situation	A country previously self-sufficient in grain and meat will soon have to import one or the other or both because its consumption of meat has risen as per capita income has risen. It takes several pounds of grain to produce one pound of meat.
Reasoning	<i>What conditions must be true for the conclusion to be true?</i> Meat consumption is rising. What about grain consumption? A sharp reduction in the amount of grain directly consumed by meat eaters could compensate for increased meat consumption, making the conclusion false. If people did radically decrease their grain consumption, it might not be necessary to import grain or meat. Since the argument concludes that the imports are necessary, it assumes that direct consumption of grain by those who begin to eat meat will not plunge.

A The argument makes no assumptions about the acreage devoted to grain; it assumes only that the demand for grain will rise.

B The argument is based on rising per capita income, not population levels.

C The argument involves only meat consumption in general, not its distribution by income level.

D Since the argument does not refer to price controls, it cannot depend on an assumption about them.

E Correct. This statement properly identifies the assumption that those who begin to eat meat do not then greatly decrease their direct consumption of grains.

The correct answer is E.

81. Which of the following most logically completes the passage?

The figures in portraits by the Spanish painter El Greco (1541–1614) are systematically elongated. In El Greco’s time, the intentional distortion of human figures was unprecedented in European painting. Consequently, some critics have suggested that El Greco had an astigmatism, a type of visual impairment, that resulted in people appearing to him in the distorted way that is characteristic of his paintings. However, this suggestion cannot be the explanation, because _____.

- (A) several twentieth-century artists have consciously adopted from El Greco’s paintings the systematic elongation of the human form
- (B) some people do have elongated bodies somewhat like those depicted in El Greco’s portraits
- (C) if El Greco had an astigmatism, then, relative to how people looked to him, the elongated figures in his paintings would have appeared to him to be distorted
- (D) even if El Greco had an astigmatism, there would have been no correction for it available in the period in which he lived
- (E) there were non-European artists, even in El Greco’s time, who included in their works human figures that were intentionally distorted

Argument Construction

Situation	Figures in portraits by the Spanish painter El Greco are elongated. Some critics infer that this was because El Greco suffered from an astigmatism that made people appear elongated to him. But this explanation cannot be correct.
Reasoning	<i>Which option would most logically complete the argument? We need something that provides the best reason for thinking that the explanation suggested by critics—astigmatism—cannot be right. The critics’ explanation might seem to work because ordinarily an artist would try to paint an image of a person so that the image would have the same proportions as the perceived person. So if people seemed to El Greco to have longer arms and legs than they actually had, the arms and legs of the painted figures should appear to others to be longer than people’s arms and legs normally are. This is how the</i>

explanation seems to make sense. But if astigmatism were the explanation, then the elongated images in his pictures should have appeared to El Greco to be too long: he would have perceived the images as longer than they actually are—and therefore as inaccurate representations of what he perceived. So astigmatism cannot be a sufficient explanation for the elongated figures in his paintings.

A Even if subsequent artists intentionally depicted human forms as more elongated than human figures actually are, and they did so to mimic El Greco's painted figures, that does not mean that El Greco's figures were intentionally elongated.

B Although this option provides another possible explanation for El Greco's elongated figures, it provides no evidence that the people El Greco painted had such elongated figures.

C Correct. El Greco would have perceived the images of people in his paintings as too long, relative to his perception of the people themselves. This means that even if El Greco did have astigmatism, that factor would not provide an answer to the question: Why did El Greco paint images that he knew were distorted?

D The absence of an ability to correct astigmatism in El Greco's day does not undermine the hypothesis that it was astigmatism that caused El Greco to paint elongated figures.

E Again, this suggests another possible explanation for the distortion—namely, that El Greco did it deliberately—but it does not provide any reason to think that this is the correct explanation (and that the critics' explanation is actually incorrect).

The correct answer is C.

82. Political Advertisement:

Mayor Delmont's critics complain about the jobs that were lost in the city under Delmont's leadership. Yet the fact is that not only were more jobs created than were eliminated, but each year since Delmont took office the average pay for the new jobs created has been higher than that year's average pay for jobs citywide. So it stands to reason that throughout Delmont's tenure the average paycheck in this city has been getting steadily bigger.

Which of the following, if true, most seriously weakens the argument in the advertisement?

(A) The unemployment rate in the city is higher today than it was when Mayor Delmont took office.

(B) The average pay for jobs in the city was at a ten-year low when Mayor

Delmont took office.

(C) Each year during Mayor Delmont's tenure, the average pay for jobs that were eliminated has been higher than the average pay for jobs citywide.

(D) Most of the jobs eliminated during Mayor Delmont's tenure were in declining industries.

(E) The average pay for jobs in the city is currently lower than it is for jobs in the suburbs surrounding the city.

Argument Evaluation

Situation	Every year since Mayor Delmont took office, average pay for new jobs has exceeded average pay for jobs citywide. So, the average paycheck in the city has been increasing since Delmont took office.
Reasoning	<i>Which option, if true, would most seriously weaken the argument?</i> If average pay for new jobs continually exceeds that for jobs generally, new jobs pay better (on average) than old jobs that still exist. But suppose the following occurred. Every year all of the highest paying jobs are eliminated and replaced with somewhat lower-paying jobs that still pay more than the average job. The result would be that every year the average pay for a new job would be greater than that for existing jobs, but the average pay for all jobs would nonetheless decrease. Thus, if every year during the mayor's tenure the jobs that were eliminated paid better on average than jobs citywide, that would seriously weaken the argument: the conclusion could be false even if the information on which it is based is true.

A The percentage of people in the city who have a job has no direct bearing on whether the average pay for jobs citywide is increasing or decreasing.

B Whether the average pay was low when the mayor took office in comparison to the ten preceding years is immaterial to the comparison addressed in the argument's conclusion.

C Correct. This information weakens the argument because it opens up the possibility that the jobs eliminated had higher average pay than the jobs created during Mayor Delmont's tenure. This in turn would mean that the average pay was not increasing during Mayor Delmont's tenure.

D This, too, has no bearing on the argument, because we have no information about the average pay for jobs in those declining industries.

E This is also irrelevant. No comparison is made (or implied) in the argument between jobs in the city and jobs in the suburbs.

The correct answer is C.

83. To prevent a newly built dam on the Chiff River from blocking the route of fish migrating to breeding grounds upstream, the dam includes a fish pass, a mechanism designed to allow fish through the dam. Before the construction of the dam and fish pass, several thousand fish a day swam upriver during spawning season. But in the first season after the project’s completion, only 300 per day made the journey. Clearly, the fish pass is defective.

Which of the following, if true, most seriously weakens the argument?

- (A) Fish that have migrated to the upstream breeding grounds do not return down the Chiff River again.
- (B) On other rivers in the region, the construction of dams with fish passes has led to only small decreases in the number of fish migrating upstream.
- (C) The construction of the dam stirred up potentially toxic river sediments that were carried downstream.
- (D) Populations of migratory fish in the Chiff River have been declining slightly over the last 20 years.
- (E) During spawning season, the dam releases sufficient water for migratory fish below the dam to swim upstream.

Argument Evaluation

Situation	A new dam includes a mechanism called a fish pass designed to allow fish to migrate upstream past the dam to their breeding grounds. The number of migrating fish fell from several thousand per day before the dam was built to three hundred per day in the first season after it was built, indicating—according to the argument—that the fish pass is defective.
Reasoning	<i>What evidence would suggest that the fish pass is not defective?</i> The argument implicitly reasons that a defective fish pass would make it difficult for the fish to migrate, which would explain why the number of migrating fish fell when the dam was completed. Any evidence suggesting an alternative explanation for the reduced number of migrating fish, such as an environmental change that occurred when the dam was built, would cast doubt on the argument’s reasoning.

- A A defective fish pass could prevent most of the fish from migrating upstream regardless of whether those that succeed ever return downstream.
- B This would suggest that dams with properly functioning fish passes do not greatly reduce the number of migrating fish, so it would provide further evidence that the fish pass in this particular dam is defective.
- C Correct.** This suggests that the toxic sediments may have poisoned the fish and reduced their population. A smaller fish population could be

sufficient to explain the reduced number of fish migrating, which casts doubt on the argument's assumption that the explanation for their declining numbers involves the fish pass.

D A slight and gradual ongoing decline in migratory fish populations would not explain an abrupt and extreme decline right after the dam was built.

E This supports the argument's proposed explanation for the declining fish population by ruling out the alternative explanation that the dam does not release enough water for the fish to migrate.

The correct answer is C.

8.4 Sample Questions

Each of the **critical reasoning** questions is based on a short argument, a set of statements, or a plan of action. For each question, select the best answer of the choices given.

1. “Life expectancy” is the average age at death of the entire live-born population. In the middle of the nineteenth century, life expectancy in North America was 40 years, whereas now it is nearly 80 years. Thus, in those days, people must have been considered old at an age that we now consider the prime of life.

Which of the following, if true, undermines the argument above?

- (A) In the middle of the nineteenth century, the population of North America was significantly smaller than it is today.
 - (B) Most of the gains in life expectancy in the last 150 years have come from reductions in the number of infants who die in their first year of life.
 - (C) Many of the people who live to an advanced age today do so only because of medical technology that was unknown in the nineteenth century.
 - (D) The proportion of people who die in their seventies is significantly smaller today than is the proportion of people who die in their eighties.
 - (E) More people in the middle of the nineteenth century engaged regularly in vigorous physical activity than do so today.
2. Scientists propose placing seismic stations on the floor of the Pacific Ocean to warn threatened coastal communities on the northwestern coast of the United States of approaching tidal waves caused by earthquakes. Since forewarned communities could take steps to evacuate, many of the injuries and deaths that would otherwise occur could be avoided if the government would implement this proposal.

The answer to which of the following questions would be most important in determining whether implementing the proposal would be likely to achieve the desired result?

- (A) When was the last time that the coastal communities were threatened by an approaching tidal wave?
- (B) How far below sea level would the stations be located?
- (C) Would there be enough time after receiving warning of an approaching tidal wave for communities to evacuate safely?
- (D) How soon after a tidal wave hits land is it safe for evacuees to return to their communities?
- (E) Can the stations be equipped to collect and relay information about phenomena other than tidal waves caused by earthquakes?

3. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author

- (A) fails to distinguish between purchasing and consuming
- (B) does not supply information about homeowners in age groups other than 40 to 50
- (C) depends on popular belief rather than on documented research findings
- (D) does not specify the precise amount of ice cream purchased by any demographic group
- (E) discusses ice cream rather than more nutritious and healthful foods

4. According to a prediction of the not-so-distant future published in 1940, electricity would revolutionize agriculture. Electrodes would be inserted into the soil, and the current between them would kill bugs and weeds and make crop plants stronger.

Which of the following, if true, most strongly indicates that the logic of the prediction above is flawed?

- (A) In order for farmers to avoid electric shock while working in the fields, the current could be turned off at such times without diminishing the intended effects.
- (B) If the proposed plan for using electricity were put into practice, farmers would save on chemicals now being added to the soil.
- (C) It cannot be taken for granted that the use of electricity is always beneficial.
- (D) Since weeds are plants, electricity would affect weeds in the same way as it would affect crop plants.
- (E) Because a planting machine would need to avoid coming into contact with the electrodes, new parts for planting machines would need to be designed.

5. A company is considering changing its policy concerning daily working hours. Currently, this company requires all employees to arrive at work at 8 a.m. The proposed policy would permit each employee to decide when to arrive—from as early as 6 a.m. to as late as 11 a.m.

The adoption of this policy would be most likely to decrease employees' productivity if the employees' job functions required them to

- (A) work without interruption from other employees
- (B) consult at least once a day with employees from other companies
- (C) submit their work for a supervisor's eventual approval
- (D) interact frequently with each other throughout the entire workday
- (E) undertake projects that take several days to complete

6. The amount of time it takes for most of a worker's occupational knowledge and skills to become obsolete has been declining because of the introduction of advanced manufacturing technology (AMT). Given the rate at which AMT is currently being introduced in manufacturing, the average worker's old skills become obsolete and new skills are required within as little as five years.

Which of the following plans, if feasible, would allow a company to prepare most effectively for the rapid obsolescence of skills described above?

- (A) The company will develop a program to offer selected employees the opportunity to receive training six years after they were originally hired.
- (B) The company will increase its investment in AMT every year for a period of at least five years.
- (C) The company will periodically survey its employees to determine how the introduction of AMT has affected them.
- (D) Before the introduction of AMT, the company will institute an educational program to inform its employees of the probable consequences of the introduction of AMT.
- (E) The company will ensure that it can offer its employees any training necessary for meeting their job requirements.

7. Traverton's city council wants to minimize the city's average yearly expenditures on its traffic signal lights and so is considering replacing the incandescent bulbs currently in use with arrays of light-emitting diodes (LEDs) as the incandescent bulbs burn out. Compared to incandescent bulbs, LED arrays consume significantly less energy and cost no more to purchase. Moreover, the costs associated with the conversion of existing fixtures so as to accept LED arrays would be minimal.

Which of the following would it be most useful to know in determining whether switching to LED arrays would be likely to help minimize Traverton's yearly maintenance costs?

- (A) Whether the expected service life of LED arrays is at least as long as that of the currently used incandescent bulbs
- (B) Whether any cities have switched from incandescent lights in their traffic signals to lighting elements other than LED arrays
- (C) Whether the company from which Traverton currently buys incandescent bulbs for traffic signals also sells LED arrays
- (D) Whether Traverton's city council plans to increase the number of traffic signal lights in Traverton
- (E) Whether the crews that currently replace incandescent bulbs in Traverton's traffic signals know how to convert the existing fixtures so as to accept LED arrays

8. A report that many apples contain a cancer-causing preservative called Alar apparently had little effect on consumers. Few consumers planned to change their apple-buying habits as a result of the report. Nonetheless, sales of apples in grocery stores fell sharply in March, a month after the report was issued.

Which of the following, if true, best explains the reason for the apparent discrepancy described above?

- (A) In March, many grocers removed apples from their shelves in order to demonstrate concern about their customers' health.
 - (B) Because of a growing number of food-safety warnings, consumers in March were indifferent to such warnings.
 - (C) The report was delivered on television and also appeared in newspapers.
 - (D) The report did not mention that any other fruit contains Alar, although the preservative is used on other fruit.
 - (E) Public health officials did not believe that apples posed a health threat because only minute traces of Alar were present in affected apples.
9. In order to reduce the number of items damaged while in transit to customers, packaging consultants recommended that the TrueSave mail-order company increase the amount of packing material so as to fill any empty spaces in its cartons. Accordingly, TrueSave officials instructed the company's packers to use more packing material than before, and the packers zealously acted on these instructions and used as much as they could. Nevertheless, customer reports of damaged items rose somewhat.

Which of the following, if true, most helps to explain why acting on the consultants' recommendation failed to achieve its goal?

- (A) The change in packing policy led to an increase in expenditure on packing material and labor.
- (B) When packing material is compressed too densely, it loses some of its capacity to absorb shock.
- (C) The amount of packing material used in a carton does not significantly influence the ease with which a customer can unpack the package.

- (D) Most of the goods that TrueSave ships are electronic products that are highly vulnerable to being damaged in transit.
- (E) TrueSave has lost some of its regular customers as a result of the high number of damaged items they received.

10. Cable-television spokesperson: Subscriptions to cable television are a bargain in comparison to "free" television. Remember that "free" television is not really free. It is consumers, in the end, who pay for the costly advertising that supports "free" television.

Which of the following, if true, is most damaging to the position of the cable-television spokesperson?

- (A) Consumers who do not own television sets are less likely to be influenced in their purchasing decisions by television advertising than are consumers who own television sets.
 - (B) Subscriptions to cable television include access to some public-television channels, which do not accept advertising.
 - (C) For locations with poor television reception, cable television provides picture quality superior to that provided by free television.
 - (D) There is as much advertising on many cable-television channels as there is on "free" television channels.
 - (E) Cable-television subscribers can choose which channels they wish to receive.
11. Wood smoke contains dangerous toxins that cause changes in human cells. Because wood smoke presents such a high health risk, legislation is needed to regulate the use of open-air fires and wood-burning stoves.

Which of the following, if true, provides the most support for the argument above?

- (A) The amount of dangerous toxins contained in wood smoke is much less than the amount contained in an equal volume of automobile exhaust.
- (B) Within the jurisdiction covered by the proposed legislation, most heating and cooking is done with oil or natural gas.

- (C) Smoke produced by coal-burning stoves is significantly more toxic than smoke from wood-burning stoves.
- (D) No significant beneficial effect on air quality would result if open-air fires were banned within the jurisdiction covered by the proposed legislation.
- (E) In valleys where wood is used as the primary heating fuel, the concentration of smoke results in poor air quality.

12. A certain automaker aims to increase its market share by deeply discounting its vehicles' prices for the next several months. The discounts will cut into profits, but because they will be heavily advertised the manufacturer hopes that they will attract buyers away from rival manufacturers' cars. In the longer term, the automaker envisions that customers initially attracted by the discounts may become loyal customers.

In assessing the plan's chances of achieving its aim, it would be most useful to know which of the following?

- (A) Whether the automaker's competitors are likely to respond by offering deep discounts on their own products
- (B) Whether the advertisements will be created by the manufacturer's current advertising agency
- (C) Whether some of the automaker's models will be more deeply discounted than others
- (D) Whether the automaker will be able to cut costs sufficiently to maintain profit margins even when the discounts are in effect
- (E) Whether an alternative strategy might enable the automaker to enhance its profitability while holding a constant or diminishing share of the market

13. In Swartkans territory, archaeologists discovered charred bone fragments dating back one million years. Analysis of the fragments, which came from a variety of animals, showed that they had been heated to temperatures no higher than those produced in experimental campfires made from branches of white stinkwood, the most common tree around Swartkans.

Which of the following, if true, would, together with the information above, provide the best basis for the claim that the charred bone fragments are evidence of the use of fire by early hominids?

- (A) The white stinkwood tree is used for building material by the present-day inhabitants of Swartkans.
- (B) Forest fires can heat wood to a range of temperatures that occur in campfires.
- (C) The bone fragments were fitted together by the archaeologists to form the complete skeletons of several animals.
- (D) Apart from the Swartkans discovery, there is reliable evidence that early hominids used fire as many as 500,000 years ago.
- (E) The bone fragments were found in several distinct layers of limestone that contained primitive cutting tools known to have been used by early hominids.

14. In Washington County, attendance at the movies is just large enough for the cinema operators to make modest profits. The size of the county's population is stable and is not expected to increase much. Yet there are investors ready to double the number of movie screens in the county within five years, and they are predicting solid profits both for themselves and for the established cinema operators.

Which of the following, if true about Washington County, most helps to provide a justification for the investors' prediction?

- (A) Over the next ten years, people in their teenage years, the prime moviegoing age, will be a rapidly growing proportion of the county's population.
- (B) As distinct from the existing cinemas, most of the cinemas being planned would be located in downtown areas, in hopes of stimulating an economic revitalization of those areas.
- (C) Spending on video purchases, as well as spending on video rentals, has been increasing modestly each year for the past ten years.
- (D) The average number of screens per cinema is lower among existing cinemas than it is among cinemas still in the planning stages.
- (E) The sale of snacks and drinks in cinemas accounts for a steadily growing share of most cinema operators' profits.

15. A conservation group in the United States is trying to change the long-standing image of bats as frightening creatures. The group contends that bats are feared and persecuted solely because they are shy animals that are active only at night.

Which of the following, if true, would cast the most serious doubt on the accuracy of the group's contention?

- (A) Bats are steadily losing natural roosting places such as caves and hollow trees and are thus turning to more developed areas for roosting.
 - (B) Bats are the chief consumers of nocturnal insects and thus can help make their hunting territory more pleasant for humans.
 - (C) Bats are regarded as frightening creatures not only in the United States but also in Europe, Africa, and South America.
 - (D) Raccoons and owls are shy and active only at night, yet they are not generally feared and persecuted.
 - (E) People know more about the behavior of other greatly feared animal species, such as lions, alligators, and snakes, than they do about the behavior of bats.
16. Which of the following best completes the passage below?
- People buy prestige when they buy a premium product. They want to be associated with something special. Mass-marketing techniques and price-reduction strategies should not be used because _____.
- (A) affluent purchasers currently represent a shrinking portion of the population of all purchasers
 - (B) continued sales depend directly on the maintenance of an aura of exclusivity
 - (C) purchasers of premium products are concerned with the quality as well as with the price of the products
 - (D) expansion of the market niche to include a broader spectrum of consumers will increase profits
 - (E) manufacturing a premium brand is not necessarily more costly than manufacturing a standard brand of the same product

17. Hunter: **Many people blame hunters alone for the decline in Greenrock National Forest's deer population over the past ten years.** Yet clearly, black bears have also played an important role in this decline. In the past ten years, the forest's protected black bear population has risen sharply, and examination of black bears found dead in the forest during the deer hunting season showed that a number of them had recently fed on deer.

In the hunter's argument, the portion in boldface plays which of the following roles?

- (A) It is the main conclusion of the argument.
 - (B) It is a finding that the argument seeks to explain.
 - (C) It is an explanation that the argument concludes is correct.
 - (D) It provides evidence in support of the main conclusion of the argument.
 - (E) It introduces a judgment that the argument opposes.
18. In Asia, where palm trees are nonnative, the trees' flowers have traditionally been pollinated by hand, which has kept palm fruit productivity unnaturally low. When weevils known to be efficient pollinators of palm flowers were introduced into Asia in 1980, palm fruit productivity increased—by up to 50 percent in some areas—but then decreased sharply in 1984.
- Which of the following statements, if true, would best explain the 1984 decrease in productivity?
- (A) Prices for palm fruit fell between 1980 and 1984 following the rise in production and a concurrent fall in demand.
 - (B) Imported trees are often more productive than native trees because the imported ones have left behind their pests and diseases in their native lands.
 - (C) Rapid increases in productivity tend to deplete trees of nutrients needed for the development of the fruit-producing female flowers.
 - (D) The weevil population in Asia remained at approximately the same level between 1980 and 1984.
 - (E) Prior to 1980 another species of insect pollinated the Asian palm trees, but not as efficiently as the species of weevil that was introduced in 1980.

19. Physician: The hormone melatonin has shown promise as a medication for sleep disorders when taken in synthesized form. Because the long-term side effects of synthetic melatonin are unknown, however, I cannot recommend its use at this time.

Patient: Your position is inconsistent with your usual practice. You prescribe many medications that you know have serious side effects, so concern about side effects cannot be the real reason you will not prescribe melatonin.

The patient's argument is flawed because it fails to consider that

- (A) the side effects of synthetic melatonin might be different from those of naturally produced melatonin
 - (B) it is possible that the physician does not believe that melatonin has been conclusively shown to be effective
 - (C) sleep disorders, if left untreated, might lead to serious medical complications
 - (D) the side effects of a medication can take some time to manifest themselves
 - (E) known risks can be weighed against known benefits, but unknown risks cannot
20. In recent years, many cabinetmakers have been winning acclaim as artists. But since furniture must be useful, cabinetmakers must exercise their craft with an eye to the practical utility of their product. For this reason, cabinetmaking is not art.

Which of the following is an assumption that supports drawing the conclusion above from the reason given for that conclusion?

- (A) Some furniture is made to be placed in museums, where it will not be used by anyone.
- (B) Some cabinetmakers are more concerned than others with the practical utility of the products they produce.
- (C) Cabinetmakers should be more concerned with the practical utility of their products than they currently are.
- (D) An object is not an art object if its maker pays attention to the object's practical utility.
- (E) Artists are not concerned with the monetary value of their products.

21. Male bowerbirds construct elaborately decorated nests, or bowers. Basing their judgment on the fact that different local populations of bowerbirds of the same species build bowers that exhibit different building and decorative styles, researchers have concluded that the bowerbirds' building styles are a culturally acquired, rather than a genetically transmitted, trait.

Which of the following, if true, would most strengthen the conclusion drawn by the researchers?

- (A) There are more common characteristics than there are differences among the bower-building styles of the local bowerbird population that has been studied most extensively.
- (B) Young male bowerbirds are inept at bower-building and apparently spend years watching their elders before becoming accomplished in the local bower style.
- (C) The bowers of one species of bowerbird lack the towers and ornamentation characteristic of the bowers of most other species of bowerbird.
- (D) Bowerbirds are found only in New Guinea and Australia, where local populations of the birds apparently seldom have contact with one another.
- (E) It is well known that the song dialects of some songbirds are learned rather than transmitted genetically.

22. Plan: Concerned about the welfare of its senior citizens, the government of Runagia decided two years ago to increase by 20 percent the government-provided pension paid to all Runagians age sixty-five and older.

Result: Many Runagian senior citizens are no better off financially now than they were before the increase.

Further information: The annual rate of inflation since the pension increase has been below 5 percent, and the increased pension has been duly received by all eligible Runagians.

In light of the further information, which of the following, if true, does most to explain the result that followed implementation of the plan?

- (A) The majority of senior citizens whose financial position has not improved rely entirely on the government pension for their income.
 - (B) The Runagian banking system is so inefficient that cashing a pension check can take as much as three weeks.
 - (C) The prices of goods and services that meet the special needs of many senior citizens have increased at a rate much higher than the rate of inflation.
 - (D) The pension increase occurred at a time when the number of Runagians age sixty-five and older who were living below the poverty level was at an all-time high.
 - (E) The most recent pension increase was only the second such increase in the last ten years.
23. A drug that is highly effective in treating many types of infection can, at present, be obtained only from the bark of the ibora, a tree that is quite rare in the wild. It takes the bark of 5,000 trees to make one kilogram of the drug. It follows, therefore, that continued production of the drug must inevitably lead to the ibora's extinction.

Which of the following, if true, most seriously weakens the argument above?

- (A) The drug made from ibora bark is dispensed to doctors from a central authority.
- (B) The drug made from ibora bark is expensive to produce.
- (C) The leaves of the ibora are used in a number of medical products.

- (D) The ibora can be propagated from cuttings and grown under cultivation.
- (E) The ibora generally grows in largely inaccessible places.

24. The Plexis Corporation, a leading computer chip manufacturer, is currently developing a new chip, which is faster and more efficient than any computer chip currently in use. The new chip will be released for sale in twelve months. Plexis' market research has shown that initial sales of the new chip would be maximized by starting to advertise it now, but the company has decided to wait another six months before doing so.

Which of the following, if true, provides the Plexis Corporation with the best reason for postponing advertising its new chip?

- (A) Some computer users are reluctant to purchase new computer products when they are first released.
 - (B) The cost of an advertising campaign capable of maximizing initial sales of the new chip would be no greater than campaigns previously undertaken by Plexis.
 - (C) Advertising the new chip now will significantly decrease sales of Plexis' current line of computer chips.
 - (D) Plexis' major rivals in the computer chip manufacturing business are developing a chip with capabilities that are comparable to those of Plexis' new chip.
 - (E) Taking full advantage of the capacities of the new chip will require substantial adjustments in other segments of the computer industry.
25. Many breakfast cereals are fortified with vitamin supplements. Some of these cereals provide 100 percent of the recommended daily requirement of vitamins. Nevertheless, a well-balanced breakfast, including a variety of foods, is a better source of those vitamins than are such fortified breakfast cereals alone.

Which of the following, if true, would most strongly support the position above?

- (A) In many foods, the natural combination of vitamins with other nutrients makes those vitamins more usable by the body than are vitamins added in vitamin supplements.
- (B) People who regularly eat cereals fortified with vitamin supplements sometimes neglect to eat the foods in which the vitamins occur naturally.
- (C) Foods often must be fortified with vitamin supplements because naturally occurring vitamins are removed during processing.
- (D) Unprocessed cereals are naturally high in several of the vitamins that are usually added to fortified breakfast cereals.
- (E) Cereals containing vitamin supplements are no harder to digest than similar cereals without added vitamins.

26. When a polygraph test is judged inconclusive, this is no reflection on the examinee. Rather, such a judgment means that the test has failed to show whether the examinee was truthful or untruthful. Nevertheless, employers will sometimes refuse to hire a job applicant because of an inconclusive polygraph test result.

Which of the following conclusions can most properly be drawn from the information above?

- (A) Most examinees with inconclusive polygraph test results are in fact untruthful.
- (B) Polygraph tests should not be used by employers in the consideration of job applicants.
- (C) An inconclusive polygraph test result is sometimes unfairly held against the examinee.
- (D) A polygraph test indicating that an examinee is untruthful can sometimes be mistaken.
- (E) Some employers have refused to consider the results of polygraph tests when evaluating job applicants.

27. For similar cars and comparable drivers, automobile insurance for collision damage has always cost more in Greatport than in Fairmont. Police studies, however, show that cars owned by Greatport residents are, on average, slightly less likely to be involved in a collision than cars in Fairmont. Clearly, therefore, insurance companies are making a greater profit on collision-damage insurance in Greatport than in Fairmont.

In evaluating the argument, it would be most useful to compare

- (A) the level of traffic congestion in Greatport with the level of traffic congestion in Fairmont
- (B) the cost of repairing collision damage in Greatport with the cost of repairing collision damage in Fairmont
- (C) the rates Greatport residents pay for other forms of insurance with the rates paid for similar insurance by residents of Fairmont
- (D) the condition of Greatport's roads and streets with the condition of Fairmont's roads and streets
- (E) the cost of collision-damage insurance in Greatport and Fairmont with that in other cities

28. The technological conservatism of bicycle manufacturers is a reflection of the kinds of demand they are trying to meet. The only cyclists seriously interested in innovation and willing to pay for it are bicycle racers. Therefore, innovation in bicycle technology is limited by what authorities will accept as standard for purposes of competition in bicycle races.

Which of the following is an assumption made in drawing the conclusion above?

- (A) The market for cheap, traditional bicycles cannot expand unless the market for high-performance competition bicycles expands.
- (B) High-performance bicycles are likely to be improved more as a result of technological innovations developed in small workshops than as a result of technological innovations developed in major manufacturing concerns.
- (C) Bicycle racers do not generate a strong demand for innovations that fall outside what is officially recognized as standard for purposes of competition.
- (D) The technological conservatism of bicycle manufacturers results primarily from their desire to manufacture a product that can be sold without being altered to suit different national markets.
- (E) The authorities who set standards for high-performance bicycle racing do not keep informed about innovative bicycle design.

29. Last year a record number of new manufacturing jobs were created. Will this year bring another record? Well, a new manufacturing job is created either within an existing company or by the start-up of a new company. Within existing firms, new jobs have been created this year at well below last year's record pace. At the same time, there is considerable evidence that the number of new companies starting up will be no higher this year than it was last year, and surely **the new companies starting up this year will create no more jobs per company than did last year's start-ups**. Clearly, it can be concluded that **the number of new jobs created this year will fall short of last year's record**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is that main conclusion.
 - (B) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is a conclusion drawn in order to support that main conclusion.
 - (C) The first is an objection that the argument rejects; the second is the main conclusion of the argument.
 - (D) The first is an objection that the argument rejects; the second presents a conclusion that could be drawn if that objection were allowed to stand.
 - (E) The first is a claim that has been advanced in support of a position that the argument opposes; the second is a claim advanced in support of the main conclusion of the argument.
30. Robot satellites relay important communications and identify weather patterns. Because the satellites can be repaired only in orbit, astronauts are needed to repair them. Without repairs, the satellites would eventually malfunction. Therefore, space flights carrying astronauts must continue.

Which of the following, if true, would most seriously weaken the argument above?

- (A) Satellites falling from orbit because of malfunctions burn up in the atmosphere.
- (B) Although satellites are indispensable in the identification of weather patterns, weather forecasters also make some use of computer projections to identify weather patterns.
- (C) The government, responding to public pressure, has decided to cut the budget for space flights and put more money into social welfare programs.
- (D) Repair of satellites requires heavy equipment, which adds to the amount of fuel needed to lift a spaceship carrying astronauts into orbit.
- (E) Technical obsolescence of robot satellites makes repairing them more costly and less practical than sending new, improved satellites into orbit.

31. A company's two divisions performed with remarkable consistency over the past three years: in each of those years, the pharmaceuticals division has accounted for roughly 20 percent of dollar sales and 40 percent of profits, and the chemicals division for the balance.

Which of the following can properly be inferred regarding the past three years from the statement above?

- (A) Total dollar sales for each of the company's divisions have remained roughly constant.
- (B) The pharmaceuticals division has faced stiffer competition in its markets than has the chemicals division.
- (C) The chemicals division has realized lower profits per dollar of sales than has the pharmaceuticals division.
- (D) The product mix offered by each of the company's divisions has remained unchanged.
- (E) Highly profitable products accounted for a higher percentage of the chemicals division's sales than those of the pharmaceuticals division's.

32. The Eurasian ruffe, a fish species inadvertently introduced into North America's Great Lakes in recent years, feeds on the eggs of lake whitefish, a native species, thus threatening the lakes' natural ecosystem. To help track the ruffe's spread, government agencies have produced wallet-sized cards about the ruffe. The cards contain pictures of the ruffe and explain the danger they pose; the cards also request anglers to report any ruffe they catch.

Which of the following, if true, would provide most support for the prediction that the agencies' action will have its intended effect?

- (A) The ruffe has spiny fins that make it unattractive as prey.
- (B) Ruffe generally feed at night, but most recreational fishing on the Great Lakes is done during daytime hours.
- (C) Most people who fish recreationally on the Great Lakes are interested in the preservation of the lake whitefish because it is a highly prized game fish.
- (D) The ruffe is one of several nonnative species in the Great Lakes whose existence threatens the survival of lake whitefish populations there.
- (E) The bait that most people use when fishing for whitefish on the Great Lakes is not attractive to ruffe.

33. Advertisement: Today's customers expect high quality. Every advance in the quality of manufactured products raises customer expectations. The company that is satisfied with the current quality of its products will soon find that its customers are not. At MegaCorp, meeting or exceeding customer expectations is our goal.

Which of the following must be true on the basis of the statements in the advertisement above?

- (A) MegaCorp's competitors will succeed in attracting customers only if those competitors adopt MegaCorp's goal as their own.
- (B) A company that does not correctly anticipate the expectations of its customers is certain to fail in advancing the quality of its products.

- (C) MegaCorp's goal is possible to meet only if continuing advances in product quality are possible.
- (D) If a company becomes satisfied with the quality of its products, then the quality of its products is sure to decline.
- (E) MegaCorp's customers are currently satisfied with the quality of its products.

34. Which of the following most logically completes the argument?

Ferber's syndrome, a viral disease that frequently affects cattle, is transmitted to these animals through infected feed. Even though chickens commercially raised for meat are often fed the type of feed identified as the source of infection in cattle, Ferber's syndrome is only rarely observed in chickens. This fact, however, does not indicate that most chickens are immune to the virus that causes Ferber's syndrome, since _____.

- (A) chickens and cattle are not the only kinds of farm animal that are typically fed the type of feed liable to be contaminated with the virus that causes Ferber's syndrome
- (B) Ferber's syndrome has been found in animals that have not been fed the type of feed liable to be contaminated with the virus that can cause the disease
- (C) resistance to some infectious organisms such as the virus that causes Ferber's syndrome can be acquired by exposure to a closely related infectious organism
- (D) chickens and cattle take more than a year to show symptoms of Ferber's syndrome, and chickens commercially raised for meat, unlike cattle, are generally brought to market during the first year of life
- (E) the type of feed liable to be infected with the virus that causes Ferber's syndrome generally constitutes a larger proportion of the diet of commercially raised chickens than of commercially raised cattle

35. Last year the rate of inflation was 1.2 percent, but for the current year it has been 4 percent. We can conclude that inflation is on an upward trend and the rate will be still higher next year.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The inflation figures were computed on the basis of a representative sample of economic data rather than all of the available data.
 - (B) Last year a dip in oil prices brought inflation temporarily below its recent stable annual level of 4 percent.
 - (C) Increases in the pay of some workers are tied to the level of inflation, and at an inflation rate of 4 percent or above, these pay raises constitute a force causing further inflation.
 - (D) The 1.2 percent rate of inflation last year represented a 10-year low.
 - (E) Government intervention cannot affect the rate of inflation to any significant degree.
36. Offshore oil-drilling operations entail an unavoidable risk of an oil spill, but importing oil on tankers presently entails an even greater such risk per barrel of oil. Therefore, if we are to reduce the risk of an oil spill without curtailing our use of oil, we must invest more in offshore operations and import less oil on tankers.

Which of the following, if true, most seriously weakens the argument above?

- (A) Tankers can easily be redesigned so that their use entails less risk of an oil spill.
- (B) Oil spills caused by tankers have generally been more serious than those caused by offshore operations.
- (C) The impact of offshore operations on the environment can be controlled by careful management.
- (D) Offshore operations usually damage the ocean floor, but tankers rarely cause such damage.
- (E) Importing oil on tankers is currently less expensive than drilling for it offshore.

37. Thyrian lawmaker: Thyria's Cheese Importation Board inspects all cheese shipments to Thyria and rejects shipments not meeting specified standards. Yet only 1 percent is ever rejected. Therefore, since the health consequences and associated economic costs of not rejecting that 1 percent are negligible, whereas the board's operating costs are considerable, for economic reasons alone the board should be disbanded.

Consultant: I disagree. The threat of having their shipments rejected deters many cheese exporters from shipping substandard product.

The consultant responds to the lawmaker's argument by

- (A) rejecting the lawmaker's argument while proposing that the standards according to which the board inspects imported cheese should be raised
 - (B) providing evidence that the lawmaker's argument has significantly overestimated the cost of maintaining the board
 - (C) objecting to the lawmaker's introducing into the discussion factors that are not strictly economic
 - (D) pointing out a benefit of maintaining the board, which the lawmaker's argument has failed to consider
 - (E) shifting the discussion from the argument at hand to an attack on the integrity of the cheese inspectors
38. Which of the following best completes the passage below?

The computer industry's estimate that it loses millions of dollars when users illegally copy programs without paying for them is greatly exaggerated. Most of the illegal copying is done by people with no serious interest in the programs. Thus, the loss to the industry is quite small, because _____.

- (A) many users who illegally copy programs never find any use for them
- (B) most people who illegally copy programs would not purchase them even if purchasing them were the only way to obtain them

- (C) even if the computer industry received all the revenue it claims to be losing, it would still be experiencing financial difficulties
- (D) the total market value of all illegal copies is low in comparison to the total revenue of the computer industry
- (E) the number of programs that are frequently copied illegally is low in comparison to the number of programs available for sale

39. The growing popularity of computer-based activities was widely expected to result in a decline in television viewing, since it had been assumed that people lack sufficient free time to maintain current television-viewing levels while spending increasing amounts of free time on the computer. That assumption, however, is evidently false: In a recent mail survey concerning media use, a very large majority of respondents who report increasing time spent per week using computers report no change in time spent watching television.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether a large majority of the survey respondents reported watching television regularly
- (B) Whether the amount of time spent watching television is declining among people who report that they rarely or never use computers
- (C) Whether the type of television programs a person watches tends to change as the amount of time spent per week using computers increases
- (D) Whether a large majority of the computer owners in the survey reported spending increasing amounts of time per week using computers
- (E) Whether the survey respondents' reports of time spent using computers included time spent using computers at work

40. In the last decade there has been a significant decrease in coffee consumption. During this same time, there has been increasing publicity about the adverse long-term effects on health of the caffeine in coffee. Therefore, the decrease in coffee consumption must have been caused by consumers' awareness of the harmful effects of caffeine.

Which of the following, if true, most seriously calls into question the explanation above?

- (A) On average, people consume 30 percent less coffee today than they did 10 years ago.
- (B) Heavy coffee drinkers may have mild withdrawal symptoms, such as headaches, for a day or so after significantly decreasing their coffee consumption.
- (C) Sales of specialty types of coffee have held steady as sales of regular brands have declined.
- (D) The consumption of fruit juices and caffeine-free herbal teas has increased over the past decade.
- (E) Coffee prices increased steadily in the past decade because of unusually severe frosts in coffee-growing nations.

41. Which of the following best completes the passage below?

When the products of several competing suppliers are perceived by consumers to be essentially the same, classical economics predicts that price competition will reduce prices to the same minimal levels and all suppliers' profits to the same minimal levels. Therefore, if classical economics is true, and given suppliers' desire to make as much profit as possible, it should be expected that _____.

- (A) in a crowded market widely differing prices will be charged for products that are essentially the same as each other
- (B) as a market becomes less crowded as suppliers leave, the profits of the remaining suppliers will tend to decrease
- (C) each supplier in a crowded market will try to convince consumers that its product differs significantly from its competitors' products.
- (D) when consumers are unable to distinguish the products in a crowded market, consumers will judge that the higher-priced products are of higher quality
- (E) suppliers in crowded markets will have more incentive to reduce prices and thus increase sales than to introduce innovations that would distinguish their product from their competitors' products

42. Crowding on Mooreville's subway frequently leads to delays, because it is difficult for passengers to exit from the trains. Subway ridership is projected to increase by 20 percent over the next 10 years. The Mooreville Transit Authority plans to increase the number of daily train trips by only 5 percent over the same period. Officials predict that this increase is sufficient to ensure that the incidence of delays due to crowding does not increase.

Which of the following, if true, provides the strongest grounds for the officials' prediction?

- (A) By changing maintenance schedules, the Transit Authority can achieve the 5 percent increase in train trips without purchasing any new subway cars.
 - (B) The Transit Authority also plans a 5 percent increase in the number of bus trips on routes that connect to subways.
 - (C) For most commuters who use the subway system, there is no practical alternative public transportation available.
 - (D) Most of the projected increase in ridership is expected to occur in off-peak hours when trains are now sparsely used.
 - (E) The 5 percent increase in the number of train trips can be achieved without an equal increase in Transit Authority operational costs.
43. Installing scrubbers in smokestacks and switching to cleaner-burning fuel are the two methods available to Northern Power for reducing harmful emissions from its plants. Scrubbers will reduce harmful emissions more than cleaner-burning fuels will. Therefore, by installing scrubbers, Northern Power will be doing the most that can be done to reduce harmful emissions from its plants.

Which of the following is an assumption on which the argument depends?

- (A) Switching to cleaner-burning fuel will not be more expensive than installing scrubbers.
- (B) Northern Power can choose from among various kinds of scrubbers, some of which are more effective than others.
- (C) Northern Power is not necessarily committed to reducing harmful emissions from its plants.

- (D) Harmful emissions from Northern Power's plants cannot be reduced more by using both methods together than by the installation of scrubbers alone.
- (E) Aside from harmful emissions from the smokestacks of its plants, the activities of Northern Power do not cause significant air pollution.

44. Trancorp currently transports all its goods to Burland Island by truck. The only bridge over the channel separating Burland from the mainland is congested, and trucks typically spend hours in traffic. Trains can reach the channel more quickly than trucks, and freight cars can be transported to Burland by barges that typically cross the channel in an hour. Therefore, to reduce shipping time, Trancorp plans to switch to trains and barges to transport goods to Burland.

Which of the following would be most important to know in determining whether Trancorp's plan, if implemented, is likely to achieve its goal?

- (A) Whether transportation by train and barge would be substantially less expensive than transportation by truck
 - (B) Whether there are boats that can make the trip between the mainland and Burland faster than barges can
 - (C) Whether loading the freight cars onto barges is very time consuming
 - (D) Whether the average number of vehicles traveling over the bridge into Burland has been relatively constant in recent years
 - (E) Whether most trucks transporting goods into Burland return to the mainland empty
45. Some anthropologists study modern-day societies of foragers in an effort to learn about our ancient ancestors who were also foragers. A flaw in this strategy is that forager societies are extremely varied. Indeed, any forager society with which anthropologists are familiar has had considerable contact with modern, non-forager societies.

Which of the following, if true, would most weaken the criticism made above of the anthropologists' strategy?

- (A) All forager societies throughout history have had a number of important features in common that are absent from other types of societies.
- (B) Most ancient forager societies either dissolved or made a transition to another way of life.
- (C) All anthropologists study one kind or another of modern-day society.
- (D) Many anthropologists who study modern-day forager societies do not draw inferences about ancient societies on the basis of their studies.
- (E) Even those modern-day forager societies that have not had significant contact with modern societies are importantly different from ancient forager societies.

46. Contrary to earlier predictions, demand for sugarcane has not increased in recent years. Yet, even though prices and production amounts have also been stable during the last three years, sugarcane growers last year increased their profits by more than 10 percent over the previous year's level.

Any of the following statements, if true about last year, helps to explain the rise in profits EXCEPT:

- (A) Many countries that are large consumers of sugarcane increased their production of sugarcane-based ethanol, yet their overall consumption of sugarcane decreased.
- (B) Sugarcane growers have saved money on wages by switching from paying laborers an hourly wage to paying them by the amount harvested.
- (C) The price of oil, the major energy source used by sugarcane growers in harvesting their crops, dropped by over 20 percent.
- (D) Many small sugarcane growers joined together to form an association of sugarcane producers and began to buy supplies at low group rates.
- (E) Rainfall in sugarcane-growing regions was higher than it had been during the previous year, allowing the growers to save money on expensive artificial irrigation.

47. Which of the following most logically completes the argument below?

Davison River farmers are currently deciding between planting winter wheat this fall or spring wheat next spring. Winter wheat and spring wheat are usually about equally profitable. Because of new government restrictions on the use of Davison River water for irrigation, per acre yields for winter wheat, though not for spring wheat, would be much lower than average. Therefore, planting spring wheat will be more profitable than planting winter wheat, since _____.

- (A) the smaller-than-average size of a winter wheat harvest this year would not be compensated for by higher winter wheat prices
- (B) new crops of spring wheat must be planted earlier than the time at which standing crops of winter wheat are ready to be harvested
- (C) the spring wheat that farmers in the Davison River region plant is well adapted to the soil of the region
- (D) spring wheat has uses that are different from those of winter wheat
- (E) planting spring wheat is more profitable than planting certain other crops, such as rye

48. If the county continues to collect residential trash at current levels, landfills will soon be overflowing and parkland will need to be used in order to create more space. Charging each household a fee for each pound of trash it puts out for collection will induce residents to reduce the amount of trash they create; this charge will therefore protect the remaining county parkland.

Which of the following is an assumption made in drawing the conclusion above?

- (A) Residents will reduce the amount of trash they put out for collection by reducing the number of products they buy.
- (B) The collection fee will not significantly affect the purchasing power of most residents, even if their households do not reduce the amount of trash they put out.
- (C) The collection fee will not induce residents to dump their trash in the parklands illegally.
- (D) The beauty of county parkland is an important issue for most of the county's residents.
- (E) Landfills outside the county's borders could be used as dumping sites for the county's trash.

49. Certain genetically modified strains of maize produce a powerful natural insecticide. The insecticide occurs throughout the plant, including its pollen. Maize pollen is dispersed by the wind and frequently blows onto milkweed plants that grow near maize fields. Caterpillars of monarch butterflies feed exclusively on milkweed leaves. When these caterpillars are fed milkweed leaves dusted with pollen from modified maize plants, they die. Therefore, by using genetically modified maize, farmers put monarch butterflies at risk.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether the natural insecticide is as effective against maize-eating insects as commercial insecticides typically used on maize are
 - (B) Whether the pollen of genetically modified maize contains as much insecticide as other parts of these plants
 - (C) Whether monarch butterfly caterpillars are actively feeding during the part of the growing season when maize is releasing pollen
 - (D) Whether insects that feed on genetically modified maize plants are likely to be killed by insecticide from the plant's pollen
 - (E) Whether any maize-eating insects compete with monarch caterpillars for the leaves of milkweed plants growing near maize fields
50. Although computers can enhance people's ability to communicate, computer games are a cause of underdeveloped communication skills in children. After-school hours spent playing computer games are hours not spent talking with people. Therefore, children who spend all their spare time playing these games have less experience in interpersonal communication than other children have.

The argument depends on which of the following assumptions?

- (A) Passive activities such as watching television and listening to music do not hinder the development of communication skills in children.
- (B) Most children have other opportunities, in addition to after-school hours, in which they can choose whether to play computer games or to interact with other people.

- (C) Children who do not spend all of their after-school hours playing computer games spend at least some of that time talking with other people.
- (D) Formal instruction contributes little or nothing to children's acquisition of communication skills.
- (E) The mental skills developed through playing computer games do not contribute significantly to children's intellectual development.

51. One variety of partially biodegradable plastic beverage container is manufactured from small bits of plastic bound together by a degradable bonding agent such as cornstarch. Since only the bonding agent degrades, leaving the small bits of plastic, no less plastic refuse per container is produced when such containers are discarded than when comparable nonbiodegradable containers are discarded.

Which of the following, if true, most strengthens the argument above?

- (A) Both partially biodegradable and non-biodegradable plastic beverage containers can be crushed completely flat by refuse compactors.
- (B) The partially biodegradable plastic beverage containers are made with more plastic than comparable nonbiodegradable ones in order to compensate for the weakening effect of the bonding agents.
- (C) Many consumers are ecology-minded and prefer to buy a product sold in the partially biodegradable plastic beverage containers rather than in nonbiodegradable containers, even if the price is higher.
- (D) The manufacturing process for the partially biodegradable plastic beverage containers results in less plastic waste than the manufacturing process for nonbiodegradable plastic beverage containers.
- (E) Technological problems with recycling currently prevent the reuse as food or beverage containers of the plastic from either type of plastic beverage container.

52. Rye sown in the fall and plowed into the soil in early spring leaves a residue that is highly effective at controlling broad-leaved weeds, but unfortunately for only about forty-five days. No major agricultural crop matures from seed in as little as forty-five days. Synthetic herbicides, on the other hand, although not any longer-lasting, can be reapplied as the crop grows. Clearly, therefore, for major agricultural crops, plowing rye into the soil can play no part in effective weed control.

The argument is most vulnerable to the objection that it fails to

- (A) consider that there might be minor, quick-growing crops that do mature in forty-five days or less
- (B) identify any alternative method of weed control that could be used instead of the method it rejects
- (C) distinguish among the various kinds of synthetic herbicides
- (D) allow for the possibility of combining the two weed-control methods it mentions
- (E) allow for the possibility that plants other than rye, handled the same way, might have the same effect

53. Most employees in the computer industry move from company to company, changing jobs several times in their careers. However, Summit Computers is known throughout the industry for retaining its employees. Summit credits its success in retaining employees to its informal, nonhierarchical work environment.

Which of the following, if true, most strongly supports Summit's explanation of its success in retaining employees?

- (A) Some people employed in the computer industry change jobs if they become bored with their current projects.
- (B) A hierarchical work environment hinders the cooperative exchange of ideas that computer industry employees consider necessary for their work.

- (C) Many of Summit's senior employees had previously worked at only one other computer company.
- (D) In a nonhierarchical work environment, people avoid behavior that might threaten group harmony and thus avoid discussing with their colleagues any dissatisfaction they might have with their jobs.
- (E) The cost of living near Summit is relatively low compared to areas in which some other computer companies are located.

54. Journalist: In late 1994, the present government of the Republic of Bellam came into power. Each year since then, about thirty journalists have been imprisoned for printing articles that criticize the government. In 1994, under the old government, only six journalists were imprisoned for criticizing the government. So the old government was more tolerant of criticism by the press than the new one is.

Politician: But in 1994 only six journalists criticized the government, and now journalists routinely do.

The politician challenges the journalist's argument by doing which of the following?

- (A) Presenting data that extend further into the past than the journalist's data
- (B) Introducing evidence that undermines an assumption of the journalist's argument
- (C) Questioning the accuracy of the evidence presented in support of the journalist's conclusion
- (D) Pointing out that the argument illegitimately draws a general conclusion on the basis of a sample of only a few cases
- (E) Stating that the argument treats information about some members of a group as if it applied to all members of that group

55. Insurance Company X is considering issuing a new policy to cover services required by elderly people who suffer from diseases that afflict the elderly. Premiums for the policy must be low enough to attract customers. Therefore, Company X is concerned that the income from the policies would not be sufficient to pay for the claims that would be made.

Which of the following strategies would be most likely to minimize Company X's losses on the policies?

- (A) Attracting middle-aged customers unlikely to submit claims for benefits for many years
- (B) Insuring only those individuals who did not suffer any serious diseases as children
- (C) Including a greater number of services in the policy than are included in other policies of lower cost
- (D) Insuring only those individuals who were rejected by other companies for similar policies
- (E) Insuring only those individuals who are wealthy enough to pay for the medical services

56. The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than the lawyers who do not advertise. Therefore, if the state removes any of its current restrictions, such as the one against advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

If the statements above are true, which of the following must be true?

- (A) Some lawyers who now advertise will charge more for specific services if they do not have to specify fee arrangements in the advertisements.
- (B) More consumers will use legal services if there are fewer restrictions on the advertising of legal services.
- (C) If the restriction against advertisements that do not specify fee arrangements is removed, more lawyers will advertise their services.

- (D) If more lawyers advertise lower prices for specific services, some lawyers who do not advertise will also charge less than they currently charge for those services.
- (E) If the only restrictions on the advertising of legal services were those that apply to every type of advertising, most lawyers would advertise their services.

57. Which of the following most logically completes the argument given below?

People in isolated rain-forest communities tend to live on a largely vegetarian diet, and they eat little salt. Few of them suffer from high blood pressure, and their blood pressure does not tend to increase with age, as is common in industrialized countries. Such people often do develop high blood pressure when they move to cities and adopt high-salt diets. Though suggestive, these facts do not establish salt as the culprit in high blood pressure, however, because _____.

- (A) genetic factors could account for the lack of increase of blood pressure with age among such people
- (B) people eating high-salt diets and living from birth in cities in industrialized societies generally have a tendency to have high blood pressure
- (C) it is possible to have a low-salt diet while living in a city in an industrialized country
- (D) there are changes in other aspects of diet when such people move to the city
- (E) salt is a necessity for human life, and death can occur when the body loses too much salt

58. Even though most universities retain the royalties from faculty members' inventions, the faculty members retain the royalties from books and articles they write. Therefore, faculty members should retain the royalties from the educational computer software they develop.

The conclusion above would be more reasonably drawn if which of the following were inserted into the argument as an additional premise?

- (A) Royalties from inventions are higher than royalties from educational software programs.
- (B) Faculty members are more likely to produce educational software programs than inventions.

- (C) Inventions bring more prestige to universities than do books and articles.
- (D) In the experience of most universities, educational software programs are more marketable than are books and articles.
- (E) In terms of the criteria used to award royalties, educational software programs are more nearly comparable to books and articles than to inventions.

59. In order to withstand tidal currents, juvenile horseshoe crabs frequently burrow in the sand. Such burrowing discourages barnacles from clinging to their shells. When fully grown, however, the crabs can readily withstand tidal currents without burrowing, and thus they acquire substantial populations of barnacles. Surprisingly, in areas where tidal currents are very weak, juvenile horseshoe crabs are found not to have significant barnacle populations, even though they seldom burrow.

Which of the following, if true, most helps to explain the surprising finding?

- (A) Tidal currents do not themselves dislodge barnacles from the shells of horseshoe crabs.
- (B) Barnacles most readily attach themselves to horseshoe crabs in areas where tidal currents are weakest.
- (C) The strength of the tidal currents in a given location varies widely over the course of a day.
- (D) A very large barnacle population can significantly decrease the ability of a horseshoe crab to find food.
- (E) Until they are fully grown, horseshoe crabs shed their shells and grow new ones several times a year.

60. Red blood cells in which the malarial-fever parasite resides are eliminated from a person's body after 120 days. Because the parasite cannot travel to a new generation of red blood cells, any fever that develops in a person more than 120 days after that person has moved to a malaria-free region is not due to the malarial parasite.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The fever caused by the malarial parasite may resemble the fever caused by flu viruses.
- (B) The anopheles mosquito, which is the principal insect carrier of the malarial parasite, has been eradicated in many parts of the world.
- (C) Many malarial symptoms other than the fever, which can be suppressed with antimalarial medication, can reappear within 120 days after the medication is discontinued.
- (D) In some cases, the parasite that causes malarial fever travels to cells of the spleen, which are less frequently eliminated from a person's body than are red blood cells.
- (E) In any region infested with malaria-carrying mosquitoes, there are individuals who appear to be immune to malaria.

61. Neither a rising standard of living nor balanced trade, by itself, establishes a country's ability to compete in the international marketplace. Both are required simultaneously since standards of living can rise because of growing trade deficits and trade can be balanced by means of a decline in a country's standard of living.

If the facts stated in the passage above are true, a proper test of a country's ability to be competitive is its ability to

- (A) balance its trade while its standard of living rises
- (B) balance its trade while its standard of living falls
- (C) increase trade deficits while its standard of living rises
- (D) decrease trade deficits while its standard of living falls
- (E) keep its standard of living constant while trade deficits rise

62. When there is less rainfall than normal, the water level of Australian rivers falls and the rivers flow more slowly. Because algae whose habitat is river water grow best in slow-moving water, the amount of algae per unit of water generally increases when there has been little rain. By contrast, however, following a period of extreme drought, algae levels are low even in very slow-moving river water.

Which of the following, if true, does most to explain the contrast described above?

- (A) During periods of extreme drought, the populations of some of the species that feed on algae tend to fall.
 - (B) The more slowly water moves, the more conducive its temperature is to the growth of algae.
 - (C) When algae populations reach very high levels, conditions within the river can become toxic for some of the other species that normally live there.
 - (D) Australian rivers dry up completely for short intervals in periods of extreme drought.
 - (E) Except during periods of extreme drought, algae levels tend to be higher in rivers in which the flow has been controlled by damming than in rivers that flow freely.
63. When hypnotized subjects are told that they are deaf and are then asked whether they can hear the hypnotist, they reply, "No." Some theorists try to explain this result by arguing that the selves of hypnotized subjects are dissociated into separate parts, and that the part that is deaf is dissociated from the part that replies.

Which of the following challenges indicates the most serious weakness in the attempted explanation described above?

- (A) Why does the part that replies not answer, "Yes"?
- (B) Why are the observed facts in need of any special explanation?
- (C) Why do the subjects appear to accept the hypnotist's suggestion that they are deaf?
- (D) Why do hypnotized subjects all respond the same way in the situation described?
- (E) Why are the separate parts of the self the same for all subjects?

64. A prominent investor who holds a large stake in the Burton Tool Company has recently claimed that **the company is mismanaged**, citing as evidence the company's failure to slow production in response to a recent rise in its inventory of finished products. It is doubtful whether an investor's sniping at management can ever be anything other than counterproductive, **but in this case it is clearly not justified**. It is true that an increased inventory of finished products often indicates that production is outstripping demand, but in Burton's case it indicates no such thing. Rather, the increase in inventory is entirely attributable to products that have already been assigned to orders received from customers.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first states the position that the argument as a whole opposes; the second provides evidence to undermine the support for the position being opposed.
 - (B) The first states the position that the argument as a whole opposes; the second is evidence that has been used to support the position being opposed.
 - (C) The first states the position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.
 - (D) The first is evidence that has been used to support a position that the argument as a whole opposes; the second provides information to undermine the force of that evidence.
 - (E) The first is evidence that has been used to support a position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.
65. Excavation of the ancient city of Kourion on the island of Cyprus revealed a pattern of debris and collapsed buildings typical of towns devastated by earthquakes. Archaeologists have hypothesized that the destruction was due to a major earthquake known to have occurred near the island in A.D. 365.

Which of the following, if true, most strongly supports the archaeologists' hypothesis?

- (A) Bronze ceremonial drinking vessels that are often found in graves dating from years preceding and following A.D. 365 were also found in several graves near Kourion.
- (B) No coins minted after A.D. 365 were found in Kourion, but coins minted before that year were found in abundance.
- (C) Most modern histories of Cyprus mention that an earthquake occurred near the island in A.D. 365.
- (D) Several small statues carved in styles current in Cyprus in the century between A.D. 300 and A.D. 400 were found in Kourion.
- (E) Stone inscriptions in a form of the Greek alphabet that was definitely used in Cyprus after A.D. 365 were found in Kourion.

66. To protect certain fledgling industries, the government of Country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

Which of the following conclusions about Country Z's adversely affected export-dependent industries is best supported by the passage?

- (A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.
- (B) Those industries had to contend with the fact that other countries banned imports from Country Z.
- (C) Those industries succeeded in expanding the domestic market for their products.
- (D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.
- (E) Those industries started to move into export markets that they had previously judged unprofitable.

67. Several industries have recently switched at least partly from older technologies powered by fossil fuels to new technologies powered by electricity. It is thus evident that less fossil fuel is being used as a result of the operations of these industries than would have been used if these industries had retained their older technologies.

Which of the following, if true, most strengthens the argument above?

- (A) Many of the industries that have switched at least partly to the new technologies have increased their output.
- (B) Less fossil fuel was used to manufacture the machinery employed in the new technologies than was originally used to manufacture the machinery employed in the older technologies.
- (C) More electricity is used by those industries that have switched at least partly to the new technologies than by those industries that have not switched.
- (D) Some of the industries that have switched at least partly to the new technologies still use primarily technologies that are powered by fossil fuels.
- (E) The amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount that would have been used to power the older technologies.

68. The local board of education found that, because the current physics curriculum has little direct relevance to today's world, physics classes attracted few high school students. So to attract students to physics classes, the board proposed a curriculum that emphasizes principles of physics involved in producing and analyzing visual images.

Which of the following, if true, provides the strongest reason to expect that the proposed curriculum will be successful in attracting students?

- (A) Several of the fundamental principles of physics are involved in producing and analyzing visual images.
 - (B) Knowledge of physics is becoming increasingly important in understanding the technology used in today's world.
 - (C) Equipment that a large producer of photographic equipment has donated to the high school could be used in the proposed curriculum.
 - (D) The number of students interested in physics today is much lower than the number of students interested in physics 50 years ago.
 - (E) In today's world the production and analysis of visual images is of major importance in communications, business, and recreation.
69. Scientists have modified feed corn genetically, increasing its resistance to insect pests. Farmers who tried out the genetically modified corn last season applied less insecticide to their corn fields and still got yields comparable to those they would have gotten with ordinary corn. Ordinary corn seed, however, costs less, and what these farmers saved on insecticide rarely exceeded their extra costs for seed. Therefore, for most feed-corn farmers, switching to genetically modified seed would be unlikely to increase profits.

Which of the following would it be most useful to know in order to evaluate the argument?

- (A) Whether there are insect pests that sometimes reduce feed-corn yields, but against which commonly used insecticides and the genetic modification are equally ineffective
- (B) Whether the price that farmers receive for feed corn has remained steady over the past few years

- (C) Whether the insecticides typically used on feed corn tend to be more expensive than insecticides typically used on other crops
- (D) Whether most of the farmers who tried the genetically modified corn last season applied more insecticide than was actually necessary
- (E) Whether, for most farmers who plant feed corn, it is their most profitable crop

70. Although aspirin has been proven to eliminate moderate fever associated with some illnesses, many doctors no longer routinely recommend its use for this purpose. A moderate fever stimulates the activity of the body's disease-fighting white blood cells and also inhibits the growth of many strains of disease-causing bacteria.

If the statements above are true, which of the following conclusions is most strongly supported by them?

- (A) Aspirin, an effective painkiller, alleviates the pain and discomfort of many illnesses.
 - (B) Aspirin can prolong a patient's illness by eliminating moderate fever helpful in fighting some diseases.
 - (C) Aspirin inhibits the growth of white blood cells, which are necessary for fighting some illnesses.
 - (D) The more white blood cells a patient's body produces, the less severe the patient's illness will be.
 - (E) The focus of modern medicine is on inhibiting the growth of disease-causing bacteria within the body.
71. Roland: The alarming fact is that 90 percent of the people in this country now report that they know someone who is unemployed.

Sharon: But a normal, moderate level of unemployment is 5 percent, with one out of 20 workers unemployed. So at any given time if a person knows approximately 50 workers, one or more will very likely be unemployed.

Sharon's argument relies on the assumption that

- (A) normal levels of unemployment are rarely exceeded
- (B) unemployment is not normally concentrated in geographically isolated segments of the population
- (C) the number of people who each know someone who is unemployed is always higher than 90 percent of the population
- (D) Roland is not consciously distorting the statistics he presents
- (E) knowledge that a personal acquaintance is unemployed generates more fear of losing one's job than does knowledge of unemployment statistics

72. Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist's reasoning?

- (A) Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- (B) Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
- (C) In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- (D) What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- (E) Do newly opened SaveAll stores ever lose money during their first five years of operation?

73. In comparison to the standard typewriter keyboard, the EFCO keyboard, which places the most-used keys nearest the typist's strongest fingers, allows faster typing and results in less fatigue. Therefore, replacement of standard keyboards with the EFCO keyboard will result in an immediate reduction of typing costs.

Which of the following, if true, would most weaken the conclusion drawn above?

- (A) People who use both standard and EFCO keyboards report greater difficulty in the transition from the EFCO keyboard to the standard keyboard than in the transition from the standard keyboard to the EFCO keyboard.
- (B) EFCO keyboards are no more expensive to manufacture than are standard keyboards and require less frequent repair than do standard keyboards.
- (C) The number of businesses and government agencies that use EFCO keyboards is increasing each year.
- (D) The more training and experience an employee has had with the standard keyboard, the more costly it is to train that employee to use the EFCO keyboard.
- (E) Novice typists can learn to use the EFCO keyboard in about the same amount of time that it takes them to learn to use the standard keyboard.

74. In the past the country of Malvernia has relied heavily on imported oil. Malvernia recently implemented a program to convert heating systems from oil to natural gas. Malvernia currently produces more natural gas each year than it uses, and oil production in Malvernian oil fields is increasing at a steady pace. If these trends in fuel production and usage continue, therefore, Malvernian reliance on foreign sources for fuel is likely to decline soon.

Which of the following would it be most useful to establish in evaluating the argument?

- (A) When, if ever, will production of oil in Malvernia outstrip production of natural gas?
 - (B) Is Malvernia among the countries that rely most on imported oil?
 - (C) What proportion of Malvernia's total energy needs is met by hydroelectric, solar, and nuclear power?
 - (D) Is the amount of oil used each year in Malvernia for generating electricity and fuel for transportation increasing?
 - (E) Have any existing oil-burning heating systems in Malvernia already been converted to natural-gas-burning heating systems?
75. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

Which of the following, if true, would most weaken the argument above?

- (A) Industrial production also is declining in Country X.
- (B) Whereas Country Y is landlocked, Country X has a major seaport.
- (C) Both Country X and Country Y have been experiencing drought conditions.
- (D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.
- (E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

76. Because no employee wants to be associated with bad news in the eyes of a superior, information about serious problems at lower levels is progressively softened and distorted as it goes up each step in the management hierarchy. The chief executive is, therefore, less well informed about problems at lower levels than are his or her subordinates at those levels.

The conclusion drawn above is based on the assumption that

- (A) problems should be solved at the level in the management hierarchy at which they occur
 - (B) employees should be rewarded for accurately reporting problems to their superiors
 - (C) problem-solving ability is more important at higher levels than it is at lower levels of the management hierarchy
 - (D) chief executives obtain information about problems at lower levels from no source other than their subordinates
 - (E) some employees are more concerned about truth than about the way they are perceived by their superiors
77. Although the earliest surviving Greek inscriptions written in an alphabet date from the eighth century B.C., **the fact that the text of these Greek inscriptions sometimes runs from right to left and sometimes from left to right** indicates that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were produced. After all, the Greeks learned alphabetic writing from the Phoenicians, and presumably, along with the alphabet, they also adopted the then-current Phoenician practice with respect to the direction of text. **And although Phoenician writing was originally inconsistent in direction, by the eighth century B.C. Phoenician was consistently written from right to left and had been for about two centuries.**

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first and the second each describe evidence that has been used to challenge the position that the argument seeks to establish.
- (B) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is that position.
- (C) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is a consideration that is introduced to counter the force of that evidence.
- (D) The first and the second each provide evidence in support of the position that the argument seeks to establish.
- (E) The first provides evidence in support of the position that the argument seeks to establish; the second is that position.

78. A recent report determined that although only 3 percent of drivers on Maryland highways equipped their vehicles with radar detectors, 33 percent of all vehicles ticketed for exceeding the speed limit were equipped with them. Clearly, drivers who equip their vehicles with radar detectors are more likely to exceed the speed limit regularly than are drivers who do not.

The conclusion drawn above depends on which of the following assumptions?

- (A) Drivers who equip their vehicles with radar detectors are less likely to be ticketed for exceeding the speed limit than are drivers who do not.
- (B) Drivers who are ticketed for exceeding the speed limit are more likely to exceed the speed limit regularly than are drivers who are not ticketed.
- (C) The number of vehicles that were ticketed for exceeding the speed limit was greater than the number of vehicles that were equipped with radar detectors.
- (D) Many of the vehicles that were ticketed for exceeding the speed limit were ticketed more than once in the time period covered by the report.
- (E) Drivers on Maryland highways exceeded the speed limit more often than did drivers on other state highways not covered in the report.

79. **In countries where automobile insurance includes compensation for whiplash injuries sustained in automobile accidents, reports of having suffered such injuries are twice as frequent as they are in countries where whiplash is not covered.** Presently, no objective test for whiplash exists, so it is true that spurious reports of whiplash injuries cannot be readily identified. Nevertheless, these facts do not warrant the conclusion drawn by some commentators that in the countries with the higher rates of reported whiplash injuries, half of the reported cases are spurious. Clearly, **in countries where automobile insurance does not include compensation for whiplash, people often have little incentive to report whiplash injuries that they actually have suffered.**

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first is a claim that the argument disputes; the second is a conclusion that has been based on that claim.
- (B) The first is a claim that has been used to support a conclusion that the argument accepts; the second is that conclusion.
- (C) The first is evidence that has been used to support a conclusion for which the argument provides further evidence; the second is the main conclusion of the argument.
- (D) The first is a finding whose implications are at issue in the argument; the second is a claim presented in order to argue against deriving certain implications from that finding.
- (E) The first is a finding whose accuracy is evaluated in the argument; the second is evidence presented to establish that the finding is accurate.

80. Products sold under a brand name used to command premium prices because, in general, they were superior to nonbrand rival products. Technical expertise in product development has become so widespread, however, that special quality advantages are very hard to obtain these days and even harder to maintain. As a consequence, brand-name products generally neither offer higher quality nor sell at higher prices. Paradoxically, brand names are a bigger marketing advantage than ever.

Which of the following, if true, most helps to resolve the paradox outlined above?

- (A) Brand names are taken by consumers as a guarantee of getting a product as good as the best rival products.
- (B) Consumers recognize that the quality of products sold under invariant brand names can drift over time.
- (C) In many acquisitions of one corporation by another, the acquiring corporation is interested more in acquiring the right to use certain brand names than in acquiring existing production facilities.
- (D) In the days when special quality advantages were easier to obtain than they are now, it was also easier to get new brand names established.
- (E) The advertising of a company's brand-name products is at times transferred to a new advertising agency, especially when sales are declining.

81. When demand for a factory's products is high, more money is spent at the factory for safety precautions and machinery maintenance than when demand is low. Thus the average number of on-the-job accidents per employee each month should be lower during periods when demand is high than when demand is low and less money is available for safety precautions and machinery maintenance.

Which of the following, if true about a factory when demand for its products is high, casts the most serious doubt on the conclusion drawn above?

- (A) Its employees ask for higher wages than they do at other times.
- (B) Its management hires new workers but lacks the time to train them properly.
- (C) Its employees are less likely to lose their jobs than they are at other times.
- (D) Its management sponsors a monthly safety award for each division in the factory.
- (E) Its old machinery is replaced with modern, automated models.

82. A sudden increase in the production of elephant ivory artifacts on the Mediterranean coast of North Africa occurred in the tenth century. Historians explain this increase as the result of an area opening up as a new source of ivory and argue on this basis that the important medieval trade between North Africa and East Africa began at this period.

Each of the following, if true, provides some support for the historians' account described above EXCEPT:

- (A) In East Africa gold coins from Mediterranean North Africa have been found at a tenth-century site but at no earlier sites.
- (B) The many surviving letters of pre-tenth-century North African merchants include no mention of business transactions involving East Africa.
- (C) Excavations in East Africa reveal a tenth-century change in architectural style to reflect North African patterns.
- (D) Documents from Mediterranean Europe and North Africa that date back earlier than the tenth century show knowledge of East African animals.
- (E) East African carvings in a style characteristic of the tenth century depict seagoing vessels very different from those used by local sailors but of a type common in the Mediterranean.

83. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

- (A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.
 - (B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.
 - (C) The number of physics journals was the same last year as in previous years.
 - (D) Particle accelerators can be used for more than one group of experiments in any given year.
 - (E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.
84. Many people suffer an allergic reaction to certain sulfites, including those that are commonly added to wine as preservatives. However, since there are several winemakers who add sulfites to none of the wines they produce, people who would like to drink wine but are allergic to sulfites can drink wines produced by these winemakers without risking an allergic reaction to sulfites.

Which of the following is an assumption on which the argument depends?

- (A) These winemakers have been able to duplicate the preservative effect produced by adding sulfites by means that do not involve adding any potentially allergenic substances to their wine.
- (B) Not all forms of sulfite are equally likely to produce the allergic reaction.

- (C) Wine is the only beverage to which sulfites are commonly added.
- (D) Apart from sulfites, there are no substances commonly present in wine that give rise to an allergic reaction.
- (E) Sulfites are not naturally present in the wines produced by these winemakers in amounts large enough to produce an allergic reaction in someone who drinks these wines.

85. Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur *Sandactylus* had similar networks of blood vessels in the skin of its wings provides evidence for the hypothesis that *Sandactylus* flew by flapping its wings, not just by gliding.

In the passage, the author develops the argument by

- (A) forming the hypothesis that best explains several apparently conflicting pieces of evidence
- (B) reinterpreting evidence that had been used to support an earlier theory
- (C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon
- (D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct
- (E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures

86. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry \$25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy.

Laura: The \$25 billion spent by some businesses will be revenue for others. Jobs and profits will be gained as well as lost.

Laura responds to Keith by

- (A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand
 - (B) challenging the plausibility of the evidence that serves as the basis for Keith's argument
 - (C) suggesting that Keith's argument overlooks a mitigating consequence
 - (D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites
 - (E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism
87. In the United States, of the people who moved from one state to another when they retired, the percentage who retired to Florida has decreased by three percentage points over the past ten years. Since many local businesses in Florida cater to retirees, these declines are likely to have a noticeably negative economic effect on these businesses and therefore on the economy of Florida.

Which of the following, if true, most seriously weakens the argument given?

- (A) People who moved from one state to another when they retired moved a greater distance, on average, last year than such people did ten years ago.
- (B) People were more likely to retire to North Carolina from another state last year than people were ten years ago.

- (C) The number of people who moved from one state to another when they retired has increased significantly over the past ten years.
- (D) The number of people who left Florida when they retired to live in another state was greater last year than it was ten years ago.
- (E) Florida attracts more people who move from one state to another when they retire than does any other state.

88. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government's plan to increase the amount of money available for development loans for businesses?

- (A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.
- (B) The increased tax revenue the government would receive as a result of business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.
- (C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.
- (D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.
- (E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

89. Since it has become known that **several of a bank's top executives have been buying shares in their own bank**, the bank's depositors, who had been worried by rumors that the bank faced impending financial collapse, have been greatly relieved. They reason that, since top executives evidently have faith in the bank's financial soundness, those worrisome rumors must be false. Such reasoning might well be overoptimistic, however, since **corporate executives have been known to buy shares in their own company in a calculated attempt to dispel negative rumors about the company's health**.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first describes evidence that has been taken as supporting a conclusion; the second gives a reason for questioning that support.
 - (B) The first describes evidence that has been taken as supporting a conclusion; the second states a contrary conclusion that is the main conclusion of the argument.
 - (C) The first provides evidence in support of the main conclusion of the argument; the second states that conclusion.
 - (D) The first describes the circumstance that the argument as a whole seeks to explain; the second gives the explanation that the argument seeks to establish.
 - (E) The first describes the circumstance that the argument as a whole seeks to explain; the second provides evidence in support of the explanation that the argument seeks to establish.
90. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

- (A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.
 - (B) Corporate sponsors of research in university facilities are entitled to tax credits under new federal tax-code guidelines.
 - (C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.
 - (D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profit-making corporations.
 - (E) Logos University is unlikely to attract corporate sponsorship of its scientific research.
91. Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete resources.
- The environmentalist's statements, if true, best support which of the following as a conclusion?
- (A) The use of technology is the reason for the increasing encroachment of people on nature.
 - (B) It is possible to determine how many fish are in the sea in some way other than by catching fish.
 - (C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.
 - (D) Modern technologies waste resources by catching inedible fish.
 - (E) Marine fish continue to be an endangered resource.

92. In the country of Veltria, the past two years' broad economic recession has included a business downturn in the clothing trade, where sales are down by about 7 percent as compared to two years ago. Clothing wholesalers have found, however, that the proportion of credit extended to retailers that was paid off on time fell sharply in the first year of the recession but returned to its prerecession level in the second year.

Which of the following, if true, most helps to explain the change between the first and the second year of the recession in the proportion of credit not paid off on time?

- (A) The total amount of credit extended to retailers by clothing wholesalers increased between the first year of the recession and the second year.
 - (B) Between the first and second years of the recession, clothing retailers in Veltria saw many of their costs, rent and utilities in particular, increase.
 - (C) Of the considerable number of clothing retailers in Veltria who were having financial difficulties before the start of the recession, virtually all were forced to go out of business during its first year.
 - (D) Clothing retailers in Veltria attempted to stimulate sales in the second year of the recession by discounting merchandise.
 - (E) Relatively recession-proof segments of the clothing trade, such as work clothes, did not suffer any decrease in sales during the first year of the recession.
93. Commentator: The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

- (A) No country actually acts according to the theory of trade retaliation.
- (B) No country should block any of its markets to foreign trade.

- (C) Trade disputes should be settled by international tribunal.
- (D) For any two countries, at least one has some market closed to the other.
- (E) Countries close their markets to foreigners to protect domestic producers.

94. Studies in restaurants show that the tips left by customers who pay their bill in cash tend to be larger when the bill is presented on a tray that bears a credit-card logo. Consumer psychologists hypothesize that simply seeing a credit-card logo makes many credit-card holders willing to spend more because it reminds them that their spending power exceeds the cash they have immediately available.

Which of the following, if true, most strongly supports the psychologists' interpretation of the studies?

- (A) The effect noted in the studies is not limited to patrons who have credit cards.
 - (B) Patrons who are under financial pressure from their credit-card obligations tend to tip less when presented with a restaurant bill on a tray with a credit-card logo than when the tray has no logo.
 - (C) In virtually all of the cases in the studies, the patrons who paid bills in cash did not possess credit cards.
 - (D) In general, restaurant patrons who pay their bills in cash leave larger tips than do those who pay by credit card.
 - (E) The percentage of restaurant bills paid with a given brand of credit card increases when that credit card's logo is displayed on the tray with which the bill is presented.
95. Although parapsychology is often considered a pseudoscience, it is in fact a genuine scientific enterprise, for it uses scientific methods such as controlled experiments and statistical tests of clearly stated hypotheses to examine the questions it raises.

The conclusion above is properly drawn if which of the following is assumed?

- (A) If a field of study can conclusively answer the questions it raises, then it is a genuine science.
- (B) Since parapsychology uses scientific methods, it will produce credible results.
- (C) Any enterprise that does not use controlled experiments and statistical tests is not genuine science.
- (D) Any field of study that employs scientific methods is a genuine scientific enterprise.
- (E) Since parapsychology raises clearly statable questions, they can be tested in controlled experiments.

96. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

- (A) Another manufacturer's introduction to the market of a similarly efficient burner
- (B) The Clifton Asphalt plant's need for more than one new burner
- (C) Very poor efficiency in the Clifton Asphalt plant's old burner
- (D) A decrease in the demand for asphalt
- (E) A steady increase in the price of oil beginning soon after the new burner is installed

97. **Delta Products Inc. has recently switched at least partly from older technologies using fossil fuels to new technologies powered by electricity.** The question has been raised whether it can be concluded that **for a given level of output Delta's operation now causes less fossil fuel to be consumed than it did formerly.** The answer, clearly, is yes, since the amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount needed to power the older technologies, provided level of output is held constant.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first identifies the content of the conclusion of the argument; the second provides support for that conclusion.
- (B) The first provides support for the conclusion of the argument; the second identifies the content of that conclusion.
- (C) The first states the conclusion of the argument; the second calls that conclusion into question.
- (D) The first provides support for the conclusion of the argument; the second calls that conclusion into question.
- (E) Each provides support for the conclusion of the argument.

98. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

- (A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.
- (B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.
- (C) People who are better at abstract pattern recognition have more energy-efficient neural connections.
- (D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.
- (E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.

99. Which of the following most logically completes the argument?

The irradiation of food kills bacteria and thus retards spoilage. However, it also lowers the nutritional value of many foods. For example, irradiation destroys a significant percentage of whatever vitamin B1 a food may contain. Proponents of irradiation point out that irradiation is no worse in this respect than cooking. However, this fact is either beside the point, since much irradiated food is eaten raw, or else misleading, since _____.

- (A) many of the proponents of irradiation are food distributors who gain from foods' having a longer shelf life
 - (B) it is clear that killing bacteria that may be present on food is not the only effect that irradiation has
 - (C) cooking is usually the final step in preparing food for consumption, whereas irradiation serves to ensure a longer shelf life for perishable foods
 - (D) certain kinds of cooking are, in fact, even more destructive of vitamin B1 than carefully controlled irradiation is
 - (E) for food that is both irradiated and cooked, the reduction of vitamin B1 associated with either process individually is compounded
100. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called "benchmarking," permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

- (A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.
- (B) Getting "inside" information about the unique practices of competitors is particularly difficult.

- (C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.
- (D) Managers are generally more receptive to new ideas that they find outside their own industry.
- (E) Much of the success of good companies is due to their adoption of practices that take advantage of the special circumstances of their products or markets.

101. For a trade embargo against a particular country to succeed, a high degree of both international accord and ability to prevent goods from entering or leaving that country must be sustained. A total blockade of Patria's ports is necessary to an embargo, but such an action would be likely to cause international discord over the embargo.

The claims above, if true, most strongly support which of the following conclusions?

- (A) The balance of opinion is likely to favor Patria in the event of a blockade.
- (B) As long as international opinion is unanimously against Patria, a trade embargo is likely to succeed.
- (C) A naval blockade of Patria's ports would ensure that no goods enter or leave Patria.
- (D) Any trade embargo against Patria would be likely to fail at some time.
- (E) For a blockade of Patria's ports to be successful, international opinion must be unanimous.

102. Theater Critic: The play *La Finestrina*, now at Central Theater, was written in Italy in the eighteenth century. The director claims that this production is as similar to the original production as is possible in a modern theater. Although the actor who plays Harlequin the clown gives a performance very reminiscent of the twentieth-century American comedian Groucho Marx, Marx's comic style was very much within the comic acting tradition that had begun in sixteenth-century Italy.

The considerations given best serve as part of an argument that

- (A) modern audiences would find it hard to tolerate certain characteristics of a historically accurate performance of an eighteenth-century play
- (B) Groucho Marx once performed the part of the character Harlequin in *La Finestrina*
- (C) in the United States the training of actors in the twentieth century is based on principles that do not differ radically from those that underlay the training of actors in eighteenth-century Italy
- (D) the performance of the actor who plays Harlequin in *La Finestrina* does not serve as evidence against the director's claim
- (E) the director of *La Finestrina* must have advised the actor who plays Harlequin to model his performance on comic performances of Groucho Marx

103. The cost of producing radios in Country Q is 10 percent less than the cost of producing radios in Country Y. Even after transportation fees and tariff charges are added, it is still cheaper for a company to import radios from Country Q to Country Y than to produce radios in Country Y.

The statements above, if true, best support which of the following assertions?

- (A) Labor costs in Country Q are 10 percent below those in Country Y.
- (B) Importing radios from Country Q to Country Y will eliminate 10 percent of the manufacturing jobs in Country Y.
- (C) The tariff on a radio imported from Country Q to Country Y is less than 10 percent of the cost of manufacturing the radio in Country Y.
- (D) The fee for transporting a radio from Country Q to Country Y is more than 10 percent of the cost of manufacturing the radio in Country Q.
- (E) It takes 10 percent less time to manufacture a radio in Country Q than it does in Country Y.

104. Although the discount stores in Goreville's central shopping district are expected to close within five years as a result of competition from a SpendLess discount department store that just opened, those locations will not stay vacant for long. In the five years since the opening of Colson's, a nondiscount department store, a new store has opened at the location of every store in the shopping district that closed because it could not compete with Colson's.

Which of the following, if true, most seriously weakens the argument?

- (A) Many customers of Colson's are expected to do less shopping there than they did before the SpendLess store opened.
- (B) Increasingly, the stores that have opened in the central shopping district since Colson's opened have been discount stores.
- (C) At present, the central shopping district has as many stores operating in it as it ever had.
- (D) Over the course of the next five years, it is expected that Goreville's population will grow at a faster rate than it has for the past several decades.
- (E) Many stores in the central shopping district sell types of merchandise that are not available at either SpendLess or Colson's.

105. The average normal infant born in the United States weighs between 12 and 14 pounds at the age of three months. Therefore, if a three-month-old child weighs only 10 pounds, its weight gain has been below the United States average.

Which of the following indicates a flaw in the reasoning above?

- (A) Weight is only one measure of normal infant development.
- (B) Some three-month-old children weigh as much as 17 pounds.
- (C) It is possible for a normal child to weigh 10 pounds at birth.
- (D) The phrase "below average" does not necessarily mean insufficient.
- (E) Average weight gain is not the same as average weight.

106. Kale has more nutritional value than spinach. But since collard greens have more nutritional value than lettuce, it follows that kale has more nutritional value than lettuce.

Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:

- (A) Collard greens have more nutritional value than kale.
 - (B) Spinach has more nutritional value than lettuce.
 - (C) Spinach has more nutritional value than collard greens.
 - (D) Spinach and collard greens have the same nutritional value.
 - (E) Kale and collard greens have the same nutritional value.
107. Last year all refuse collected by Shelbyville city services was incinerated. This incineration generated a large quantity of residual ash. In order to reduce the amount of residual ash Shelbyville generates this year to half of last year's total, the city has revamped its collection program. This year city services will separate for recycling enough refuse to reduce the number of truckloads of refuse to be incinerated to half of last year's number.
- Which of the following is required for the revamped collection program to achieve its aim?
- (A) This year, no materials that city services could separate for recycling will be incinerated.
 - (B) Separating recyclable materials from materials to be incinerated will cost Shelbyville less than half what it cost last year to dispose of the residual ash.
 - (C) Refuse collected by city services will contain a larger proportion of recyclable materials this year than it did last year.
 - (D) The refuse incinerated this year will generate no more residual ash per truckload incinerated than did the refuse incinerated last year.
 - (E) The total quantity of refuse collected by Shelbyville city services this year will be no greater than that collected last year.

108. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

- (A) The amount of time a patient spends in surgery versus the amount of time spent recovering from surgery
 - (B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them
 - (C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements
 - (D) The degree to which custom replacements produced with the new technique are more carefully manufactured than are ordinary replacements
 - (E) The amount by which custom replacements produced with the new technique will drop in cost as the production procedures become standardized and applicable on a larger scale
109. Springfield Fire Commissioner: The vast majority of false fire alarms are prank calls made anonymously from fire alarm boxes on street corners. Since virtually everyone has access to a private telephone, these alarm boxes have outlived their usefulness. Therefore, we propose to remove the boxes. Removing the boxes will reduce the number of prank calls without hampering people's ability to report a fire.
- Which of the following, if true, most strongly supports the claim that the proposal, if carried out, will have the announced effect?

- (A) The fire department traces all alarm calls made from private telephones and records where they came from.
- (B) Maintaining the fire alarm boxes costs Springfield approximately \$5 million annually.
- (C) A telephone call can provide the fire department with more information about the nature and size of a fire than can an alarm placed from an alarm box.
- (D) Responding to false alarms significantly reduces the fire department's capacity for responding to fires.
- (E) On any given day, a significant percentage of the public telephones in Springfield are out of service.

110. Correctly measuring the productivity of service workers is complex. Consider, for example, postal workers: they are often said to be more productive if more letters are delivered per postal worker. But is this really true? What if more letters are lost or delayed per worker at the same time that more are delivered?

The objection implied above to the productivity measure described is based on doubts about the truth of which of the following statements?

- (A) Postal workers are representative of service workers in general.
- (B) The delivery of letters is the primary activity of the postal service.
- (C) Productivity should be ascribed to categories of workers, not to individuals.
- (D) The quality of services rendered can appropriately be ignored in computing productivity.
- (E) The number of letters delivered is relevant to measuring the productivity of postal workers.

111. The difficulty with the proposed high-speed train line is that a used plane can be bought for one-third the price of the train line, and the plane, which is just as fast, can fly anywhere. The train would be a fixed linear system, and we live in a world that is spreading out in all directions and in which consumers choose the free-wheel systems (cars, buses, aircraft), which do not have fixed routes. Thus a sufficient market for the train will not exist.

Which of the following, if true, most severely weakens the argument presented above?

- (A) Cars, buses, and planes require the efforts of drivers and pilots to guide them, whereas the train will be guided mechanically.
- (B) Cars and buses are not nearly as fast as the high-speed train will be.
- (C) Planes are not a free-wheel system because they can fly only between airports, which are less convenient for consumers than the high-speed train's stations would be.
- (D) The high-speed train line cannot use currently underutilized train stations in large cities.
- (E) For long trips, most people prefer to fly rather than to take ground-level transportation.

112. The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- (A) The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
- (B) Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
- (C) The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
- (D) The number of televisions assembled annually in Vernland has increased significantly during the past three years.
- (E) The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.

113. The pharmaceutical industry argues that because new drugs will not be developed unless heavy development costs can be recouped in later sales, the current 20 years of protection provided by patents should be extended in the case of newly developed drugs. However, in other industries new-product development continues despite high development costs, a fact that indicates that the extension is unnecessary.

Which of the following, if true, most strongly supports the pharmaceutical industry's argument against the challenge made above?

- (A) No industries other than the pharmaceutical industry have asked for an extension of the 20-year limit on patent protection.
- (B) Clinical trials of new drugs, which occur after the patent is granted and before the new drug can be marketed, often now take as long as 10 years to complete.
- (C) There are several industries in which the ratio of research and development costs to revenues is higher than it is in the pharmaceutical industry.
- (D) An existing patent for a drug does not legally prevent pharmaceutical companies from bringing to market alternative drugs, provided they are sufficiently dissimilar to the patented drug.
- (E) Much recent industrial innovation has occurred in products—for example, in the computer and electronics industries—for which patent protection is often very ineffective.

114. Guidebook writer: I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

Which of the following, if true, most seriously weakens the guidebook writer's argument?

- (A) The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.
- (B) Hotels built since 1930 can generally accommodate more guests than those built before 1930.
- (C) The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.
- (D) The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.
- (E) The average length of apprenticeship for carpenters has declined significantly since 1930.

115. Caterpillars of all species produce an identical hormone called “juvenile hormone” that maintains feeding behavior. Only when a caterpillar has grown to the right size for pupation to take place does a special enzyme halt the production of juvenile hormone. This enzyme can be synthesized and will, on being ingested by immature caterpillars, kill them by stopping them from feeding.

Which of the following, if true, most strongly supports the view that it would NOT be advisable to try to eradicate agricultural pests that go through a caterpillar stage by spraying croplands with the enzyme mentioned above?

- (A) Most species of caterpillar are subject to some natural predation.
 - (B) Many agricultural pests do not go through a caterpillar stage.
 - (C) Many agriculturally beneficial insects go through a caterpillar stage.
 - (D) Since caterpillars of different species emerge at different times, several sprayings would be necessary.
 - (E) Although the enzyme has been synthesized in the laboratory, no large-scale production facilities exist as yet.
116. Firms adopting “profit-related-pay” (PRP) contracts pay wages at levels that vary with the firm’s profits. In the metalworking industry last year, firms with PRP contracts in place showed productivity per worker on average 13 percent higher than that of their competitors who used more traditional contracts.

If, on the basis of the evidence above, it is argued that PRP contracts increase worker productivity, which of the following, if true, would most seriously weaken that argument?

- (A) Results similar to those cited for the metalworking industry have been found in other industries where PRP contracts are used.
- (B) Under PRP contracts costs other than labor costs, such as plant, machinery, and energy, make up an increased proportion of the total cost of each unit of output.

- (C) Because introducing PRP contracts greatly changes individual workers’ relationships to the firm, negotiating the introduction of PRP contracts is complex and time-consuming.
- (D) Many firms in the metalworking industry have modernized production equipment in the last five years, and most of these introduced PRP contracts at the same time.
- (E) In firms in the metalworking industry where PRP contracts are in place, the average take-home pay is 15 percent higher than it is in those firms where workers have more traditional contracts.

117. Scientists typically do their most creative work before the age of forty. It is commonly thought that this happens because aging by itself brings about a loss of creative capacity. However, studies show that **of scientists who produce highly creative work beyond the age of forty, a disproportionately large number entered their field at an older age than is usual**. Since by the age of forty the large majority of scientists have been working in their field for at least fifteen years, the studies’ finding strongly suggests that the real reason why scientists over forty rarely produce highly creative work is not that they have aged but rather that **scientists over forty have generally spent too long in their field**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a claim, the accuracy of which is at issue in the argument; the second is a conclusion drawn on the basis of that claim.
- (B) The first is an objection that has been raised against a position defended in the argument; the second is that position.
- (C) The first is evidence that has been used to support an explanation that the argument challenges; the second is that explanation.
- (D) The first is evidence that has been used to support an explanation that the argument challenges; the second is a competing explanation that the argument favors.
- (E) The first provides evidence to support an explanation that the argument favors; the second is that explanation.

118. Northern Air has dozens of flights daily into and out of Belleville Airport, which is highly congested. Northern Air depends for its success on economy and quick turnaround and consequently is planning to replace its large planes with Skybuses, whose novel aerodynamic design is extremely fuel efficient. The Skybus's fuel efficiency results in both lower fuel costs and reduced time spent refueling.

Which of the following, if true, could present the most serious disadvantage for Northern Air in replacing their large planes with Skybuses?

- (A) The Skybus would enable Northern Air to schedule direct flights to destinations that currently require stops for refueling.
- (B) Aviation fuel is projected to decline in price over the next several years.
- (C) The fuel efficiency of the Skybus would enable Northern Air to eliminate refueling at some of its destinations, but several mechanics would lose their jobs.
- (D) None of Northern Air's competitors that use Belleville Airport are considering buying Skybuses.
- (E) The aerodynamic design of the Skybus causes turbulence behind it when taking off that forces other planes on the runway to delay their takeoffs.

119. It is true of both men and women that those who marry as young adults live longer than those who never marry. This does not show that marriage causes people to live longer, since, as compared with other people of the same age, young adults who are about to get married have fewer of the unhealthy habits that can cause a person to have a shorter life, most notably smoking and immoderate drinking of alcohol.

Which of the following, if true, most strengthens the argument above?

- (A) Marriage tends to cause people to engage less regularly in sports that involve risk of bodily harm.
- (B) A married person who has an unhealthy habit is more likely to give up that habit than a person with the same habit who is unmarried.
- (C) A person who smokes is much more likely than a nonsmoker to marry a person who smokes at the time of marriage, and the same is true for people who drink alcohol immoderately.
- (D) Among people who marry as young adults, most of those who give up an unhealthy habit after marriage do not resume the habit later in life.
- (E) Among people who as young adults neither drink alcohol immoderately nor smoke, those who never marry live as long as those who marry.

120. The earliest Mayan pottery found at Colha, in Belize, is about 3,000 years old. Recently, however, 4,500-year-old stone agricultural implements were unearthed at Colha. These implements resemble Mayan stone implements of a much later period, also found at Colha. Moreover, the implements' designs are strikingly different from the designs of stone implements produced by other cultures known to have inhabited the area in prehistoric times. Therefore, there were surely Mayan settlements in Colha 4,500 years ago.

Which of the following, if true, most seriously weakens the argument?

- (A) Ceramic ware is not known to have been used by the Mayan people to make agricultural implements.
- (B) Carbon-dating of corn pollen in Colha indicates that agriculture began there around 4,500 years ago.
- (C) Archaeological evidence indicates that some of the oldest stone implements found at Colha were used to cut away vegetation after controlled burning of trees to open areas of swampland for cultivation.
- (D) Successor cultures at a given site often adopt the style of agricultural implements used by earlier inhabitants of the same site.
- (E) Many religious and social institutions of the Mayan people who inhabited Colha 3,000 years ago relied on a highly developed system of agricultural symbols.

121. Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated but contains clues to when it was produced. Its first 80 pages are by a single copyist, but the remaining 20 pages are by three different copyists, which indicates some significant disruption. Since a letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148, Codex Berinensis was probably produced in that year.

Which of the following, if true, most strongly supports the hypothesis that Codex Berinensis was produced in 1148?

- (A) Other than Codex Berinensis, there are no known samples of the handwriting of the first three copyists.
 - (B) According to the account by the fourth copyist, the plague went on for 10 months.
 - (C) A scribe would be able to copy a page of text the size and style of Codex Berinensis in a day.
 - (D) There was only one outbreak of plague in Florence in the 1100s.
 - (E) The number of pages of Codex Berinensis produced by a single scribe becomes smaller with each successive change of copyist.
122. The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale—the seven-note musical scale used in much of Western music since the Renaissance. Musicologists therefore hypothesize that the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians.

Which of the following, if true, most strongly supports the hypothesis?

- (A) Bone flutes were probably the only musical instrument made by Neanderthals.
- (B) No musical instrument that is known to have used a diatonic scale is of an earlier date than the flute found at the Neanderthal campsite.
- (C) The flute was made from a cave-bear bone and the campsite at which the flute fragment was excavated was in a cave that also contained skeletal remains of cave bears.

- (D) Flutes are the simplest wind instrument that can be constructed to allow playing a diatonic scale.
- (E) The cave-bear leg bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

123. Outsourcing is the practice of obtaining from an independent supplier a product or service that a company has previously provided for itself. Since a company's chief objective is to realize the highest possible year-end profits, any product or service that can be obtained from an independent supplier for less than it would cost the company to provide the product or service on its own should be outsourced.

Which of the following, if true, most seriously weakens the argument?

- (A) If a company decides to use independent suppliers for a product, it can generally exploit the vigorous competition arising among several firms that are interested in supplying that product.
- (B) Successful outsourcing requires a company to provide its suppliers with information about its products and plans that can fall into the hands of its competitors and give them a business advantage.
- (C) Certain tasks, such as processing a company's payroll, are commonly outsourced, whereas others, such as handling the company's core business, are not.
- (D) For a company to provide a product or service for itself as efficiently as an independent supplier can provide it, the managers involved need to be as expert in the area of that product or service as the people in charge of that product or service at an independent supplier are.
- (E) When a company decides to use an independent supplier for a product or service, the independent supplier sometimes hires members of the company's staff who formerly made the product or provided the service that the independent supplier now supplies.

124. Museums that house Renaissance oil paintings typically store them in environments that are carefully kept within narrow margins of temperature and humidity to inhibit any deterioration. Laboratory tests have shown that the kind of oil paint used in these paintings actually adjusts to climatic changes quite well. If, as some museum directors believe, **paint is the most sensitive substance in these works**, then by relaxing the standards for temperature and humidity control, **museums can reduce energy costs without risking damage to these paintings**. Museums would be rash to relax those standards, however, since results of preliminary tests indicate that gesso, a compound routinely used by Renaissance artists to help paint adhere to the canvas, is unable to withstand significant variations in humidity.

In the argument above, the two portions in boldface play which of the following roles?

- (A) The first is an objection that has been raised against the position taken by the argument; the second is the position taken by the argument.
- (B) The first is the position taken by the argument; the second is the position that the argument calls into question.
- (C) The first is a judgment that has been offered in support of the position that the argument calls into question; the second is a circumstance on which that judgment is, in part, based.
- (D) The first is a judgment that has been offered in support of the position that the argument calls into question; the second is that position.
- (E) The first is a claim that the argument calls into question; the second is the position taken by the argument.

8.5 Answer Key

1. B	32. C	63. A	94. B
2. C	33. C	64. C	95. D
3. A	34. D	65. B	96. E
4. D	35. B	66. A	97. B
5. D	36. A	67. E	98. C
6. E	37. D	68. E	99. E
7. A	38. B	69. D	100. E
8. A	39. E	70. B	101. D
9. B	40. E	71. B	102. D
10. D	41. C	72. C	103. C
11. E	42. D	73. D	104. B
12. A	43. D	74. D	105. E
13. E	44. C	75. D	106. A
14. A	45. A	76. D	107. D
15. D	46. A	77. D	108. C
16. B	47. A	78. B	109. A
17. E	48. C	79. D	110. D
18. C	49. C	80. A	111. C
19. E	50. C	81. B	112. C
20. D	51. B	82. D	113. B
21. B	52. D	83. E	114. D
22. C	53. B	84. E	115. C
23. D	54. B	85. C	116. D
24. C	55. A	86. C	117. E
25. A	56. C	87. C	118. E
26. C	57. D	88. A	119. E
27. B	58. E	89. A	120. D
28. C	59. E	90. D	121. D
29. A	60. D	91. E	122. E
30. E	61. A	92. C	123. B
31. C	62. D	93. D	124. D

8.6 Answer Explanations

The following discussion is intended to familiarize you with the most efficient and effective approaches to critical reasoning questions. The particular questions in this chapter are generally representative of the kinds of critical reasoning questions you will encounter on the GMAT. Remember that it is the problem solving strategy that is important, not the specific details of a particular question.

1. “Life expectancy” is the average age at death of the entire live-born population. In the middle of the nineteenth century, life expectancy in North America was 40 years, whereas now it is nearly 80 years. Thus, in those days, people must have been considered old at an age that we now consider the prime of life.

Which of the following, if true, undermines the argument above?

- (A) In the middle of the nineteenth century, the population of North America was significantly smaller than it is today.
- (B) Most of the gains in life expectancy in the last 150 years have come from reductions in the number of infants who die in their first year of life.
- (C) Many of the people who live to an advanced age today do so only because of medical technology that was unknown in the nineteenth century.
- (D) The proportion of people who die in their seventies is significantly smaller today than is the proportion of people who die in their eighties.
- (E) More people in the middle of the nineteenth century engaged regularly in vigorous physical activity than do so today.

Argument Evaluation

Situation Life expectancy in mid-nineteenth century North America was 40 years; now it is almost 80. What we think of as the prime of life must have been considered old in that earlier era.

Reasoning *What point weakens this argument?* The argument is discussing life expectancy over the entire population of those born alive. The argument relies on the idea that if 40 years was the average life expectancy, then the usual length of life must have been around 40. But averages can be misleading. What if, in the nineteenth century, the number of infants born alive but not surviving their first year was far higher than it is today? If this were so, it would significantly reduce the *average age at time of death* of the population as a whole—but of course that population could have contained many who lived well into their seventies or eighties. Thus, if we add the information that first-year infant mortality was quite high 150 years ago, the conclusion that 40 years was considered old then would be much less well supported.

- A The size of the population is irrelevant to the argument.
- B **Correct.** Greatly reducing first-year infant mortality will have a large impact on the average life expectancy of the population as a whole. That, rather than grown adults living twice as long, is enough to account for a large portion of the doubling in average life expectancy.
- C This point supports rather than weakens the argument.
- D This point supports the argument.
- E Exercise may have helped some nineteenth century people to live longer than they otherwise would. How many people—and what percentage of the population? Did this help them live past 40? If so, how long? If we had some of this information, it might affect the argument. But since this option does not provide these answers, it has little effect on the argument.

The correct answer is B.

2. Scientists propose placing seismic stations on the floor of the Pacific Ocean to warn threatened coastal communities on the northwestern coast of the United States of approaching tidal waves caused by earthquakes. Since forewarned communities could take steps to evacuate, many of the injuries and deaths that would otherwise occur could be avoided if the government would implement this proposal.

The answer to which of the following questions would be most important in determining whether implementing the proposal would be likely to achieve the desired result?

- (A) When was the last time that the coastal communities were threatened by an approaching tidal wave?
- (B) How far below sea level would the stations be located?
- (C) Would there be enough time after receiving warning of an approaching tidal wave for communities to evacuate safely?
- (D) How soon after a tidal wave hits land is it safe for evacuees to return to their communities?
- (E) Can the stations be equipped to collect and relay information about phenomena other than tidal waves caused by earthquakes?

Evaluation of a Plan

Situation Scientists plan to place on the floor of the Pacific Ocean seismic stations that can sense earthquakes and warn threatened coastal communities when they will be threatened by tidal waves. Communities that receive warning that tidal waves are approaching could evacuate, and injuries and deaths that the tidal wave would most likely cause could be avoided, under this plan.

Reasoning *What would it be most important to know in determining whether implementing the plan will achieve its desired result, preventing injuries and deaths?* Communities must actually evacuate for the plan to achieve the desired result, and that evacuation must be accomplished without itself causing injuries or deaths. For this to happen, the proposed seismic stations' warnings must come early enough to enable the communities to perform a safe evacuation.

- A Knowing the last time that coastal communities were threatened by an approaching tidal wave might be useful in determining whether the seismic stations are a good use of resources (because it might indicate how often tidal waves pose a threat), but it does not help determine whether the stations' warnings would lead to evacuations preventing injuries and deaths when a tidal wave does hit.
- B The plan is to install the seismic stations on the floor of the Pacific Ocean. Knowing the floor's depth would not help determine whether the seismic stations would help prevent injuries and deaths when a tidal wave hits.
- C **Correct.** If the answer to this question is yes, it will indicate that the plan is more likely to achieve its desired result. If the answer is no, it will show that the plan will not do so.
- D Knowing when evacuees could safely return to their communities is irrelevant to the desired result of the plan as described in the passage.
- E While it might be useful to know whether the seismic stations could be used to gather data on phenomena other than tidal waves, this does not speak to the issue of whether the stations would help prevent injuries and deaths caused by tidal waves.

The correct answer is C.

3. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author

- (A) fails to distinguish between purchasing and consuming
- (B) does not supply information about homeowners in age groups other than 40 to 50
- (C) depends on popular belief rather than on documented research findings
- (D) does not specify the precise amount of ice cream purchased by any demographic group
- (E) discusses ice cream rather than more nutritious and healthful foods

Argument Evaluation

Situation Adults aged 40 to 50 buy more ice cream than does any other demographic group (for example, teenagers). Does this mean that adults consume more ice cream than teenagers do?

Reasoning *A flawed assumption underlies the reasoning: the assumption that the buyers of the ice cream are also the eaters of the ice cream.* Although the demographic group homeowners aged 40 to 50 purchases more ice cream than does any other demographic group, it is quite likely that much of the ice cream purchased by those homeowners is for consumption by family members rather than for exclusive consumption by the purchaser. This leaves open the possibility that teenagers may indeed be the largest consumers of ice cream.

- A Correct.** The failure to make this distinction led to the making of the flawed assumption.
- B** This is false: The argument tells us (indirectly) that homeowners aged 40 to 50 buy more ice cream than does any other group—which allows us to infer that they buy more than do homeowners aged 30 to 40, for example. But even if the argument had stated such information explicitly, it would not have offered any better support for its conclusion.
- C** There is nothing in the argument to suggest that the information given is based on popular belief.
- D** Providing precise information about the quantity of ice cream purchased by homeowners aged 40 to 50 would not improve the argument at all.
- E** The subject is ice cream, not nutrition, so this point is irrelevant.

The correct answer is A.

4. According to a prediction of the not-so-distant future published in 1940, electricity would revolutionize agriculture. Electrodes would be inserted into the soil, and the current between them would kill bugs and weeds and make crop plants stronger.

Which of the following, if true, most strongly indicates that the logic of the prediction above is flawed?

- (A) In order for farmers to avoid electric shock while working in the fields, the current could be turned off at such times without diminishing the intended effects.
- (B) If the proposed plan for using electricity were put into practice, farmers would save on chemicals now being added to the soil.
- (C) It cannot be taken for granted that the use of electricity is always beneficial.
- (D) Since weeds are plants, electricity would affect weeds in the same way as it would affect crop plants.
- (E) Because a planting machine would need to avoid coming into contact with the electrodes, new parts for planting machines would need to be designed.

Evaluation of a Plan

Situation In 1940, electricity was predicted to revolutionize agriculture. This prediction suggested that electric current running between electrodes inserted into the soil would kill bugs and weeds while encouraging the growth of crop plants.

Reasoning *Which point most suggests that the logic used in formulating the prediction is flawed?* Electricity will revolutionize agriculture, it is said, because current can be run through electrodes placed in the soil. This current will kill bugs and weeds while strengthening plants. But how will the current accomplish this feat? More specifically, how will it kill one kind of plant (weeds) while strengthening another (crop plants)?

- A The logic of the prediction has nothing to do with whether the current can be turned on and off; rather, it is concerned with the current itself and its effects.
- B Rather than suggesting that the logic of the prediction is flawed, this serves to support the prediction: Farmers' saving on chemicals would be part of the predicted agricultural revolution.
- C The argument does not take for granted that the use of electricity is always beneficial; it merely suggests that it would be of great benefit to agriculture.
- D Correct.** This statement properly identifies a problem with the prediction: It provides no reason to believe that the electricity would affect crop plants and weeds differently.
- E Rather than suggesting that the logic of the prediction is flawed, this serves to support the prediction: Changes in planting machines would be part of the predicted agricultural revolution.

The correct answer is D.

5. A company is considering changing its policy concerning daily working hours. Currently, this company requires all employees to arrive at work at 8 a.m. The proposed policy would permit each employee to decide when to arrive—from as early as 6 a.m. to as late as 11 a.m.

The adoption of this policy would be most likely to decrease employees' productivity if the employees' job functions required them to

- (A) work without interruption from other employees
- (B) consult at least once a day with employees from other companies
- (C) submit their work for a supervisor's eventual approval
- (D) interact frequently with each other throughout the entire workday
- (E) undertake projects that take several days to complete

Evaluation of a Plan

Situation A company considers changing all employees' starting time from 8 a.m. to individually flexible arrival hours, anytime from 6 to 11 a.m.

Reasoning *Under what conditions could this plan cause employees' productivity to decline?* Consider the job functions defined in the answer choices and determine which entails requirements that would most likely be in conflict with the proposed plan. A plan that allows a five-hour range of start times would make it far more difficult for employees to coordinate their schedules. This would make it difficult, if not impossible, for employees to collaborate with each other throughout the workday and could well decrease productivity.

- A Working without interruption would likely mean improved productivity.
- B Assuming that all employees are in the same time zone (we are not told otherwise), the flexible hours would still leave plenty of time for at least one daily consultation during the regular business hours of the workday.
- C *Eventual approval* indicates that the flexibility exists to permit employees' submissions at any time.
- D **Correct.** The wide range of flexibility in regards to working hours would make frequent interaction difficult, if not impossible, and would be likely to decrease employees' productivity.
- E We are not told that the projects involve significant interaction; so such projects would be accomplished just as easily on the proposed flexible schedule.

The correct answer is D.

6. The amount of time it takes for most of a worker's occupational knowledge and skills to become obsolete has been declining because of the introduction of advanced manufacturing technology (AMT). Given the rate at which AMT is currently being introduced in manufacturing, the average worker's old skills become obsolete and new skills are required within as little as five years.

Which of the following plans, if feasible, would allow a company to prepare most effectively for the rapid obsolescence of skills described above?

- (A) The company will develop a program to offer selected employees the opportunity to receive training six years after they were originally hired.
- (B) The company will increase its investment in AMT every year for a period of at least five years.
- (C) The company will periodically survey its employees to determine how the introduction of AMT has affected them.
- (D) Before the introduction of AMT, the company will institute an educational program to inform its employees of the probable consequences of the introduction of AMT.
- (E) The company will ensure that it can offer its employees any training necessary for meeting their job requirements.

Evaluation of a Plan

Situation The introduction of AMT is making workers' occupational skills obsolete within as little as five years.

Reasoning *Which plan will be most effective in helping the company prepare for the expected rapid obsolescence in occupational knowledge and skills?* It should be clear that some type of training or retraining will be involved, since (at least in certain types of industry) it is unlikely that any company in that industry can afford to avoid introducing AMT if its market competitors are doing so.

- A Providing training only to *selected* employees and only after their skills have already become obsolete is not likely to be an effective response.
- B This plan only accelerates the problem and does not address the employees' skills.
- C Periodic surveys may provide information to employers but will not be enough to prevent employees' skills from becoming obsolete.
- D Having knowledge of the consequences does not prevent those consequences; employees' skills will still become obsolete.
- E **Correct.** This would ensure that all employees have the most current occupational knowledge and skills needed for their jobs

The correct answer is E.

7. Traverton's city council wants to minimize the city's average yearly expenditures on its traffic signal lights and so is considering replacing the incandescent bulbs currently in use with arrays of light-emitting diodes (LEDs) as the incandescent bulbs burn out. Compared to incandescent bulbs, LED arrays consume significantly less energy and cost no more to purchase. Moreover, the costs associated with the conversion of existing fixtures so as to accept LED arrays would be minimal.

Which of the following would it be most useful to know in determining whether switching to LED arrays would be likely to help minimize Traverton's yearly maintenance costs?

- (A) Whether the expected service life of LED arrays is at least as long as that of the currently used incandescent bulbs
- (B) Whether any cities have switched from incandescent lights in their traffic signals to lighting elements other than LED arrays
- (C) Whether the company from which Traverton currently buys incandescent bulbs for traffic signals also sells LED arrays
- (D) Whether Traverton's city council plans to increase the number of traffic signal lights in Traverton
- (E) Whether the crews that currently replace incandescent bulbs in Traverton's traffic signals know how to convert the existing fixtures so as to accept LED arrays

Evaluation of a Plan

Situation The city council of Traverton is considering replacing burned-out incandescent traffic signal lights with LED arrays. The LED arrays consume less energy than incandescent bulbs do while costing no more than those bulbs. Further, the cost of converting existing fixtures to accept LED arrays would be minimal.

Reasoning *What would it be most important to know in determining whether the switch to LEDs would minimize the city's yearly maintenance costs?* LEDs cost no more than incandescent bulbs, and they consume less energy. This suggests that the overall cost of LEDs is lower than that of incandescent bulbs. Is there any circumstance under which the costs associated with LEDs might be higher? They might be higher if more LEDs than incandescent bulbs had to be purchased every year—and that would be necessary if LEDs burn out more quickly than incandescent bulbs do.

- A Correct.** Unless the answer to this question were yes rather than no, the switch to LED arrays would not help minimize Traverton's yearly maintenance costs. So it is essential to know the answer to this question in order to determine whether switching to LEDs would help.
- B** The existence of another possible alternative to incandescent lights does not have any bearing on the question of whether switching from incandescent lights to LEDs would help.
- C** The source from which Traverton acquires its lights, be they incandescent or LEDs, is unimportant.
- D** Increasing the number of traffic signal lights in Traverton would probably increase the city's yearly maintenance costs, but it would do so regardless of whether those lights use LEDs or incandescent bulbs.
- E** Since the goal of switching to LED arrays is to help minimize yearly expenditures on maintenance, a potential one-time cost—that of training workers to convert the existing fixtures—is not relevant. Further, it is not necessarily the case that the crews that currently replace the incandescent bulbs would be the ones converting the existing fixtures—and even if they were, the account of the plan states that conversion costs would be minimal.

The correct answer is A.

8. A report that many apples contain a cancer-causing preservative called Alar apparently had little effect on consumers. Few consumers planned to change their apple-buying habits as a result of the report. Nonetheless, sales of apples in grocery stores fell sharply in March, a month after the report was issued.

Which of the following, if true, best explains the reason for the apparent discrepancy described above?

- (A) In March, many grocers removed apples from their shelves in order to demonstrate concern about their customers' health.
- (B) Because of a growing number of food-safety warnings, consumers in March were indifferent to such warnings.
- (C) The report was delivered on television and also appeared in newspapers.
- (D) The report did not mention that any other fruit contains Alar, although the preservative is used on other fruit.
- (E) Public health officials did not believe that apples posed a health threat because only minute traces of Alar were present in affected apples.

Argument Construction

Situation Despite a report that Alar, used to preserve many apples, could cause cancer, few consumers planned to stop buying apples. However, sales of apples in grocery stores fell sharply a month after the report.

Reasoning *How can this apparent discrepancy be explained?* If consumers did not intend to change their buying habits, then some other change must have been responsible for the decline in apple sales. If apples were not available to buy in grocery stores, then retail sales would obviously fall. The decision of many grocers to remove apples from their shelves in the month following the report would explain the decline in retail sales.

- A **Correct.** This would be sufficient to explain why sales fell even though consumers did not plan to stop buying apples.
- B This point explains why consumers did not intend to change their apple-buying habits—but not why sales fell.
- C How consumers may have heard about the report throws no light on the discrepancy between their response and the decline in sales.
- D Fruits other than apples are not a part of the discussion.
- E The health officials' opinion, if indeed known to consumers, would likely lead to stable apple sales—so this point does not explain the decline in apple sales.

The correct answer is A.

9. In order to reduce the number of items damaged while in transit to customers, packaging consultants recommended that the TrueSave mail-order company increase the amount of packing material so as to fill any empty spaces in its cartons. Accordingly, TrueSave officials instructed the company's packers to use more packing material than before, and the packers zealously acted on these instructions and used as much as they could. Nevertheless, customer reports of damaged items rose somewhat.

Which of the following, if true, most helps to explain why acting on the consultants' recommendation failed to achieve its goal?

- (A) The change in packing policy led to an increase in expenditure on packing material and labor.
- (B) When packing material is compressed too densely, it loses some of its capacity to absorb shock.
- (C) The amount of packing material used in a carton does not significantly influence the ease with which a customer can unpack the package.
- (D) Most of the goods that TrueSave ships are electronic products that are highly vulnerable to being damaged in transit.
- (E) TrueSave has lost some of its regular customers as a result of the high number of damaged items they received.

Evaluation of a Plan

Situation Mail-order company TrueSave wants to reduce the number of items damaged while in transit to customers. Packaging consultants recommended that to achieve this goal, the company should use more packing material to fill empty spaces in its cartons. The company's packers began using as much packing material as they could, yet reports of damaged items rose rather than fell.

Reasoning *What would help explain why the company's acting on the recommendation did not achieve its goal?* The recommendation involved increasing the amount of packing material, so there must have been something about that increase that led to more damage. More damage would be likely to result if stuffing more packing material into shipping boxes made the packaging less effective.

- A An increase in expenditure on packing material and labor might affect the company's profitability, but it would have no effect on whether items were damaged in transit.
- B Correct.** This statement adequately explains why more items, rather than fewer, were damaged in transit.
- C If customers were able to remove their items just as easily from boxes filled with more packing material as from boxes using less packing material, the items would be unaffected by an increase in the amount of packing material used.
- D The kind of goods TrueSave ships most frequently is not relevant to the question of why increasing the amount of packing material failed to reduce the number of items damaged in transit, since they most likely shipped this same kind of goods both before and after making the recommended change.
- E The loss of regular customers helps explain why TrueSave turned to the packaging consultants for help, but it does not help explain why those consultants' recommendation failed to reduce the number of items damaged in transit.

The correct answer is B.

10. Cable-television spokesperson: Subscriptions to cable television are a bargain in comparison to “free” television. Remember that “free” television is not really free. It is consumers, in the end, who pay for the costly advertising that supports “free” television.

Which of the following, if true, is most damaging to the position of the cable-television spokesperson?

- (A) Consumers who do not own television sets are less likely to be influenced in their purchasing decisions by television advertising than are consumers who own television sets.
- (B) Subscriptions to cable television include access to some public-television channels, which do not accept advertising.
- (C) For locations with poor television reception, cable television provides picture quality superior to that provided by free television.
- (D) There is as much advertising on many cable-television channels as there is on “free” television channels.
- (E) Cable-television subscribers can choose which channels they wish to receive.

Argument Evaluation

Situation A cable-television spokesperson argues that cable fees are a bargain since so-called “free” television is actually paid for by consumers who underwrite the cost of advertising.

Reasoning *Which point weakens the spokesperson’s argument?* The spokesperson’s argument compares the bargain price of a subscription to cable television with the “price” of the costly advertising on “free” television. Consider what situation would undermine this comparison. What if cable television, in addition to its subscription fee, airs just as much advertising as does “free” television? Then the cable subscriber is paying twice, and the spokesperson’s argument that cable television is a bargain in comparison to “free” television is weakened.

- A People who do not watch television are irrelevant to the argument.
- B The fact that cable television subscriptions include access to advertising-free public-television channels does not weaken the argument that “free” television is not free.
- C The picture quality of cable and free television are not at issue in this argument.
- D Correct.** This statement properly identifies a factor that weakens the spokesperson’s argument: If the cost of the advertising on “free” television is ultimately passed on to consumers in the prices they pay for the advertised product, and many cable channels have comparable amounts of advertising, then cable television will necessarily have the same kind of hidden cost as “free” television.
- E Television viewers who do not watch cable channels have a choice as to which channels and programs they view. For example, they could watch channels with no advertising. So this information does not differentiate cable-television viewers from “free”-television viewers.

The correct answer is D.

11. Wood smoke contains dangerous toxins that cause changes in human cells. Because wood smoke presents such a high health risk, legislation is needed to regulate the use of open-air fires and wood-burning stoves.

Which of the following, if true, provides the most support for the argument above?

- (A) The amount of dangerous toxins contained in wood smoke is much less than the amount contained in an equal volume of automobile exhaust.
- (B) Within the jurisdiction covered by the proposed legislation, most heating and cooking is done with oil or natural gas.
- (C) Smoke produced by coal-burning stoves is significantly more toxic than smoke from wood-burning stoves.
- (D) No significant beneficial effect on air quality would result if open-air fires were banned within the jurisdiction covered by the proposed legislation.
- (E) In valleys where wood is used as the primary heating fuel, the concentration of smoke results in poor air quality.

Argument Construction

Situation Wood smoke is hazardous, so restrictive legislation is needed.

Reasoning *Which point supports the need for legislation?* The argument for legislation is based on the position that wood smoke is hazardous to people's health. Any evidence of physical harm resulting from wood smoke supports the argument that legislation is needed. Undoubtedly, poor air quality caused by a high concentration of wood smoke presents just such a health risk.

- A If wood smoke were as dangerous as car exhaust, this might support the idea of regulating it just as exhaust emissions are regulated; but this statement tells us it is less dangerous.
- B This point suggests less of a need for legislation.
- C This information provides no support for the idea that the use of wood-burning stoves should be regulated.
- D The lack of benefit from banning open-air fires is a point against the legislation.
- E **Correct.** This supports the argument in favor of legislation.

The correct answer is E.

12. A certain automaker aims to increase its market share by deeply discounting its vehicles' prices for the next several months. The discounts will cut into profits, but because they will be heavily advertised the manufacturer hopes that they will attract buyers away from rival manufacturers' cars. In the longer term, the automaker envisions that customers initially attracted by the discounts may become loyal customers.

In assessing the plan's chances of achieving its aim, it would be most useful to know which of the following?

- (A) Whether the automaker's competitors are likely to respond by offering deep discounts on their own products
- (B) Whether the advertisements will be created by the manufacturer's current advertising agency
- (C) Whether some of the automaker's models will be more deeply discounted than others
- (D) Whether the automaker will be able to cut costs sufficiently to maintain profit margins even when the discounts are in effect
- (E) Whether an alternative strategy might enable the automaker to enhance its profitability while holding a constant or diminishing share of the market

Evaluation of a Plan

Situation An automaker is planning to offer deep discounts on its vehicles' prices in order to increase its market share. The automaker's profit margins will be reduced by this action. By advertising the discounts, the automaker hopes to attract customers who might otherwise be inclined to buy rival manufacturers' cars. These customers would ideally then develop loyalty to the automaker's cars.

Reasoning *What would it be most useful to know in assessing whether offering deep discounts will enable the automaker to increase its market share?* To achieve an increase in market share, the automaker would have to take customers away from other automakers. Under what circumstances would other automakers be able to retain their customers, if those customers are more likely to purchase cars from automakers that offer deep discounts (and then remain loyal to those automakers)? The other automakers might try to retain their customers by matching the discounts. Thus it would be useful to know whether the other automakers would indeed offer such discounts.

- A Correct.** If the answer to this question were yes, the plan would probably not achieve its aim of increasing market share. If the answer were no, the plan would have a good chance of succeeding.
- B** Since there is no information about the effectiveness of the automaker's current advertising, it would not be useful to know whether the same advertising agency will produce the ads publicizing the discount.
- C** Knowing whether some models will be more deeply discounted than others might help in assessing which of the automaker's models will sell best, but it would not help in assessing the overall chance of the automaker increasing its market share.
- D** The discounts the automaker plans to offer will cut into profits, according to the information given, so the question of whether the automaker can maintain profit margins while the discounts are in effect has already been answered.
- E** While it might be useful to the automaker to know about alternative strategies, such knowledge does not help in assessing the likelihood that the plan under discussion will achieve its aim.

The correct answer is A.

13. In Swartkans territory, archaeologists discovered charred bone fragments dating back one million years. Analysis of the fragments, which came from a variety of animals, showed that they had been heated to temperatures no higher than those produced in experimental campfires made from branches of white stinkwood, the most common tree around Swartkans.

Which of the following, if true, would, together with the information above, provide the best basis for the claim that the charred bone fragments are evidence of the use of fire by early hominids?

- (A) The white stinkwood tree is used for building material by the present-day inhabitants of Swartkans.
- (B) Forest fires can heat wood to a range of temperatures that occur in campfires.
- (C) The bone fragments were fitted together by the archaeologists to form the complete skeletons of several animals.
- (D) Apart from the Swartkans discovery, there is reliable evidence that early hominids used fire as many as 500,000 years ago.
- (E) The bone fragments were found in several distinct layers of limestone that contained primitive cutting tools known to have been used by early hominids.

Argument Evaluation

Situation Archaeologists analyzed charred bone fragments dating back to one million years ago and found that the fire that burned the fragments had been no hotter than a campfire fueled by stinkwood would be. It is claimed that the fragments show that early hominids used fire.

Reasoning *Which additional piece of information would strengthen the argument?* Any physical evidence that links the early hominids to the charred bone fragments strengthens the argument. If these bone fragments were found in conjunction with some other evidence of the presence of early hominids, then the evidence from the Swartkans location could be used to support the claim that early hominids used fire.

- A Today's use of stinkwood for building is irrelevant to the argument.
- B This suggests that forest fires could have been responsible for the charring, so it weakens the argument.
- C This information offers no support to the argument that early hominids used fire.
- D The fragments date back one million years, so evidence from 500,000 years ago is irrelevant.
- E **Correct.** This information links early hominids to these bone fragments and so strengthens the argument.

The correct answer is E.

14. In Washington County, attendance at the movies is just large enough for the cinema operators to make modest profits. The size of the county's population is stable and is not expected to increase much. Yet there are investors ready to double the number of movie screens in the county within five years, and they are predicting solid profits both for themselves and for the established cinema operators.

Which of the following, if true about Washington County, most helps to provide a justification for the investors' prediction?

- (A) Over the next ten years, people in their teenage years, the prime moviegoing age, will be a rapidly growing proportion of the county's population.
- (B) As distinct from the existing cinemas, most of the cinemas being planned would be located in downtown areas, in hopes of stimulating an economic revitalization of those areas.
- (C) Spending on video purchases, as well as spending on video rentals, has been increasing modestly each year for the past ten years.
- (D) The average number of screens per cinema is lower among existing cinemas than it is among cinemas still in the planning stages.
- (E) The sale of snacks and drinks in cinemas accounts for a steadily growing share of most cinema operators' profits.

Evaluation of a Plan

Situation Movie attendance in Washington County is large enough (though barely so) to allow the cinemas to make a modest profit. The county's population is expected to remain approximately the same. Despite this, investors wish to double the number of movie screens in the county. They expect both that the new screens will be profitable and that the established cinema operators will continue to maintain their profits.

Reasoning *What piece of information would most help justify the investors' expectation?* To make twice the number of movie screens profitable, movie attendance in Washington County would have to increase. But how could this happen, given that the county's population is not expected to change? Clearly, some people in Washington County will need to go to the movies more often than they do now. This might happen if some of the population of Washington County were to age into a demographic that is likely to go to the movies more frequently.

- A **Correct.** This statement tells us that over the next ten years, a larger proportion of the population will probably be moviegoers and this could significantly increase movie attendance in Washington County.
- B While stimulating downtown revitalization is a worthy goal, this does not help explain why more people would be likely to go to the movies in Washington County. Further, it raises the question of whether theaters in a revitalized downtown would draw business away from theaters in other locations, thus reducing the established cinema operators' profits.
- C This provides a reason to doubt the investors' prediction, because if spending on videos is increasing, people are probably less likely to see movies in movie theaters.
- D Regardless of how many screens each new cinema has relative to the established cinemas, none of them will be profitable if they cannot attract sufficient numbers of cinemagoers.
- E Cinemas' profitability depending on their sales of snacks and drinks does not explain why more people would go to the cinema in the first place.

The correct answer is A.

15. A conservation group in the United States is trying to change the long-standing image of bats as frightening creatures. The group contends that bats are feared and persecuted solely because they are shy animals that are active only at night.

Which of the following, if true, would cast the most serious doubt on the accuracy of the group's contention?

- (A) Bats are steadily losing natural roosting places such as caves and hollow trees and are thus turning to more developed areas for roosting.
- (B) Bats are the chief consumers of nocturnal insects and thus can help make their hunting territory more pleasant for humans.
- (C) Bats are regarded as frightening creatures not only in the United States but also in Europe, Africa, and South America.
- (D) Raccoons and owls are shy and active only at night, yet they are not generally feared and persecuted.
- (E) People know more about the behavior of other greatly feared animal species, such as lions, alligators, and snakes, than they do about the behavior of bats.

Argument Evaluation

Situation A conservation group claims that bats are feared and persecuted only because they are shy, nocturnal animals.

Reasoning *What casts doubt on the proposed explanation for people's fear and persecution of bats?* If people fear bats only because these animals are shy and active at night, then other species that share those same attributes should be equally feared. Yet raccoons and owls, similarly shy and nocturnal, do not elicit the same reaction from people.

- A This information seems to refer to recent changes in bats' habitats—but the passage tells us that the fear being discussed is “long-standing.” A long-standing fear cannot be adequately explained by recent changes.
- B The fact that bats provide a benefit for humans does not explain humans' fear of them.
- C This tells us the fear is widespread but throws no light on what causes it.
- D Correct.** This suggests that one or more factors other than bats' shyness and nocturnal habits are needed to explain humans' reactions to bats. For example, false beliefs about bats would be one such factor.
- E This suggests that more knowledge about the characteristics of some animal species may produce more, not less fear. But this is quite compatible with the idea that lack of knowledge about the behavior of bats could explain people's fearful reaction to them. One effect of lack of knowledge, for example, is allowing false beliefs to flourish.

The correct answer is D.

16. Which of the following best completes the passage below?

People buy prestige when they buy a premium product. They want to be associated with something special. Mass-marketing techniques and price-reduction strategies should not be used because _____.

- (A) affluent purchasers currently represent a shrinking portion of the population of all purchasers
- (B) continued sales depend directly on the maintenance of an aura of exclusivity
- (C) purchasers of premium products are concerned with the quality as well as with the price of the products
- (D) expansion of the market niche to include a broader spectrum of consumers will increase profits
- (E) manufacturing a premium brand is not necessarily more costly than manufacturing a standard brand of the same product

Argument Construction

Situation Consumers seek prestige when they buy premium products, that is to say, expensive, top-quality products. Mass-marketing techniques and price-reduction strategies are not appropriate tools to sell these products to consumers seeking to be associated with something special.

Reasoning The correct answer will be the option that best answers the following question: *Why are these tools NOT appropriate for selling these products to this group of consumers?* Consider that these consumers want to feel that the premium product they are buying is out of the ordinary. Any strategy that makes the premium product seem more common or easier to own reduces that product's appeal to this group. By definition, mass-marketing techniques appeal to a huge number of people, rather than a small, select group. Further, reducing prices reduces any associated prestige as well because the product becomes more broadly obtainable.

- A This information suggests that the percentage of the population who would buy high-prestige, expensive products may be shrinking. However, the point of the argument is not what the size of the market segment is but rather, what marketing strategies are most effective in selling to that market segment, given the motivations that drive its buying behavior.
- B **Correct.** This information, if true, provides a good reason for the avoidance of mass marketing techniques and price-reduction strategies.
- C Using mass-marketing techniques and price-reduction strategies could sometimes suggest low quality (and reduce the snob-appeal of the products)—but this issue is addressed more directly and explicitly in (B). The passage does not assume that all mass-marketed products must be of low quality.
- D This statement provides a reason why broader marketing should be employed, rather than supporting an argument that it should be avoided.
- E Manufacturing costs are not discussed and so are irrelevant.

The correct answer is B.

17. Hunter: **Many people blame hunters alone for the decline in Greenrock National Forest's deer population over the past ten years.** Yet clearly, black bears have also played an important role in this decline. In the past ten years, the forest's protected black bear population has risen sharply, and examination of black bears found dead in the forest during the deer hunting season showed that a number of them had recently fed on deer.

In the hunter's argument, the portion in boldface plays which of the following roles?

- (A) It is the main conclusion of the argument.
- (B) It is a finding that the argument seeks to explain.
- (C) It is an explanation that the argument concludes is correct.
- (D) It provides evidence in support of the main conclusion of the argument.
- (E) It introduces a judgment that the argument opposes.

Argument Construction

Situation The hunter claims that hunters have been identified by many people as the sole cause of the decline in Greenrock National Forest's deer population. But the hunter argues that black bears have also contributed to the deer population decline. Black bears are protected and have increased in number, and they have been found to have fed recently on deer.

Reasoning *What role in the argument is played by the hunter's statement that many people blame hunters alone for the decline in the national forest's deer population?* In this statement, the hunter claims that many people have judged hunters responsible for the decline. The hunter then goes on to offer evidence supporting a different judgment: that hunters are *not* solely responsible, but that black bears are also to blame.

- A The hunter's main conclusion is that black bears have also contributed to the decline in the deer population.
- B The argument seeks to offer a reason for the finding that the deer population has declined, not the finding that people blame hunters for that decline.
- C The hunter does not conclude that blaming hunters for the decline in the deer population is correct; rather, the hunter suggests that black bears should also be blamed.
- D The hunter believes that hunters are *not* solely responsible for the decline in the deer population, so people's suggestion that they *are* responsible does not support the hunter's main conclusion.
- E **Correct.** The boldfaced statement cites a judgment that the hunter attributes to many people, and that the hunter argues is incorrect. The hunter opposes the judgment that hunters alone are responsible for the decline in the deer population.

The correct answer is E.

18. In Asia, where palm trees are nonnative, the trees' flowers have traditionally been pollinated by hand, which has kept palm fruit productivity unnaturally low. When weevils known to be efficient pollinators of palm flowers were introduced into Asia in 1980, palm fruit productivity increased—by up to 50 percent in some areas—but then decreased sharply in 1984.

Which of the following statements, if true, would best explain the 1984 decrease in productivity?

- (A) Prices for palm fruit fell between 1980 and 1984 following the rise in production and a concurrent fall in demand.
- (B) Imported trees are often more productive than native trees because the imported ones have left behind their pests and diseases in their native lands.
- (C) Rapid increases in productivity tend to deplete trees of nutrients needed for the development of the fruit-producing female flowers.
- (D) The weevil population in Asia remained at approximately the same level between 1980 and 1984.
- (E) Prior to 1980 another species of insect pollinated the Asian palm trees, but not as efficiently as the species of weevil that was introduced in 1980.

Argument Construction

Situation In 1980, the introduction of weevils to pollinate palms trees in Asia resulted in increased palm fruit productivity. This productivity decreased sharply in 1984.

Reasoning *What explains the sudden decrease in 1984?* The palm trees had experienced a sudden burst of productivity beginning in 1980. What if an aftereffect of that spurt was the cause? If that burst of productivity had used up the trees' nutrients, then the trees would be unable to produce the flowers that are pollinated in order to produce fruit. This sudden exhaustion of the tree's resources could adequately explain the sudden decrease in productivity.

- A Falling prices and falling demand do not explain the falling productivity of the trees.
- B The lack of pests and diseases among imported trees does not explain the sharply decreased productivity.
- C Correct.** If there are fewer fruit-producing female flowers, there is likely to be less fruit.
- D If the weevil population pollinating the trees remained the same, one would expect that productivity would have remained the same, rather than declining. So this cannot provide an adequate explanation.
- E This information is unlikely to be relevant to the change that occurred in 1984.

The correct answer is C.

19. Physician: The hormone melatonin has shown promise as a medication for sleep disorders when taken in synthesized form. Because the long-term side effects of synthetic melatonin are unknown, however, I cannot recommend its use at this time.

Patient: Your position is inconsistent with your usual practice. You prescribe many medications that you know have serious side effects, so concern about side effects cannot be the real reason you will not prescribe melatonin.

The patient's argument is flawed because it fails to consider that

- (A) the side effects of synthetic melatonin might be different from those of naturally produced melatonin
- (B) it is possible that the physician does not believe that melatonin has been conclusively shown to be effective
- (C) sleep disorders, if left untreated, might lead to serious medical complications
- (D) the side effects of a medication can take some time to manifest themselves
- (E) known risks can be weighed against known benefits, but unknown risks cannot

Argument Evaluation

Situation The physician refuses to prescribe synthetic melatonin to treat sleep disorders despite this medication's promise. The reason the physician offers for this refusal is that the long-term side effects of synthetic melatonin are unknown. The patient responds that because the physician prescribes other medications that are known to have serious side effects, it cannot be a concern for synthetic melatonin's side effects that is prompting the physician's refusal to prescribe that medication.

Reasoning *What does the patient's argument fail to consider?* The patient says that the inconsistency in the physician's position lies in the physician's unwillingness to prescribe synthetic melatonin coupled with a willingness to prescribe other medications that are known to have serious side effects. But notice that the physician does not say that synthetic melatonin has *serious* side effects; rather, the physician points out that the long-term side effects of synthetic melatonin are unknown. The physician most likely prescribes medications that have serious side effects because the medications' benefits outweigh the risks posed by their side effects. In the case of synthetic melatonin, however, this kind of decision cannot be made.

- A The patient's argument has to do with whether the physician's refusal to prescribe synthetic melatonin is consistent with the physician's usual prescription practices. The question of whether naturally produced melatonin has different side effects than synthetic melatonin has no bearing on that argument.
- B It is quite reasonable for the patient's argument not to mention this possibility, especially since the physician expresses a belief that synthetic melatonin may be effective—but expresses no belief about whether or not it has been conclusively shown to be effective.
- C Awareness that sleep disorders can lead to serious medical complications most likely prompts the patient's desire for treatment—but the patient's not mentioning this possible consequence of sleep disorders does not indicate a flaw in the argument.
- D The patient makes clear that the physician prescribes medications that have serious side effects; the time those side effects take to manifest themselves is not relevant to the argument.
- E **Correct.** The patient's argument is flawed in failing to consider this key difference between known risks and unknown risks. If the patient had considered this key difference, the patient would have realized that the physician's position is not at all inconsistent, and that the physician's refusal to prescribe is genuinely based on a concern about an unknown risk.

The correct answer is E.

20. In recent years, many cabinetmakers have been winning acclaim as artists. But since furniture must be useful, cabinetmakers must exercise their craft with an eye to the practical utility of their product. For this reason, cabinetmaking is not art.

Which of the following is an assumption that supports drawing the conclusion above from the reason given for that conclusion?

- (A) Some furniture is made to be placed in museums, where it will not be used by anyone.
- (B) Some cabinetmakers are more concerned than others with the practical utility of the products they produce.
- (C) Cabinetmakers should be more concerned with the practical utility of their products than they currently are.
- (D) An object is not an art object if its maker pays attention to the object's practical utility.
- (E) Artists are not concerned with the monetary value of their products.

Argument Construction

Situation Cabinetmaking is not art because furniture must be made with an eye to its usefulness.

Reasoning *What assumption is made in the argument?* The argument claims that cabinetmakers, when making furniture, must take usefulness into account. It concludes that cabinetmaking is not art. However, the reasoning has a gap: Some information that is not explicitly stated is needed to make the argument succeed. This need for additional information can be met, at least in part, by adding an assumption such as this: Nothing created with a view to its usefulness is a work of art.

- A The destination of the object after its creation is not the issue.
- B The extent to which some cabinetmakers *actually consider* utility is irrelevant, since the reasoning claims that utility must be considered in the successful manufacture of furniture.
- C The argument primarily concerns truly successful cabinetmaking, whether it is art or not, and the role utility plays in (successful) cabinetmaking. It does not address the issue of whether or not current cabinetmakers give adequate consideration to utility or whether or not today's cabinetmakers produce truly successful and useful furniture.
- D Correct.** This option, unlike the other four, provides information that helps fill the gap in the argument.
- E The issue of monetary value is not raised at all in the argument.

The correct answer is D.

21. Male bowerbirds construct elaborately decorated nests, or bowers. Basing their judgment on the fact that different local populations of bowerbirds of the same species build bowers that exhibit different building and decorative styles, researchers have concluded that the bowerbirds' building styles are a culturally acquired, rather than a genetically transmitted, trait.

Which of the following, if true, would most strengthen the conclusion drawn by the researchers?

- (A) There are more common characteristics than there are differences among the bower-building styles of the local bowerbird population that has been studied most extensively.
- (B) Young male bowerbirds are inept at bower-building and apparently spend years watching their elders before becoming accomplished in the local bower style.
- (C) The bowers of one species of bowerbird lack the towers and ornamentation characteristic of the bowers of most other species of bowerbird.
- (D) Bowerbirds are found only in New Guinea and Australia, where local populations of the birds apparently seldom have contact with one another.
- (E) It is well known that the song dialects of some songbirds are learned rather than transmitted genetically.

Argument Evaluation

Situation Male bowerbirds of the same species but living in different habitats build nests of widely varying styles. Researchers conclude that this nest-building behavior is culturally acquired rather than genetically transmitted.

Reasoning *What evidence supports the researchers' conclusion?* The researchers base their conclusion upon the different styles of nests and probably the assumption that the nests would all be similar if the bower-building behavior was only transmitted through the genes of the species. What would lend support to this reasoning? If young male bowerbirds have no inherent aptitude for nest building and must learn it over a period of years by watching older male bowerbirds, then the argument that bowerbirds acquire their nest-building preferences culturally rather than genetically is strengthened.

- A The greater number of similarities than differences in style in one population could be attributed to either cultural acquisition or genetic transmission, so the conclusion is not strengthened.
- B Correct.** Compared with the other options, this information provides the most additional support for the researchers' conclusion.
- C The cited differences are among populations of the same species; differences between species are outside the scope of the conclusion.
- D Since no information is given about the nest-building styles of these populations (whether or not they are of the same species), the fact that they have little contact neither strengthens nor weakens the conclusion.
- E This statement provides an example of learned bird behavior, and so provides a little additional support for the conclusion, but not as much additional support as does (B).

The correct answer is B.

22. Plan: Concerned about the welfare of its senior citizens, the government of Runagia decided two years ago to increase by 20 percent the government-provided pension paid to all Runagians age sixty-five and older.

Result: Many Runagian senior citizens are no better off financially now than they were before the increase.

Further information: The annual rate of inflation since the pension increase has been below 5 percent, and the increased pension has been duly received by all eligible Runagians.

In light of the further information, which of the following, if true, does most to explain the result that followed implementation of the plan?

- (A) The majority of senior citizens whose financial position has not improved rely entirely on the government pension for their income.
- (B) The Runagian banking system is so inefficient that cashing a pension check can take as much as three weeks.
- (C) The prices of goods and services that meet the special needs of many senior citizens have increased at a rate much higher than the rate of inflation.
- (D) The pension increase occurred at a time when the number of Runagians age sixty-five and older who were living below the poverty level was at an all-time high.
- (E) The most recent pension increase was only the second such increase in the last ten years.

Evaluation of a Plan

Situation Two years ago, Runagia's government attempted to improve senior citizens' welfare by increasing senior citizens' pensions by 20 percent. Unfortunately, many of those senior citizens' welfare did not improve. This result occurred despite inflation being relatively low—below 5 percent—and all appropriate people receiving their increased pensions.

Reasoning *What would do most to explain why many of Runagia's senior citizens are no better off than they were before their pensions increased?* Many of Runagia's senior citizens were not helped by receiving more money. Clearly, these senior citizens used nearly 20 percent more money than they did before to maintain the same standard of living. Usually, this could be explained by high inflation—but the further information informs us that the annual rate of inflation was well below the percentage of the pension increase. The annual rate of inflation is, however, an average calculated over a large number of goods and services. The prices of some goods and services rise more than the prices of other goods and services. It could be the case that the goods and services senior citizens need are those that have risen most in price. If this were the case, their pension increase could have been insufficient to raise their standard of living.

- A Regardless of what someone relies on for their income, a 20 percent increase in that income would be expected to raise that person's standard of living.
- B The 20 percent increase in pensions occurred two years ago. Whatever problems a three-week delay in the cashing of pension checks caused would be unlikely to persist over two years.
- C **Correct.** This statement properly identifies a reason why the plan's result was that many Runagian senior citizens were no better off than they were before the increase.
- D Even if it were true that an all-time high number of Runagians over sixty-five were living below the poverty line at the time of the pension increase, it would still be expected that such an increase would leave them better off financially than they were before the increase.
- E Regardless of how many pension increases there were in the past, the current 20 percent increase could reasonably be expected to leave its recipients better off financially than they were before the increase.

The correct answer is C.

23. A drug that is highly effective in treating many types of infection can, at present, be obtained only from the bark of the ibora, a tree that is quite rare in the wild. It takes the bark of 5,000 trees to make one kilogram of the drug. It follows, therefore, that continued production of the drug must inevitably lead to the ibora's extinction.

Which of the following, if true, most seriously weakens the argument above?

- (A) The drug made from ibora bark is dispensed to doctors from a central authority.
- (B) The drug made from ibora bark is expensive to produce.
- (C) The leaves of the ibora are used in a number of medical products.
- (D) The ibora can be propagated from cuttings and grown under cultivation.
- (E) The ibora generally grows in largely inaccessible places.

Argument Evaluation

Situation The extinction of the rare ibora tree is inevitable if production of an effective infection-fighting drug continues.

Reasoning *Which point most weakens the argument?* The production of the drug requires such an enormous amount of bark that, the argument concludes, the continuing existence of the rare tree is in jeopardy. But the argument assumes that killing the trees in the wild is the only way to obtain the needed bark. Can the tree be cultivated? If so, the majority of the trees in the wild could be left to flourish.

- A The method of the drug's distribution is irrelevant, unless the central authority can limit the drug's production from the bark of wild ibora trees. But this information is not provided.
- B The cost of producing the drug does not affect the outcome for the tree unless it deters production.
- C The existence of uses for other parts of the tree opens the possibility that the ibora-bark drug would cause no increase in destruction of trees other than what exists already. If this information were provided, it would weaken support for the conclusion. Since it is not provided, this option does not significantly weaken the argument.
- D Correct.** This information most weakens the argument.
- E Difficulty of access to the trees could provide a disincentive to their harvesting—but we are not told that it would prevent their harvesting.

The correct answer is D.

24. The Plexis Corporation, a leading computer chip manufacturer, is currently developing a new chip, which is faster and more efficient than any computer chip currently in use. The new chip will be released for sale in twelve months. Plexis' market research has shown that initial sales of the new chip would be maximized by starting to advertise it now, but the company has decided to wait another six months before doing so.

Which of the following, if true, provides the Plexis Corporation with the best reason for postponing advertising its new chip?

- (A) Some computer users are reluctant to purchase new computer products when they are first released.
- (B) The cost of an advertising campaign capable of maximizing initial sales of the new chip would be no greater than campaigns previously undertaken by Plexis.
- (C) Advertising the new chip now will significantly decrease sales of Plexis' current line of computer chips.
- (D) Plexis' major rivals in the computer chip manufacturing business are developing a chip with capabilities that are comparable to those of Plexis' new chip.
- (E) Taking full advantage of the capacities of the new chip will require substantial adjustments in other segments of the computer industry.

Argument Construction

Situation Plexis' new computer chip, which will go on sale in twelve months, bests all those currently on the market in terms of speed and efficiency. According to market research, advertising the chip now will maximize its initial sales. The company, however, has decided to wait six months before starting to advertise.

Reasoning *What reason could there be for Plexis postponing its advertising?* Plexis would probably postpone the advertising if there were a downside to it that outweighed the boost in initial sales that advertising now would provide. Since the boost in initial sales would presumably increase Plexis' profits, the downside to the advertising would most likely be something that would reduce Plexis' profits.

- A Advertising would probably be likely to persuade computer users to purchase the new product; thus this provides a reason why Plexis should start its advertising now rather than delay it for six months.
- B The advertising campaign's cost, if it is particularly high, might be a reason for Plexis to delay it—but that the cost will not be significantly different from that of other ad campaigns provides no compelling reason for delay.
- C **Correct.** This statement properly identifies a reason for Plexis to postpone its ad campaign: Its profits might be adversely affected by an early start to the campaign.
- D This provides a reason for Plexis to begin advertising the new chip as soon as possible—to get out ahead of the competition.
- E If the new chip will require other segments of the computer industry to adjust, it would be to Plexis' benefit to publicize the new chip as soon as possible, so that those adjustments can be made before the new chip comes on the market.

The correct answer is C.

25. Many breakfast cereals are fortified with vitamin supplements. Some of these cereals provide 100 percent of the recommended daily requirement of vitamins. Nevertheless, a well-balanced breakfast, including a variety of foods, is a better source of those vitamins than are such fortified breakfast cereals alone.

Which of the following, if true, would most strongly support the position above?

- (A) In many foods, the natural combination of vitamins with other nutrients makes those vitamins more usable by the body than are vitamins added in vitamin supplements.
- (B) People who regularly eat cereals fortified with vitamin supplements sometimes neglect to eat the foods in which the vitamins occur naturally.
- (C) Foods often must be fortified with vitamin supplements because naturally occurring vitamins are removed during processing.
- (D) Unprocessed cereals are naturally high in several of the vitamins that are usually added to fortified breakfast cereals.
- (E) Cereals containing vitamin supplements are no harder to digest than similar cereals without added vitamins.

Argument Evaluation

Situation A well-balanced breakfast with a variety of foods is a better source of vitamins than a breakfast of cereal fortified with vitamin supplements.

Reasoning *What strengthens the argument in favor of a balanced breakfast as a better source of vitamins?*
The argument compares a breakfast consisting of cereal that has been fortified with vitamins to a well-balanced breakfast that includes foods with naturally occurring vitamins. What would make the foods with naturally occurring vitamins a better source of those vitamins than cereal fortified with those vitamins? If the combination of the naturally occurring vitamins with other nutrients in the foods allows the body to better use those vitamins, a balanced breakfast of those foods would be a better source of those vitamins than a breakfast of fortified cereal alone.

- A Correct.** This information strengthens the argument more than the information in any of the other options.
- B** This statement explains that some who eat fortified cereal sometimes omit other foods from their diet. But this bit of sociological information is irrelevant to the scientific issue of which type of breakfast is a better source of vitamins.
- C** This statement provides an answer to the question, “Why are some foods fortified with vitamins?” It does not address the question at issue, “Which type of breakfast is a better source of vitamins?”
- D** This information is not evidence that a well-balanced breakfast is a better source of certain vitamins than is fortified cereal alone.
- E** This information tells us that fortified cereal is not especially hard to digest—but does not indicate that a breakfast of fortified cereal alone is an inferior source of vitamins.

The correct answer is A.

26. When a polygraph test is judged inconclusive, this is no reflection on the examinee. Rather, such a judgment means that the test has failed to show whether the examinee was truthful or untruthful. Nevertheless, employers will sometimes refuse to hire a job applicant because of an inconclusive polygraph test result.

Which of the following conclusions can most properly be drawn from the information above?

- (A) Most examinees with inconclusive polygraph test results are in fact untruthful.
- (B) Polygraph tests should not be used by employers in the consideration of job applicants.
- (C) An inconclusive polygraph test result is sometimes unfairly held against the examinee.
- (D) A polygraph test indicating that an examinee is untruthful can sometimes be mistaken.
- (E) Some employers have refused to consider the results of polygraph tests when evaluating job applicants.

Argument Construction

Situation Employers sometimes refuse to hire job applicants because of inconclusive polygraph tests, even though inconclusive tests reveal only the failure of the test itself to determine the truthfulness or untruthfulness of the person tested.

Reasoning *What conclusion can be drawn from this information?* Inconclusive polygraph results do not reveal anything about the person tested; they reveal only the failure of the polygraph test. Nevertheless, employers may choose not to hire an applicant whose polygraph test has had an inconclusive result. It is reasonable to conclude that these employers unfairly treat the lack of firm polygraph results as counting against the candidate—not against the polygraph test.

- A This statement makes a judgment that is explicitly contradicted in the passage, which states that an inconclusive polygraph result *is no reflection on the examinee*.
- B This sweeping conclusion is not as well supported by the passage as is (C). The passage discusses only inconclusive polygraph results.
- C **Correct.** Given the information in the passage, one can infer that inconclusive polygraph tests are sometimes used unfairly against job applicants—if one makes the reasonable assumption that judging a job applicant unsuitable is unfair if the judgment is based merely on the failure of a particular technique to provide reliable evidence.
- D The passage is concerned only with inconclusive tests, not cases when the polygraph test is mistaken.
- E Information about employers who do not consider polygraph tests is irrelevant to the discussion.

The correct answer is C.

27. For similar cars and comparable drivers, automobile insurance for collision damage has always cost more in Greatport than in Fairmont. Police studies, however, show that cars owned by Greatport residents are, on average, slightly less likely to be involved in a collision than cars in Fairmont. Clearly, therefore, insurance companies are making a greater profit on collision-damage insurance in Greatport than in Fairmont.

In evaluating the argument, it would be most useful to compare

- (A) the level of traffic congestion in Greatport with the level of traffic congestion in Fairmont
- (B) the cost of repairing collision damage in Greatport with the cost of repairing collision damage in Fairmont
- (C) the rates Greatport residents pay for other forms of insurance with the rates paid for similar insurance by residents of Fairmont
- (D) the condition of Greatport's roads and streets with the condition of Fairmont's roads and streets
- (E) the cost of collision-damage insurance in Greatport and Fairmont with that in other cities

Argument Evaluation

Situation A particular kind of insurance, that for collision damage, costs more in Greatport than in Fairmont. The cars of Greatport residents are, however, less likely to be involved in collisions than are cars of Fairmont residents. So insurance companies must be making a greater profit on collision-damage insurance in Greatport than in Fairmont.

Reasoning *What would it help to consider in evaluating the argument?* Insurance companies would make greater profits on collision-damage insurance in Greatport than they make in Fairmont if they pay out less money in response to Greatport residents' claims than they do in response to Fairmont's residents' claims. That Greatport residents' cars are involved in fewer collisions than are Fairmont's residents' cars supports this—if there are fewer collisions overall, then the insurance companies might pay out less money overall. But the number of collisions is only one factor contributing to how much money an insurance company pays out in response to claims; another factor is the amount of damage inflicted on the cars involved in collisions and how much it costs to repair that damage. These costs would need to be considered before concluding that insurance companies' profits on collision-damage insurance are greater in Greatport than in Fairmont.

- A The level of traffic congestion probably contributes to the frequency of collisions in each town. The information given, however, includes the statement that Greatport cars are less likely to be involved in collisions than are Fairmont cars. Why this occurs—whether, for example, traffic congestion is a contributory factor—is not relevant.
- B Correct.** This is clearly a factor that would affect the profitability of insurance in the two towns—and is therefore highly relevant to evaluating the argument, especially its conclusion.
- C The argument's conclusion is about insurance companies' profits on collision-damage insurance alone, so other types of insurance, and the rates paid for them, are not relevant.
- D The condition of the roads and streets in each town probably contributes to the frequency of collisions in each town. The information given, however, includes the statement that Greatport cars are less likely to be involved in collisions than are Fairmont cars. Why this is so—whether, for example, the condition of the roads is a contributory cause—is not relevant.
- E Since the argument is concerned solely with collision-insurance costs and profits in Greatport and Fairmont, comparing the cost of insurance in those towns with the cost of insurance elsewhere would provide no useful insight.

The correct answer is B.

28. The technological conservatism of bicycle manufacturers is a reflection of the kinds of demand they are trying to meet. The only cyclists seriously interested in innovation and willing to pay for it are bicycle racers. Therefore, innovation in bicycle technology is limited by what authorities will accept as standard for purposes of competition in bicycle races.

Which of the following is an assumption made in drawing the conclusion above?

- (A) The market for cheap, traditional bicycles cannot expand unless the market for high-performance competition bicycles expands.
- (B) High-performance bicycles are likely to be improved more as a result of technological innovations developed in small workshops than as a result of technological innovations developed in major manufacturing concerns.
- (C) Bicycle racers do not generate a strong demand for innovations that fall outside what is officially recognized as standard for purposes of competition.
- (D) The technological conservatism of bicycle manufacturers results primarily from their desire to manufacture a product that can be sold without being altered to suit different national markets.
- (E) The authorities who set standards for high-performance bicycle racing do not keep informed about innovative bicycle design.

Argument Construction

Situation Bicycle racers are the only consumers willing to pay for innovations in bicycle technology. Manufacturers therefore limit innovation to the standards established for competitive bicycle racing.

Reasoning *What is being assumed in this argument?* This argument implies a connection between what bicycle racers want and what bicycle manufacturers make. The passage states that only racers are interested in innovation and willing to pay for it. The conclusion is drawn that innovation is limited by the standards laid down by racing authorities. But there is a gap in the reasoning here—information needed to enable the conclusion to be properly drawn. The drawing of the conclusion is justified if the information that bicycle racers buy only innovations that are approved by racing authorities is added.

- A The argument concerns innovation in bicycle technology. It is not about the entire market for all bicycles, so this claim about traditional bicycles is not assumed.
- B The passage does not discuss where the best innovations are likely to be created, so no assumption about small workshops versus large manufacturers is made.
- C **Correct.** This statement identifies information that appropriately fills the gap in the reasoning as stated in the passage.
- D This claim provides an explanation of manufacturers' technological conservatism that is quite different from the explanation indicated in the passage.
- E The passage does not indicate what the racing authorities do or do not know about bicycle innovation—even though it suggests that they may be reluctant to approve every possible innovation for racing purposes.

The correct answer is C.

29. Last year a record number of new manufacturing jobs were created. Will this year bring another record? Well, a new manufacturing job is created either within an existing company or by the start-up of a new company. Within existing firms, new jobs have been created this year at well below last year's record pace. At the same time, there is considerable evidence that the number of new companies starting up will be no higher this year than it was last year, and surely **the new companies starting up this year will create no more jobs per company than did last year's start-ups**. Clearly, it can be concluded that **the number of new jobs created this year will fall short of last year's record**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is that main conclusion.
- (B) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is a conclusion drawn in order to support that main conclusion.
- (C) The first is an objection that the argument rejects; the second is the main conclusion of the argument.
- (D) The first is an objection that the argument rejects; the second presents a conclusion that could be drawn if that objection were allowed to stand.
- (E) The first is a claim that has been advanced in support of a position that the argument opposes; the second is a claim advanced in support of the main conclusion of the argument.

Argument Construction

Situation The question posed is whether this year will, like last year, see a record number of new manufacturing jobs. Among the evidence presented is the assertion that any new manufacturing job is created by an existing company or as part of the start-up of a new company. New jobs have been created by existing firms at a slower pace than last year. It is unlikely that more new companies will be started up this year than were started last year; further, the argument suggests that this year's new companies are unlikely to create more jobs per company than did last year's new companies. For all these reasons, the argument concludes, this year's job creation will not equal that of last year.

Reasoning *What roles do the two portions in boldface play in the argument?* The first boldfaced portion states that this year's new companies will create no more jobs per company than did last year's new companies. The speaker does not know this for a fact, since it has not yet happened; it is thus a prediction. If it turns out to be the case, it would support the idea that job creation this year will fall short of last year's—which is, in turn, the conclusion that the argument reaches.

- A **Correct.** This statement properly identifies the roles played in the argument by the two portions in boldface.
- B This properly identifies the role played in the argument by the first portion in boldface. The second is, of course, a conclusion, but it is not drawn in order to support the main conclusion; rather, it is the main conclusion.
- C This properly identifies the role played by the second portion in boldface. The first portion in boldface, however, states that companies starting up this year will create no more jobs than last year's start-ups. The argument does not reject this idea; rather, it relies on it.
- D The first portion in boldface states that companies starting up this year will create no more jobs than last year's start-ups. The argument does not reject this idea; rather, it relies on it. The second portion in boldface does present a conclusion, but since the first portion is not an objection, any description that relies on that mischaracterization is in error.
- E The second portion in boldface is not merely a claim; it is, rather, the main conclusion of the argument. The first portion in boldface is a claim, but it is not advanced in support of a position that the argument opposes; rather, it supports the argument's main conclusion.

30. Robot satellites relay important communications and identify weather patterns. Because the satellites can be repaired only in orbit, astronauts are needed to repair them. Without repairs, the satellites would eventually malfunction. Therefore, space flights carrying astronauts must continue.

Which of the following, if true, would most seriously weaken the argument above?

- (A) Satellites falling from orbit because of malfunctions burn up in the atmosphere.
- (B) Although satellites are indispensable in the identification of weather patterns, weather forecasters also make some use of computer projections to identify weather patterns.
- (C) The government, responding to public pressure, has decided to cut the budget for space flights and put more money into social welfare programs.
- (D) Repair of satellites requires heavy equipment, which adds to the amount of fuel needed to lift a spaceship carrying astronauts into orbit.
- (E) Technical obsolescence of robot satellites makes repairing them more costly and less practical than sending new, improved satellites into orbit.

Argument Evaluation

Situation Robot satellites used to predict weather patterns must be repaired in orbit by astronauts, so space flights carrying astronauts must continue.

Reasoning *What information would most weaken the argument?* The passage provides the information that the satellites would probably malfunction unless they are repaired and that to perform those repairs, astronauts are needed. The conclusion is that space flights with astronauts must continue. The unstated assumption is that there is no good alternative to repairing the satellites. Any information that challenges this assumption will weaken the argument. A less expensive and more practical way of preventing the problems that would arise from failure to repair rapidly obsolescing satellites is to replace them with new, improved satellites. This suggestion of a better alternative weakens the argument more than do any of the other options.

- A This tells us that a malfunction can destroy the satellite—information that provides some additional support to the argument.
- B Since satellites are judged to be *indispensable*, this statement suggests that their repair continues to be necessary—this somewhat strengthens the argument.
- C The argument does not assume that space flights are funded by the government, but this statement tells us that they are at least partly government-funded, and that at least some of that funding is to be eliminated. This makes it less likely that needed space flights with astronauts would occur—but it does not undermine the claim that such flights are needed.
- D Increased fuel costs do not weaken the claim that space flights with astronauts are needed.
- E **Correct.** This information challenges the assumption in the argument that there is no good alternative to repairing the satellites.

The correct answer is E.

31. A company's two divisions performed with remarkable consistency over the past three years: in each of those years, the pharmaceuticals division has accounted for roughly 20 percent of dollar sales and 40 percent of profits, and the chemicals division for the balance.

Which of the following can properly be inferred regarding the past three years from the statement above?

- (A) Total dollar sales for each of the company's divisions have remained roughly constant.
- (B) The pharmaceuticals division has faced stiffer competition in its markets than has the chemicals division.
- (C) The chemicals division has realized lower profits per dollar of sales than has the pharmaceuticals division.
- (D) The product mix offered by each of the company's divisions has remained unchanged.
- (E) Highly profitable products accounted for a higher percentage of the chemicals division's sales than those of the pharmaceuticals division's.

Argument Construction

Situation For three years, the pharmaceutical division of a company has accounted for 20 percent of the dollar sales and 40 percent of the profits, and the chemicals division for 80 percent of the sales and 60 percent of the profits.

Reasoning *What can be inferred from these numbers?* The income from sales of the chemicals division was four times the sales income of the pharmaceutical division, but the chemicals division's profit (income minus costs) was only one-and-a-half times the pharmaceutical division's profit. Clearly the pharmaceuticals division made more profit per dollar of sales income than the chemicals division did.

- A The information is about percentages, not total dollars; the percentages could have remained the same for each of three years even though sales income increased each year.
- B There is no information about the competition faced by either division; the higher profit margin for the pharmaceutical division would suggest, if anything, less intense competition in its markets.
- C **Correct.** If the information in the passage is true, then this must also be true.
- D Since there is no information about the product mix, no inference about it is possible.
- E The passage does not distinguish between highly profitable products and other products, so this inference cannot be drawn from the information.

The correct answer is C.

32. The Eurasian ruffe, a fish species inadvertently introduced into North America's Great Lakes in recent years, feeds on the eggs of lake whitefish, a native species, thus threatening the lakes' natural ecosystem. To help track the ruffe's spread, government agencies have produced wallet-sized cards about the ruffe. The cards contain pictures of the ruffe and explain the danger they pose; the cards also request anglers to report any ruffe they catch.

Which of the following, if true, would provide most support for the prediction that the agencies' action will have its intended effect?

- (A) The ruffe has spiny fins that make it unattractive as prey.
- (B) Ruffe generally feed at night, but most recreational fishing on the Great Lakes is done during daytime hours.
- (C) Most people who fish recreationally on the Great Lakes are interested in the preservation of the lake whitefish because it is a highly prized game fish.
- (D) The ruffe is one of several nonnative species in the Great Lakes whose existence threatens the survival of lake whitefish populations there.
- (E) The bait that most people use when fishing for whitefish on the Great Lakes is not attractive to ruffe.

Evaluation of a Plan

Situation The Eurasian ruffe, a species not native to the Great Lakes, is threatening the native lake whitefish. Government agencies hope that wallet-sized cards identifying the ruffe, explaining the danger they pose, and asking anglers to report their ruffe catches will help them track the ruffe's spread.

Reasoning *What point would support the idea that the agencies' action will have its intended effect?* The cards are intended to help government agencies track the ruffe's spread. They will be useful for this purpose only if anglers actually report the ruffe they catch. Thus anything that increases the odds of anglers' doing such reporting would make it more likely that the cards will have their intended effect.

- A If ruffe are unattractive as prey, they will probably spread more quickly in the Great Lakes. This will most likely have little effect on whether the wallet-sized cards will help government agencies track the ruffe.
- B If ruffe feed at night, while fishing is done in the daytime, it is unlikely that anglers would catch ruffe. Thus few catches would be reported to government agencies, making it more difficult for those agencies to track the spread of ruffe.
- C **Correct.** This statement properly identifies a point that supports the prediction that the agencies' action will have its intended effect—that is, those who are interested in preserving the lake whitefish will be likely to report catches of ruffe, which threaten whitefish, thus enabling the agencies' tracking of the spread of ruffe.
- D That the ruffe is one of several nonnative species threatening the Great Lakes lessens the odds that the whitefish will survive, but this has no effect on the question of whether the wallet-sized cards will help government agencies track the ruffe's spread.
- E This would make it likely that anglers would catch few ruffe. If anglers do not catch many ruffe, there will not be many to report to government agencies, which would in turn make it more difficult for those agencies to track the ruffe's spread.

The correct answer is C.

33. Advertisement: Today's customers expect high quality. Every advance in the quality of manufactured products raises customer expectations. The company that is satisfied with the current quality of its products will soon find that its customers are not. At MegaCorp, meeting or exceeding customer expectations is our goal.

Which of the following must be true on the basis of the statements in the advertisement above?

- (A) MegaCorp's competitors will succeed in attracting customers only if those competitors adopt MegaCorp's goal as their own.
- (B) A company that does not correctly anticipate the expectations of its customers is certain to fail in advancing the quality of its products.
- (C) MegaCorp's goal is possible to meet only if continuing advances in product quality are possible.
- (D) If a company becomes satisfied with the quality of its products, then the quality of its products is sure to decline.
- (E) MegaCorp's customers are currently satisfied with the quality of its products.

Argument Construction

Situation An advertisement for MegaCorp observes that every advance in quality raises customer expectations; it is not enough for a company to be satisfied with current quality.

Reasoning *What can be inferred from the assertions in the advertisement?* The advertisement tells us that meeting or exceeding customer expectations is MegaCorp's goal. Since advances in quality are said to increase expectations, meeting expectations implies a need to make further advances. This in turn implies that MegaCorp can meet its goal only if a continually increasing level of product quality is possible.

- A This is not well supported. MegaCorp's competitors could attract customers by having a different or more ambitious goal than MegaCorp's—for example, always exceeding customer expectations.
- B This is not well supported. The passage leaves open the possibility that a company that advances the quality of its products would still fail to meet the expectations of its customers.
- C **Correct.** Given the information in the passage, MegaCorp's goal could not be achieved unless increasing customer expectations could be fulfilled through increasing advances in product quality.
- D While the ad implies that a company should not be satisfied with current quality, it does not go so far as to say that such an attitude causes quality to decline.
- E This is probably true if MegaCorp is meeting its stated goal—but the passage does not tell us that the goal is being met.

The correct answer is C.

34. Which of the following most logically completes the argument?

Ferber's syndrome, a viral disease that frequently affects cattle, is transmitted to these animals through infected feed. Even though chickens commercially raised for meat are often fed the type of feed identified as the source of infection in cattle, Ferber's syndrome is only rarely observed in chickens. This fact, however, does not indicate that most chickens are immune to the virus that causes Ferber's syndrome, since _____.

- (A) chickens and cattle are not the only kinds of farm animal that are typically fed the type of feed liable to be contaminated with the virus that causes Ferber's syndrome
- (B) Ferber's syndrome has been found in animals that have not been fed the type of feed liable to be contaminated with the virus that can cause the disease
- (C) resistance to some infectious organisms such as the virus that causes Ferber's syndrome can be acquired by exposure to a closely related infectious organism
- (D) chickens and cattle take more than a year to show symptoms of Ferber's syndrome, and chickens commercially raised for meat, unlike cattle, are generally brought to market during the first year of life
- (E) the type of feed liable to be infected with the virus that causes Ferber's syndrome generally constitutes a larger proportion of the diet of commercially raised chickens than of commercially raised cattle

Argument Construction

Situation Certain feed given to cows and to chickens commercially raised for meat is infected with the virus that causes Ferber's syndrome. Cows are frequently affected by this disease, while it is rarely observed in chickens. But (for a reason the argument omits) this does not suggest that chickens are immune to the virus.

Reasoning *What point would most logically complete the argument?* How could it be the case that chickens are infected, yet Ferber's syndrome is only rarely observed in them? The important point here is that Ferber's syndrome is not *observed* in chickens. A disease is usually observed to be present on the basis of its symptoms. Those symptoms might not be present, or might not *yet* be present, in chickens that are infected with the virus. If the chickens were used for meat before they began showing symptoms, then they would not be observed to have Ferber's syndrome, but this would not indicate that they were immune to the virus.

- A That other animals are fed the potentially contaminated feed is not relevant to the question of whether chickens are immune to the virus.
- B The idea that there could be a source of the virus other than contaminated feed does not have any bearing on whether chickens are immune to the virus.
- C The idea that there is a way for animals to acquire a resistance to the virus that causes Ferber's syndrome suggests that some animals, possibly chickens, might be immune to the virus. This is the opposite of what the argument is trying to establish.
- D **Correct.** This statement properly identifies a point that logically completes the argument: It provides a reason why infected chickens would fail to show symptoms of Ferber's syndrome.
- E If chickens' diets contain proportionally more of the potentially infected feed than cattle's diets do, it is even more surprising that Ferber's syndrome is not observed in chickens—far from providing a reason not to conclude that chickens are immune to the virus; this makes it seem even more likely that they are immune.

The correct answer is D.

35. Last year the rate of inflation was 1.2 percent, but for the current year it has been 4 percent. We can conclude that inflation is on an upward trend and the rate will be still higher next year.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The inflation figures were computed on the basis of a representative sample of economic data rather than all of the available data.
- (B) Last year a dip in oil prices brought inflation temporarily below its recent stable annual level of 4 percent.
- (C) Increases in the pay of some workers are tied to the level of inflation, and at an inflation rate of 4 percent or above, these pay raises constitute a force causing further inflation.
- (D) The 1.2 percent rate of inflation last year represented a 10-year low.
- (E) Government intervention cannot affect the rate of inflation to any significant degree.

Argument Evaluation

Situation The rate of inflation was 1.2 percent last year but is 4 percent in the current year. It is therefore expected to rise above 4 percent next year.

Reasoning *What point most weakens this conclusion?* The conclusion is based on an *upward trend* that is derived from data for two years. Data from only two years provide rather weak evidence of a *trend*. Additional evidence that provides a context for the annual inflation rates during the most recent two-year period will promote a more solid evaluation of this prediction of next year's inflation rate. If inflation has recently been *stable* at 4 percent, and the temporary drop the previous year is accounted for by lower oil prices, then the basis for the prediction seems quite weak.

- A As long as the sample was representative, the figures should be accurate. This point does not weaken the conclusion.
- B Correct.** This statement suggests that the 1.2 percent inflation rate is an unusual occurrence in recent years. Especially because the dip below the stable 4 percent rate was *temporary*, this unusual occurrence cannot be used as the basis for predicting a trend.
- C This statement explains one process by which inflation increases and tends to support the conclusion that inflation will continue to rise.
- D This information implies, for example, that two years ago, the inflation rate was higher than 1.2 percent. This raises the possibility (without stating it) that last year and the year preceding mark a trend of declining inflation (and that the current year's 4 percent is an aberration). However, if the inflation rate two years ago was only slightly higher than 1.2 percent (for example, 1.25 percent), then it would be difficult to regard these two numbers as signaling a trend of declining inflation. We do not have enough information here to regard this as a significant weakener. The information is sufficient to justify a little doubt about the argument's conclusion—but not at all specific enough to undermine the argument's conclusion as much as does (B).
- E The failure of government intervention to affect the rate of inflation could be seen to support, not weaken, the conclusion.

The correct answer is B.

36. Offshore oil-drilling operations entail an unavoidable risk of an oil spill, but importing oil on tankers presently entails an even greater such risk per barrel of oil. Therefore, if we are to reduce the risk of an oil spill without curtailing our use of oil, we must invest more in offshore operations and import less oil on tankers.

Which of the following, if true, most seriously weakens the argument above?

- (A) Tankers can easily be redesigned so that their use entails less risk of an oil spill.
- (B) Oil spills caused by tankers have generally been more serious than those caused by offshore operations.
- (C) The impact of offshore operations on the environment can be controlled by careful management.
- (D) Offshore operations usually damage the ocean floor, but tankers rarely cause such damage.
- (E) Importing oil on tankers is currently less expensive than drilling for it offshore.

Argument Evaluation

Situation Currently, the risk of an oil spill is greater from oil tankers than it is from offshore oil drilling. In order to reduce the risk of an oil spill, we should expand offshore operations and import less oil on tankers.

Reasoning *What point most weakens this argument?* The argument is based on the current situation, but present conditions need not continue in the future if they can be improved. What if oil tankers can be redesigned so that they pose less of a risk of an oil spill? If it were so, then adding that information would weaken the argument. The lowered risk of oil spills resulting from improved oil tanker design could make tankers less problematic than offshore operations.

- A **Correct.** The addition of this information to the argument would weaken the argument more than would the information in any of the other options.
- B The more serious nature of the oil spills caused by tankers strengthens the argument.
- C Careful management controlling the environmental impact of offshore operations supports the argument rather than weakens it.
- D While offshore operations may cause other environmental damage, this point is not relevant to the argument, which concerns just oil spills.
- E Importing oil on tankers may be an attractive economic alternative, but because this point is unrelated to oil spills, it does not weaken the argument.

The correct answer is A.

37. Thyrian lawmaker: Thyria's Cheese Importation Board inspects all cheese shipments to Thyria and rejects shipments not meeting specified standards. Yet only 1 percent is ever rejected. Therefore, since the health consequences and associated economic costs of not rejecting that 1 percent are negligible, whereas the board's operating costs are considerable, for economic reasons alone the board should be disbanded.

Consultant: I disagree. The threat of having their shipments rejected deters many cheese exporters from shipping substandard product.

The consultant responds to the lawmaker's argument by

- (A) rejecting the lawmaker's argument while proposing that the standards according to which the board inspects imported cheese should be raised
- (B) providing evidence that the lawmaker's argument has significantly overestimated the cost of maintaining the board
- (C) objecting to the lawmaker's introducing into the discussion factors that are not strictly economic
- (D) pointing out a benefit of maintaining the board, which the lawmaker's argument has failed to consider
- (E) shifting the discussion from the argument at hand to an attack on the integrity of the cheese inspectors

Argument Construction

Situation The Thyrian lawmaker argues that the Cheese Importation Board should be disbanded, because its operating costs are high and it rejects only a small percentage of the cheese it inspects. The consultant disagrees, pointing out that the board's inspections deter those who export cheese to Thyria from shipping substandard cheese.

Reasoning *What strategy does the consultant use in the counterargument?* The consultant indicates to the lawmaker that there is a reason to retain the board that the lawmaker has not considered. The benefit the board provides is not that it identifies a great deal of substandard cheese and rejects it (thus keeping the public healthy), but that the possibility that their cheese could be found substandard is what keeps exporters from attempting to export low-quality cheese to Thyria.

- A The consultant does reject the lawmaker's argument, but the consultant does not propose higher standards. Indeed, in suggesting that the board should be retained, the consultant implies that the board's standards are appropriate.
- B The consultant does not provide any evidence related to the board's cost.
- C The only point the lawmaker raises that is not strictly economic is about the health consequences of disbanding the board, but the consultant does not address this point at all.
- D **Correct.** This statement properly identifies the strategy the consultant employs in his or her counterargument. The consultant points out that the board provides a significant benefit that the lawmaker did not consider.
- E The consultant does not attack the integrity of the cheese inspectors; to the contrary, the consultant says that their inspections deter the cheese exporters from shipping substandard cheese.

The correct answer is D.

38. Which of the following best completes the passage below?

The computer industry's estimate that it loses millions of dollars when users illegally copy programs without paying for them is greatly exaggerated. Most of the illegal copying is done by people with no serious interest in the programs. Thus, the loss to the industry is quite small, because _____.

- (A) many users who illegally copy programs never find any use for them
- (B) most people who illegally copy programs would not purchase them even if purchasing them were the only way to obtain them
- (C) even if the computer industry received all the revenue it claims to be losing, it would still be experiencing financial difficulties
- (D) the total market value of all illegal copies is low in comparison to the total revenue of the computer industry
- (E) the number of programs that are frequently copied illegally is low in comparison to the number of programs available for sale

Argument Construction

Situation The computer industry's estimate of its losses due to illegally copied programs is exaggerated—and actually quite small—because most of the illegal copying is done by people who are not greatly interested in the programs.

Reasoning *Why would the loss to the industry be said to be small?* The industry's loss due to illegal copying of programs must be evaluated in terms of the sales lost; the actual loss to the industry is directly related to the legitimate sales opportunities that have been lost. Would the people illegally copying the programs buy them if they could not otherwise obtain them? If it were true that most of them have *no serious interest in the programs*, they would be unlikely to purchase them. In this case, few sales would be lost and the loss to the industry could be considered small.

- A What users do (or do not do) with programs once they have them does not help to show that the loss to the industry is small.
- B **Correct.** This information provides a reason supporting the claim that the industry has not lost potential sales.
- C The greater financial difficulties of the industry do not help to show that the loss incurred because of the illegally copied programs is small.
- D This comparison is faulty: The loss is not being considered in the context of total industry revenues but in the context of total sales of programs.
- E This information does not provide a good reason for the claim that the loss to the industry is small. Even if the number of programs frequently copied is low, the number of copies made from each program might be huge (for the most popular programs).

The correct answer is B.

39. The growing popularity of computer-based activities was widely expected to result in a decline in television viewing, since it had been assumed that people lack sufficient free time to maintain current television-viewing levels while spending increasing amounts of free time on the computer. That assumption, however, is evidently false: In a recent mail survey concerning media use, a very large majority of respondents who report increasing time spent per week using computers report no change in time spent watching television.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether a large majority of the survey respondents reported watching television regularly
- (B) Whether the amount of time spent watching television is declining among people who report that they rarely or never use computers
- (C) Whether the type of television programs a person watches tends to change as the amount of time spent per week using computers increases
- (D) Whether a large majority of the computer owners in the survey reported spending increasing amounts of time per week using computers
- (E) Whether the survey respondents' reports of time spent using computers included time spent using computers at work

Argument Evaluation

Situation The argument is intended to debunk the assumption that people lack sufficient free time to maintain television-viewing levels while spending increasing amounts of free time on the computer. To do so, it cites a survey of media use in which a large majority of respondents who spend increasing amounts of time using computers also claim to have not altered the amount of time they spend watching television.

Reasoning *What would it be most useful to know in order to evaluate the argument?* The argument uses the survey results to claim that people have enough free time to both maintain their television viewing levels and spend increasing amounts of free time on the computer. But the survey, as reported here, did not address whether people are spending their *free time* on the computer; the respondents reported increasing *time* spent per week using computers. Since the argument is about free time, it is important to know whether this is actually what the respondents were reporting.

- A The argument is concerned with the *change* in the amount of television watched by those whose computer use increased, so whether the survey's respondents reported watching television regularly is irrelevant.
- B The argument is concerned with the change in the amount of television watched by those whose computer use has increased, so it does not matter whether the amount of time spent watching television among people who do not use computers is declining, remaining the same, or increasing.
- C The argument is concerned with the *amount* of television watched by those whose computer use has increased, not the type of television programs such a person does or does not watch.
- D The argument here is concerned with people who report spending increasing amounts of time on the computer; what computer owners do is a separate question.
- E **Correct.** This statement properly identifies something that would be useful to know in evaluating the argument: whether the survey data included time spent using computers at work—if it did, this would make the data misleading as evidence for the argument's conclusion.

The correct answer is E.

40. In the last decade there has been a significant decrease in coffee consumption. During this same time, there has been increasing publicity about the adverse long-term effects on health of the caffeine in coffee. Therefore, the decrease in coffee consumption must have been caused by consumers' awareness of the harmful effects of caffeine.

Which of the following, if true, most seriously calls into question the explanation above?

- (A) On average, people consume 30 percent less coffee today than they did 10 years ago.
- (B) Heavy coffee drinkers may have mild withdrawal symptoms, such as headaches, for a day or so after significantly decreasing their coffee consumption.
- (C) Sales of specialty types of coffee have held steady as sales of regular brands have declined.
- (D) The consumption of fruit juices and caffeine-free herbal teas has increased over the past decade.
- (E) Coffee prices increased steadily in the past decade because of unusually severe frosts in coffee-growing nations.

Argument Evaluation

Situation The decrease in coffee consumption in the last decade can be explained by consumers' increased awareness of the detrimental effects of the caffeine in coffee.

Reasoning *What point weakens this explanation?* A conclusion offering an explanation for some occurrence may be weakened when another explanation at least as compelling as the original is offered. Coffee consumption may have decreased over the decade for some reason other than consumers' awareness of the adverse health effects of caffeine. If the price of coffee has increased in the same period that consumption has decreased, then the decrease may well be the result of consumers' attention to price rather than their attention to health. Higher prices would offer a good alternative explanation that would weaken the original explanation.

- A This point merely tells us how much coffee consumption has decreased; it does not make the explanation offered in the conclusion any less likely to be correct.
- B Withdrawal symptoms would occur only after decreased consumption has occurred and so cannot explain why the decrease occurred.
- C Suppose that the specialty coffees that had their sales hold steady were all caffeine-free coffees; note that nothing rules this out. If this were the case, the explanation would remain plausible.
- D An increase in the consumption of these drinks could plausibly be the result of some coffee drinkers switching to these drinks to avoid the negative effects of caffeine.
- E **Correct.** This statement properly identifies a plausible alternative explanation and therefore undermines the given explanation.

The correct answer is E.

41. Which of the following best completes the passage below?

When the products of several competing suppliers are perceived by consumers to be essentially the same, classical economics predicts that price competition will reduce prices to the same minimal levels and all suppliers' profits to the same minimal levels. Therefore, if classical economics is true, and given suppliers' desire to make as much profit as possible, it should be expected that _____.

- (A) in a crowded market widely differing prices will be charged for products that are essentially the same as each other
- (B) as a market becomes less crowded as suppliers leave, the profits of the remaining suppliers will tend to decrease
- (C) each supplier in a crowded market will try to convince consumers that its product differs significantly from its competitors' products.
- (D) when consumers are unable to distinguish the products in a crowded market, consumers will judge that the higher-priced products are of higher quality
- (E) suppliers in crowded markets will have more incentive to reduce prices and thus increase sales than to introduce innovations that would distinguish their product from their competitors' products

Argument Construction

Situation Classical economics holds that prices and profits are minimal when consumers perceive the products of competing suppliers to be the same.

Reasoning *According to classical economics, what strategy are suppliers most likely to use to maximize profits in such a situation?* The given information states that the force driving prices and profits down in this case is the consumers' perception that the competing products are *essentially the same*. It is reasonable to assume that, with prices already at *minimal levels*, it is not possible to lower them any more. What can be done? The suppliers' most likely strategy would then be to change the consumers' perception of their products. It can be expected that an individual supplier would try to convince consumers that its product greatly differs from (and is certainly preferable to) the products of its competitors.

- A According to classical economics, *prices* will be reduced by competition *to the same minimal levels* as long as the products *are perceived by consumers to be essentially the same*, and nothing indicates that they will not be; therefore there is no reason to believe that prices will differ widely.
- B The passage discusses the conditions of a crowded market, not a market that is becoming less crowded.
- C **Correct.** This statement properly suggests that the most likely strategy for any one supplier in a crowded market is convincing consumers that its product is very different from those of its competitors.
- D According to classical economics, *prices* will be reduced *to the same minimal levels* when consumers are unable to distinguish among the products; therefore none of the products will be priced higher than any others.
- E The passage gives no indication of what classical economics says about the attractiveness to suppliers of reducing prices versus introducing innovations.

The correct answer is C.

42. Crowding on Mooreville's subway frequently leads to delays, because it is difficult for passengers to exit from the trains. Subway ridership is projected to increase by 20 percent over the next 10 years. The Mooreville Transit Authority plans to increase the number of daily train trips by only 5 percent over the same period. Officials predict that this increase is sufficient to ensure that the incidence of delays due to crowding does not increase.

Which of the following, if true, provides the strongest grounds for the officials' prediction?

- (A) By changing maintenance schedules, the Transit Authority can achieve the 5 percent increase in train trips without purchasing any new subway cars.
- (B) The Transit Authority also plans a 5 percent increase in the number of bus trips on routes that connect to subways.
- (C) For most commuters who use the subway system, there is no practical alternative public transportation available.
- (D) Most of the projected increase in ridership is expected to occur in off-peak hours when trains are now sparsely used.
- (E) The 5 percent increase in the number of train trips can be achieved without an equal increase in Transit Authority operational costs.

Argument Construction

Situation Ridership on the Mooreville subway, which often experiences delays due to crowding, is expected to increase 20 percent over the next 10 years. Despite plans to increase the number of daily trains only 5 percent during those 10 years, officials predict that delays due to crowding will not increase.

Reasoning *What would provide the strongest grounds for the officials' prediction that delays due to crowding will not increase?* Delays due to crowding probably would increase if the extra 20 percent total ridership occurred at typically busy times, even if the total 5 percent increase in the number of daily trains were to occur at those typically busy times. The increases in daily trains would clearly not be enough to absorb the extra ridership. If the increase in ridership were to occur at other times of day, however, perhaps when the subway trains were less crowded overall, the system would be able to absorb the extra passengers without an increase in delays due to crowding.

- A While this supports the idea that the Transit Authority can economically increase the number of train trips, it provides no information about whether the trains will be crowded.
- B Increasing the number of bus trips on routes that connect to subways would be likely to lead to more people to ride the subways. This makes it less likely that the officials' prediction—that delays due to overcrowding will not increase—will turn out to have been accurate.
- C This suggests that subway ridership will remain high, and thus that delays caused by overcrowding will continue.
- D **Correct.** This statement properly identifies a situation in which the officials' prediction is likely to turn out to have been accurate. The ridership will be increasing during times when more passengers will not create delays, since they will merely fill empty seats on existing trains.
- E While this supports the idea that the Transit Authority can economically increase the number of train trips, it provides no information about whether the trains will be crowded.

The correct answer is D.

43. Installing scrubbers in smokestacks and switching to cleaner-burning fuel are the two methods available to Northern Power for reducing harmful emissions from its plants. Scrubbers will reduce harmful emissions more than cleaner-burning fuels will. Therefore, by installing scrubbers, Northern Power will be doing the most that can be done to reduce harmful emissions from its plants.

Which of the following is an assumption on which the argument depends?

- (A) Switching to cleaner-burning fuel will not be more expensive than installing scrubbers.
- (B) Northern Power can choose from among various kinds of scrubbers, some of which are more effective than others.
- (C) Northern Power is not necessarily committed to reducing harmful emissions from its plants.
- (D) Harmful emissions from Northern Power's plants cannot be reduced more by using both methods together than by the installation of scrubbers alone.
- (E) Aside from harmful emissions from the smokestacks of its plants, the activities of Northern Power do not cause significant air pollution.

Argument Construction

Situation A power plant can reduce emissions by installing scrubbers and also by switching to cleaner-burning fuel; installing scrubbers reduces emissions more than switching fuels. By installing scrubbers, the company is doing the most that it can do.

Reasoning *What assumption does the argument depend on?* The assumption will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. Here, the conclusion that the company is doing the most that it can do is based on believing that choosing one or the other of the two options will be more effective than choosing both options together. This argument assumes, then, that installing the scrubbers alone is just as effective as both installing scrubbers *and* switching to cleaner-burning fuel.

- A The relative costs of the two options indicate nothing about whether by installing scrubbers the company will have done the most that it can to reduce harmful emissions.
- B Even if the company installs the most efficient scrubbers, it may be that there is more that Northern Power could do to reduce harmful emissions.
- C Even if the company is fully committed to reducing harmful emissions, it could be that installing scrubbers is the most it can do to reduce harmful emissions.
- D **Correct.** If harmful emissions could be reduced even more by using both methods, then installing scrubbers alone will not be the most that the company can do to reduce harmful emissions.
- E Even if this were not assumed and the company's other activities did cause significant air pollution, it could still be that installing scrubbers is the most that the company can do to reduce harmful emissions *from its plants*; perhaps any of its other activities that do cause significant air pollution have nothing to do with its plants—for example, pollution coming from trucks the company uses.

The correct answer is D.

44. Trancorp currently transports all its goods to Burland Island by truck. The only bridge over the channel separating Burland from the mainland is congested, and trucks typically spend hours in traffic. Trains can reach the channel more quickly than trucks, and freight cars can be transported to Burland by barges that typically cross the channel in an hour. Therefore, to reduce shipping time, Trancorp plans to switch to trains and barges to transport goods to Burland.

Which of the following would be most important to know in determining whether Trancorp's plan, if implemented, is likely to achieve its goal?

- (A) Whether transportation by train and barge would be substantially less expensive than transportation by truck
- (B) Whether there are boats that can make the trip between the mainland and Burland faster than barges can
- (C) Whether loading the freight cars onto barges is very time consuming
- (D) Whether the average number of vehicles traveling over the bridge into Burland has been relatively constant in recent years
- (E) Whether most trucks transporting goods into Burland return to the mainland empty

Evaluation of a Plan

Situation Transporting goods to Burland Island by truck takes many hours, because the trucks must take the congested single bridge that reaches the island. Trains can get goods to the channel separating Burland from the mainland more quickly than trucks can, and the freight cars can then be loaded onto barges that can cross the channel in an hour. Trancorp plans to reduce shipping time by switching from trucks to trains and barges.

Reasoning *What would it be most important to know in determining whether Trancorp will achieve its goal of reducing shipping time?* Trancorp's plan could fail to reduce shipping time if there were some aspect of the new shipping process, involving the trains and the barges, that took more time than anticipated.

- A The goal of Trancorp's plan is to reduce shipping time. This might lower costs—but whether or not it does so is not directly relevant to whether or not the plan's goal is achieved.
- B Trancorp's plan involves the use of barges. If some boats can make the trip between the mainland and Burland faster than barges can, that might be something to consider for the future, but it has nothing to do with whether the current plan will reduce shipping time.
- C **Correct.** This statement properly identifies something that would be important in determining whether Trancorp's plan for reducing shipping time will achieve its goal—that is, whether loading the freight cars onto the barges will use up all the time saved by not using trucks.
- D Regardless of variation in traffic, the bridge, according to the information provided in the passage, is congested and typically causes trucking delays. Given this information, the degree of variation is not helpful in evaluating Trancorp's plan.
- E The state of the trucks returning to the mainland has nothing to do with whether Trancorp's plan for reducing shipping time will achieve its goal.

The correct answer is C.

45. Some anthropologists study modern-day societies of foragers in an effort to learn about our ancient ancestors who were also foragers. A flaw in this strategy is that forager societies are extremely varied. Indeed, any forager society with which anthropologists are familiar has had considerable contact with modern, non-forager societies.

Which of the following, if true, would most weaken the criticism made above of the anthropologists' strategy?

- (A) All forager societies throughout history have had a number of important features in common that are absent from other types of societies.
- (B) Most ancient forager societies either dissolved or made a transition to another way of life.
- (C) All anthropologists study one kind or another of modern-day society.
- (D) Many anthropologists who study modern-day forager societies do not draw inferences about ancient societies on the basis of their studies.
- (E) Even those modern-day forager societies that have not had significant contact with modern societies are importantly different from ancient forager societies.

Argument Evaluation

Situation Studying contemporary foraging societies in order to understand ancient foragers is flawed because forager societies are so widely varied and also because the contemporary foragers have had so much contact with modern societies.

Reasoning *Which point weakens this argument?* The argument rejects the comparison of modern-day foraging societies to ancient ones because of the variety of existing forager societies and because the modern-day foragers have been in contact with other modern cultures. What situation would support making this comparison? What if modern-day foragers remain similar to ancient foragers because of nonchanging features of foraging societies throughout history? If these are features that are not shared with other cultures, then the argument that anthropologists cannot learn about ancient foragers by studying their modern counterparts is weakened.

- A** **Correct.** This statement properly identifies the factor that weakens the argument: A comparison could well be a valuable source of understanding if all foraging societies are shown to share certain features not found in other societies.
- B** This point slightly strengthens, rather than weakens, the argument.
- C** This point does not address the issue of comparing a modern society to an ancient society.
- D** The reason for this could be that these anthropologists know that such a comparison is not useful; thus this point does not weaken the argument.
- E** This point strengthens, rather than weakens, the argument.

The correct answer is A.

46. Contrary to earlier predictions, demand for sugarcane has not increased in recent years. Yet, even though prices and production amounts have also been stable during the last three years, sugarcane growers last year increased their profits by more than 10 percent over the previous year's level.

Any of the following statements, if true about last year, helps to explain the rise in profits EXCEPT:

- (A) Many countries that are large consumers of sugarcane increased their production of sugarcane-based ethanol, yet their overall consumption of sugarcane decreased.
- (B) Sugarcane growers have saved money on wages by switching from paying laborers an hourly wage to paying them by the amount harvested.
- (C) The price of oil, the major energy source used by sugarcane growers in harvesting their crops, dropped by over 20 percent.
- (D) Many small sugarcane growers joined together to form an association of sugarcane producers and began to buy supplies at low group rates.
- (E) Rainfall in sugarcane-growing regions was higher than it had been during the previous year, allowing the growers to save money on expensive artificial irrigation.

Argument Construction

Situation Even though demand for sugar cane has not increased, and although prices and production amounts have been stable, sugarcane growers experienced a 10 percent rise in profits last year.

Reasoning *Which piece of information does NOT help to explain the rise in profits?* All the answer choices will show a reason that profits rose except one. Consider each one to determine which situation would NOT be likely to contribute to increased profits. Any changes that lowered costs for the sugarcane growers WOULD be able to contribute to a rise in their profits. On the other hand, if it is true that many historically large consumers of sugarcane reduced their overall consumption last year, then the lower demand for sugarcane would be unlikely to drive increases in profits. Such a decrease in total consumption would be more likely to drive prices and profits down than up.

- A Correct.** This statement properly identifies a factor that does not explain a rise in profits; it indicates a drop in consumption among certain countries without indicating a corresponding increase in consumption elsewhere or any decreases in costs for growers.
- B** Saving money on wages would lower costs and thus contribute to a rise in profits.
- C** Saving money on oil would lower costs and thus contribute to a rise in profits.
- D** Saving money on supplies bought at a lower rate would lower costs and thus contribute to a rise in profits.
- E** Saving money on irrigation would lower costs and thus contribute to a rise in profits.

The correct answer is A.

47. Which of the following most logically completes the argument below?

Davison River farmers are currently deciding between planting winter wheat this fall or spring wheat next spring. Winter wheat and spring wheat are usually about equally profitable. Because of new government restrictions on the use of Davison River water for irrigation, per acre yields for winter wheat, though not for spring wheat, would be much lower than average. Therefore, planting spring wheat will be more profitable than planting winter wheat, since _____.

- (A) the smaller-than-average size of a winter wheat harvest this year would not be compensated for by higher winter wheat prices
- (B) new crops of spring wheat must be planted earlier than the time at which standing crops of winter wheat are ready to be harvested
- (C) the spring wheat that farmers in the Davison River region plant is well adapted to the soil of the region
- (D) spring wheat has uses that are different from those of winter wheat
- (E) planting spring wheat is more profitable than planting certain other crops, such as rye

Argument Construction

Situation Farmers in the Davison River region must choose between planting winter wheat in the fall and planting spring wheat next spring. The crops tend to be equally profitable. This year's winter wheat crop yield is likely to be lower than average. The spring wheat yield should not be lower than average. Thus, for these reasons (plus one that the argument omits), spring wheat will be more profitable than winter wheat.

Reasoning *Which point would logically complete the argument?* What would ensure spring wheat's profitability over winter wheat? Since the yield per acre of winter wheat is likely to be lower than usual, there will most likely be less winter wheat to sell. Winter wheat could match its usual profitability if the price farmers receive for it were to rise. If its price does not rise, however, it is unlikely to match its usual profitability. It would thus be unlikely to match spring wheat's profitability.

- A Correct.** If this is true, it would mean that smaller-than-average winter wheat yields would translate into lower-than-usual profits on winter wheat (while spring wheat would be as profitable as winter wheat would normally be). This would justify the conclusion that spring wheat will be more profitable than winter wheat.
- B** This provides support for the idea that farmers must choose between planting winter wheat and planting spring wheat, but it does not help determine which would be more profitable to plant.
- C** This does not help explain why spring wheat is likely to be more profitable than winter wheat, because it gives no information about how well winter wheat is adapted to the soil of the region.
- D** That spring wheat and winter wheat have different uses is not helpful in supporting a conclusion about which kind of wheat will be more profitable. It might help to know which of their uses are more profitable than others.
- E** Since the question is whether it will be more profitable to plant winter wheat or to plant spring wheat, the fact that spring wheat is more profitable than nonwheat crops is not relevant.

The correct answer is A.

48. If the county continues to collect residential trash at current levels, landfills will soon be overflowing and parkland will need to be used in order to create more space. Charging each household a fee for each pound of trash it puts out for collection will induce residents to reduce the amount of trash they create; this charge will therefore protect the remaining county parkland.

Which of the following is an assumption made in drawing the conclusion above?

- (A) Residents will reduce the amount of trash they put out for collection by reducing the number of products they buy.
- (B) The collection fee will not significantly affect the purchasing power of most residents, even if their households do not reduce the amount of trash they put out.
- (C) The collection fee will not induce residents to dump their trash in the parklands illegally.
- (D) The beauty of county parkland is an important issue for most of the county's residents.
- (E) Landfills outside the county's borders could be used as dumping sites for the county's trash.

Argument Construction

Situation Landfills will overflow and parkland will have to be used instead if current trash collection levels continue. Charging fees per pound of trash collected will inhibit trash growth and protect parkland.

Reasoning *What assumption underlies the conclusion?* The assumption will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. To reach the conclusion that the plan will protect the parkland, the argument must assume that county residents will comply with the new fee, reducing both the trash they generate and the need to convert parkland to landfills. It is assumed that residents will not resort to some illegal means of avoiding the new fee, and it is certainly assumed that they will not contribute to the destruction of parklands by dumping trash in them illegally.

- A Even though the fee may indirectly have this effect, the argument need not assume that it will; perhaps residents will continue to buy as much, but will make longer use of the product, or recycle it.
- B The argument would be stronger if this were assumed NOT to be true.
- C **Correct.** This statement properly identifies the fact that the argument rests on the assumption that the fee will not create illegal dumping.
- D The argument need not assume this, and nothing in the argument indicates that it does. Financial incentives could be enough to make the desired outcome happen even if residents are indifferent to the parkland's beauty.
- E The argument assumes that residents will reduce the amount of trash that they create, not that they will find other places to dispose of it.

The correct answer is C.

49. Certain genetically modified strains of maize produce a powerful natural insecticide. The insecticide occurs throughout the plant, including its pollen. Maize pollen is dispersed by the wind and frequently blows onto milkweed plants that grow near maize fields. Caterpillars of monarch butterflies feed exclusively on milkweed leaves. When these caterpillars are fed milkweed leaves dusted with pollen from modified maize plants, they die. Therefore, by using genetically modified maize, farmers put monarch butterflies at risk.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether the natural insecticide is as effective against maize-eating insects as commercial insecticides typically used on maize are
- (B) Whether the pollen of genetically modified maize contains as much insecticide as other parts of these plants
- (C) Whether monarch butterfly caterpillars are actively feeding during the part of the growing season when maize is releasing pollen
- (D) Whether insects that feed on genetically modified maize plants are likely to be killed by insecticide from the plant's pollen
- (E) Whether any maize-eating insects compete with monarch caterpillars for the leaves of milkweed plants growing near maize fields

Argument Evaluation

Situation Monarch butterfly caterpillars die when fed milkweed leaves dusted with the pollen of certain genetically modified strains of maize. A natural insecticide occurs throughout the maize plant and in its pollen, which blows onto milkweed growing near maize fields. Caterpillars of monarch butterflies eat only milkweed leaves, so farmers who use this genetically modified maize are endangering monarch butterflies.

Reasoning *What would it be most useful to know in evaluating the argument?* We know that the caterpillars eat only milkweed leaves, but we do not know when, in the course of their development, they do so. Monarch butterflies would be at risk only if the caterpillars were to eat the milkweed leaves when those leaves had maize pollen on them. So it would be useful to know if the caterpillars eat milkweed leaves when maize pollen is likely to be present.

- A The argument addresses whether farmers put monarch butterflies at risk by using genetically modified maize. The effectiveness of the natural insecticide that maize produces, relative to other insecticides, is not relevant to determining whether monarch butterflies are being endangered.
- B The amount of insecticide in the rest of the plant, as opposed to in its pollen, has nothing to do with whether the use of the maize puts monarch butterflies at risk. All that matters is the amount of insecticide in the pollen, and we know that this is sufficient to kill the caterpillars.
- C **Correct.** This question properly identifies something that it would be useful to know in evaluating whether monarch butterflies are actually at risk—that is, whether caterpillars will be eating milkweed leaves when those leaves are likely to have pollen on them.
- D Since the issue at hand is whether farmers are endangering monarch butterflies, the question of the maize pollen's impact on other insects—that is, those that feed on maize—is irrelevant.
- E Competition from maize-eating insects attracted to the area by the planting of maize might affect the monarch butterfly population, but simply knowing that such insects might compete with the caterpillars for milkweed leaves does not give any information on whether they would be able to compete *successfully* for those leaves.

The correct answer is C.

50. Although computers can enhance people's ability to communicate, computer games are a cause of underdeveloped communication skills in children. After-school hours spent playing computer games are hours not spent talking with people. Therefore, children who spend all their spare time playing these games have less experience in interpersonal communication than other children have.

The argument depends on which of the following assumptions?

- (A) Passive activities such as watching television and listening to music do not hinder the development of communication skills in children.
- (B) Most children have other opportunities, in addition to after-school hours, in which they can choose whether to play computer games or to interact with other people.
- (C) Children who do not spend all of their after-school hours playing computer games spend at least some of that time talking with other people.
- (D) Formal instruction contributes little or nothing to children's acquisition of communication skills.
- (E) The mental skills developed through playing computer games do not contribute significantly to children's intellectual development.

Argument Construction

Situation Spending after-school hours playing computer games does not enhance communication skills because children are not talking with other people during this time. Children who spend all their spare time playing computer games do not have as much interpersonal communication as other children do.

Reasoning *What assumption does this argument depend on?* The unstated assumption in an argument will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. Here, playing computer games is said to replace talking with people. Thus the argument assumes that children who do not spend all their spare time playing computer games instead spend at least some of that time talking with people.

- A This need not be assumed. The argument is not committed to any claim about the effects that watching television or listening to music may have on the development of communication skills in children.
- B The argument is limited to after-school hours or spare time.
- C **Correct.** This statement properly identifies the assumption on which the argument is based.
- D This could be false and the argument could still be sound; perhaps children who spend all their spare time playing computer games receive no formal instruction.
- E This could be false and the argument could still be sound as long as the intellectual development the games contribute to does not contribute to the development of communication skills.

The correct answer is C.

51. One variety of partially biodegradable plastic beverage container is manufactured from small bits of plastic bound together by a degradable bonding agent such as cornstarch. Since only the bonding agent degrades, leaving the small bits of plastic, no less plastic refuse per container is produced when such containers are discarded than when comparable nonbiodegradable containers are discarded.

Which of the following, if true, most strengthens the argument above?

- (A) Both partially biodegradable and nonbiodegradable plastic beverage containers can be crushed completely flat by refuse compactors.
- (B) The partially biodegradable plastic beverage containers are made with more plastic than comparable nonbiodegradable ones in order to compensate for the weakening effect of the bonding agents.
- (C) Many consumers are ecology-minded and prefer to buy a product sold in the partially biodegradable plastic beverage containers rather than in nonbiodegradable containers, even if the price is higher.
- (D) The manufacturing process for the partially biodegradable plastic beverage containers results in less plastic waste than the manufacturing process for nonbiodegradable plastic beverage containers.
- (E) Technological problems with recycling currently prevent the reuse as food or beverage containers of the plastic from either type of plastic beverage container.

Argument Evaluation

Situation One kind of partially biodegradable beverage container produces as much plastic refuse per container as a nonbiodegradable container does because only the bonding agent, not the plastic, degrades once the container is discarded.

Reasoning *Which point strengthens the argument?* The information that strengthens the argument will help rule out a possible objection to the argument. In this case, one possible objection would be that the partially biodegradable containers might contain less plastic given that the container is made up in part of the degradable bonding agent. So, discovering that the partially biodegradable containers actually use more plastic than comparable nonbiodegradable ones in order to compensate for the weakness of the biodegradable bonding agent would strengthen the argument.

- A Nonbiodegradable plastic containers can be crushed completely flat. To say that biodegradable ones can be completely crushed also is perfectly compatible with saying that they contain less plastic.
- B Correct.** This statement properly identifies a point that strengthens the argument by saying that the container actually produces more plastic refuse.
- C Consumers' preferences are not relevant to the argument about residual plastic.
- D The argument is not concerned with waste from manufacturing processes, but only with the product itself.
- E No reason is given to indicate that the inability to reuse the plastic from either type of container is related to the amount of plastic in either container.

The correct answer is B.

52. Rye sown in the fall and plowed into the soil in early spring leaves a residue that is highly effective at controlling broad-leaved weeds, but unfortunately for only about forty-five days. No major agricultural crop matures from seed in as little as forty-five days. Synthetic herbicides, on the other hand, although not any longer-lasting, can be reapplied as the crop grows. Clearly, therefore, for major agricultural crops, plowing rye into the soil can play no part in effective weed control.

The argument is most vulnerable to the objection that it fails to

- (A) consider that there might be minor, quick-growing crops that do mature in forty-five days or less
- (B) identify any alternative method of weed control that could be used instead of the method it rejects
- (C) distinguish among the various kinds of synthetic herbicides
- (D) allow for the possibility of combining the two weed-control methods it mentions
- (E) allow for the possibility that plants other than rye, handled the same way, might have the same effect

Argument Evaluation

Situation Broad-leaved weeds can be controlled in the spring for forty-five days by plowing fall-sown rye into the soil. But major agricultural crops take more than forty-five days to mature, and the rye-sowing process cannot be repeated. Synthetic herbicides last no longer than forty-five days, but they can be reapplied as necessary. Based on these facts, it is concluded that plowing rye into the soil cannot be part of effective weed control for major crops.

Reasoning *To what objection is the argument vulnerable?* Note that the conclusion of the argument is emphatic: Plowing rye into the soil can play *no* part in effective weed control. Does the argument support this strong a conclusion? The argument fails to address whether it would be feasible to use plowed-in rye to control weeds for the first forty-five days of crop growth, and use applications of herbicide for the rest of the growing season. This might not be the case, but it should be addressed before it is concluded that plowing rye into the soil *cannot* be part of effective weed control.

- A The argument is concerned with whether plowing rye into the soil can be used in weed control for major crops, so the existence of minor crops for which rye could be used, because its weed-controlling qualities would last throughout their maturation, is irrelevant.
- B The argument *does* identify a method of weed control that can be used instead of rye: synthetic herbicides.
- C That there are many types of synthetic herbicides is not important to the argument; what is important is that at least some of them can be reapplied as crops grow.
- D **Correct.** This statement properly identifies a possibility that the argument fails to consider.
- E The argument is concerned with whether rye can be used to control weeds. That there might be other plants that could have the same effect is not relevant.

The correct answer is D.

53. Most employees in the computer industry move from company to company, changing jobs several times in their careers. However, Summit Computers is known throughout the industry for retaining its employees. Summit credits its success in retaining employees to its informal, nonhierarchical work environment.

Which of the following, if true, most strongly supports Summit's explanation of its success in retaining employees?

- (A) Some people employed in the computer industry change jobs if they become bored with their current projects.
- (B) A hierarchical work environment hinders the cooperative exchange of ideas that computer industry employees consider necessary for their work.
- (C) Many of Summit's senior employees had previously worked at only one other computer company.
- (D) In a nonhierarchical work environment, people avoid behavior that might threaten group harmony and thus avoid discussing with their colleagues any dissatisfaction they might have with their jobs.
- (E) The cost of living near Summit is relatively low compared to areas in which some other computer companies are located.

Argument Evaluation

Situation A computer company attributes its success in retaining employees to its informal, nonhierarchical work environment.

Reasoning *Which point most supports the company's explanation?* The company says that employees stay at the company for one reason: its work environment. The explanation can therefore be supported only by a point that relates to the specific work environment. If employees feel that a more formal, hierarchical structure would interfere with their ability to do their jobs, the argument is strengthened.

- A Neither this point nor the passage indicates that an informal, nonhierarchical work environment would be less boring than others.
- B Correct.** This statement properly identifies a point that strengthens the company's argument, relating the work environment to job satisfaction and therefore to employees' remaining at the company.
- C The previous work experience of senior employees is irrelevant.
- D While this point shows how the work environment might reduce discussion of job dissatisfaction, it does not indicate that there will be less dissatisfaction.
- E This point presents an alternate explanation—employees stay due to low cost of living—and so tends to weaken the company's argument.

The correct answer is B.

54. Journalist: In late 1994, the present government of the Republic of Bellam came into power. Each year since then, about thirty journalists have been imprisoned for printing articles that criticize the government. In 1994, under the old government, only six journalists were imprisoned for criticizing the government. So the old government was more tolerant of criticism by the press than the new one is.

Politician: But in 1994 only six journalists criticized the government, and now journalists routinely do.

The politician challenges the journalist's argument by doing which of the following?

- (A) Presenting data that extend further into the past than the journalist's data
- (B) Introducing evidence that undermines an assumption of the journalist's argument
- (C) Questioning the accuracy of the evidence presented in support of the journalist's conclusion
- (D) Pointing out that the argument illegitimately draws a general conclusion on the basis of a sample of only a few cases
- (E) Stating that the argument treats information about some members of a group as if it applied to all members of that group

Argument Construction

Situation The journalist argues that because more journalists who have printed articles critical of the government have been imprisoned under the new government than under the old government, the old government was more tolerant of criticism. The politician points out that journalists routinely criticize the government now, while under the old government far fewer did so, and all of those who did were imprisoned.

Reasoning *How does the politician challenge the journalist's argument?* The politician brings up a fact that the journalist did not mention: that the six journalists who were imprisoned under the old government were the only journalists who criticized the government. The politician also points out that journalists now routinely criticize the government. The journalist assumes that the number of journalists imprisoned is an indicator of the government's tolerance of criticism, but the politician points to evidence that weakens that assumption.

- A The politician's data extend exactly as far back as the journalist's: to 1994.
- B Correct.** This statement properly identifies the politician's challenge to the journalist's argument. The journalist assumes that the more journalists that are imprisoned annually, the less tolerant the government is. The politician's response suggests that the criterion should be, rather, how frequently journalists criticize the government.
- C The politician does not dispute the numbers of imprisoned journalists cited by the journalist.
- D The politician does not suggest that the journalist is looking at too few cases; rather, the politician suggests that the journalist has misunderstood the significance of the cases cited.
- E Rather than suggesting that the journalist is using specific information too generally, the politician suggests that the journalist is not using the proper specific information—that is, that the six journalists imprisoned under the older government were the only ones who criticized the government.

The correct answer is B.

55. Insurance Company X is considering issuing a new policy to cover services required by elderly people who suffer from diseases that afflict the elderly. Premiums for the policy must be low enough to attract customers. Therefore, Company X is concerned that the income from the policies would not be sufficient to pay for the claims that would be made.

Which of the following strategies would be most likely to minimize Company X's losses on the policies?

- (A) Attracting middle-aged customers unlikely to submit claims for benefits for many years
- (B) Insuring only those individuals who did not suffer any serious diseases as children
- (C) Including a greater number of services in the policy than are included in other policies of lower cost
- (D) Insuring only those individuals who were rejected by other companies for similar policies
- (E) Insuring only those individuals who are wealthy enough to pay for the medical services

Evaluation of a Plan

Situation An insurance company considers an affordable policy for the elderly, but the company's income from the policies must exceed expenditures on claims.

Reasoning *What strategy will minimize the company's losses?* The insurance company's proposed plan would include a high-risk group, the elderly, who are likely to submit claims immediately. By expanding the customer base to include those who are less likely to submit claims for many years, the company will increase its income and thus minimize its losses.

- A Correct.** This statement properly identifies a strategy that minimizes policy losses.
- B** No connection is made between childhood diseases and geriatric diseases, so this point is irrelevant.
- C** Offering more services would tend to increase costs, and thus losses.
- D** Individuals rejected by other companies are more likely to make claims that would increase losses.
- E** People who are wealthy enough to pay for the services themselves would buy insurance only if the policies were reasonably priced and they planned to make claims on the policies; this point is irrelevant.

The correct answer is A.

56. The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than the lawyers who do not advertise. Therefore, if the state removes any of its current restrictions, such as the one against advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

If the statements above are true, which of the following must be true?

- (A) Some lawyers who now advertise will charge more for specific services if they do not have to specify fee arrangements in the advertisements.
- (B) More consumers will use legal services if there are fewer restrictions on the advertising of legal services.
- (C) If the restriction against advertisements that do not specify fee arrangements is removed, more lawyers will advertise their services.
- (D) If more lawyers advertise lower prices for specific services, some lawyers who do not advertise will also charge less than they currently charge for those services.
- (E) If the only restrictions on the advertising of legal services were those that apply to every type of advertising, most lawyers would advertise their services.

Argument Construction

Situation Consumer legal costs will be reduced if the state removes even one restriction on lawyers' advertisements because the fewer the restrictions, the greater the number of lawyers who advertise, and lawyers who advertise charge less than lawyers who do not advertise.

Reasoning *What conclusion can logically be drawn?* The argument sets up an inverse proportion: the fewer the number of restrictions on ads, the greater the number of lawyers who advertise. This is true of all restrictions and all lawyers. Therefore, removing any one restriction necessarily increases the number of lawyers who advertise.

- A The lawyers may charge more, but nothing in the passage rules out the possibility that no lawyer will charge more.
- B No evidence in the passage indicates that there will be an increased use of legal services.
- C **Correct.** This statement properly identifies a conclusion that logically follows, because reducing any restriction will increase the number of lawyers who advertise.
- D Nothing in the passage indicates that lawyers who continue not to advertise will be compelled to lower their fees.
- E The argument concerns numbers of advertisers rather than types; it remains possible that few lawyers would advertise.

The correct answer is C.

57. Which of the following most logically completes the argument given below?

People in isolated rain-forest communities tend to live on a largely vegetarian diet, and they eat little salt. Few of them suffer from high blood pressure, and their blood pressure does not tend to increase with age, as is common in industrialized countries. Such people often do develop high blood pressure when they move to cities and adopt high-salt diets. Though suggestive, these facts do not establish salt as the culprit in high blood pressure, however, because _____.

- (A) genetic factors could account for the lack of increase of blood pressure with age among such people
- (B) people eating high-salt diets and living from birth in cities in industrialized societies generally have a tendency to have high blood pressure
- (C) it is possible to have a low-salt diet while living in a city in an industrialized country
- (D) there are changes in other aspects of diet when such people move to the city
- (E) salt is a necessity for human life, and death can occur when the body loses too much salt

Argument Construction

Situation People in isolated communities who eat low-salt diets tend not to have high blood pressure or to experience age-related increases in blood pressure. When these people move to industrialized areas and adopt high-salt diets, many do develop high blood pressure. Nevertheless, (for a reason the argument omits) one cannot conclude that salt causes high blood pressure.

Reasoning *What idea would logically complete the argument?* It may seem reasonable to say that salt causes high blood pressure when it is observed that when people who eat little salt begin eating salt, they develop high blood pressure. But look more closely at the circumstances under which these people began eating more salt: They moved from isolated rain-forest communities, where they ate vegetarian diets, to cities. It is most likely the case that such a move would entail dietary changes other than just an increase in salt consumption, and so it is possible that those changes contribute to their developing high blood pressure.

- A If genetic factors accounted for such people's lack of increase of blood pressure with age, then their blood pressure would not increase when they moved to cities and adopted high-salt diets.
- B If people who eat high-salt diets tend to have high blood pressure, it would support the idea that salt is indeed the culprit in high blood pressure.
- C The argument is concerned with what happens when people from rain-forest communities move to cities *and adopt high-salt diets*, so the fact that it is possible to have a low-salt diet in a city is not relevant.
- D **Correct.** This statement properly identifies a reason why salt might not be responsible for high blood pressure: There could be some other dietary factor that, when adopted, causes high blood pressure.
- E The argument is concerned with the effects of high-salt diets. The fact that consuming too little salt can cause death says nothing about whether consuming too much salt is harmful.

The correct answer is D.

58. Even though most universities retain the royalties from faculty members' inventions, the faculty members retain the royalties from books and articles they write. Therefore, faculty members should retain the royalties from the educational computer software they develop.

The conclusion above would be more reasonably drawn if which of the following were inserted into the argument as an additional premise?

- (A) Royalties from inventions are higher than royalties from educational software programs.
- (B) Faculty members are more likely to produce educational software programs than inventions.
- (C) Inventions bring more prestige to universities than do books and articles.
- (D) In the experience of most universities, educational software programs are more marketable than are books and articles.
- (E) In terms of the criteria used to award royalties, educational software programs are more nearly comparable to books and articles than to inventions.

Argument Construction

Situation Faculty members get the royalties from their books, but universities get the royalties from faculty inventions. Faculty members should get the royalties from their educational computer software.

Reasoning *What premise should be added to the argument?* This argument does not support its conclusion very well without an underlying assumption regarding the nature of computer programs. If, in terms of the criteria used to award royalties, educational computer programs are more like books and articles than like inventions, faculty members should retain the royalties. On the other hand, if they are more like inventions, then universities should retain the royalties. The conclusion states that faculty members should receive royalties for educational software without stating that software is more comparable to books and articles than to inventions. The missing premise must show the relationship between educational software and either inventions or books and articles.

- A The same may be true of books and articles.
- B This point does not indicate whether educational software is more comparable to inventions or to books and articles.
- C This point could be true even if, with regard to the relevant criteria, educational software is more comparable to inventions than to books and articles.
- D This point does not indicate whether educational software is more comparable to inventions or to books and articles.
- E **Correct.** This statement properly identifies a premise that establishes the relationship required to complete the argument.

The correct answer is E.

59. In order to withstand tidal currents, juvenile horseshoe crabs frequently burrow in the sand. Such burrowing discourages barnacles from clinging to their shells. When fully grown, however, the crabs can readily withstand tidal currents without burrowing, and thus they acquire substantial populations of barnacles. Surprisingly, in areas where tidal currents are very weak, juvenile horseshoe crabs are found not to have significant barnacle populations, even though they seldom burrow.

Which of the following, if true, most helps to explain the surprising finding?

- (A) Tidal currents do not themselves dislodge barnacles from the shells of horseshoe crabs.
- (B) Barnacles most readily attach themselves to horseshoe crabs in areas where tidal currents are weakest.
- (C) The strength of the tidal currents in a given location varies widely over the course of a day.
- (D) A very large barnacle population can significantly decrease the ability of a horseshoe crab to find food.
- (E) Until they are fully grown, horseshoe crabs shed their shells and grow new ones several times a year.

Argument Construction

Situation Juvenile horseshoe crabs withstand tidal currents by burrowing in the sand. This action makes barnacles less likely to cling to their shells. Adult horseshoe crabs can withstand currents, so they do not burrow, and barnacles become more likely to cling to their shells. Surprisingly, however, juvenile horseshoe crabs that do not burrow, because tidal currents do not threaten them, do not have significant numbers of barnacles clinging to their shells.

Reasoning *What would most help explain the finding that nonburrowing juvenile horseshoe crabs do not have significant barnacle populations?* The finding suggests that there is some way in which nonburrowing juvenile horseshoe crabs either discourage barnacles from clinging to their shells, or get rid of the barnacles that do cling to their shells. Identifying how this is accomplished will explain the finding.

- A This gives a reason why juvenile horseshoe crabs that do not burrow *would* have significant barnacle populations.
- B If barnacles in areas of weak tidal currents readily attach themselves to horseshoe crabs, then it would be more likely for juvenile horseshoe crabs in such areas to have significant barnacle populations.
- C The areas under discussion are those where tidal currents are very weak. The strength of currents may vary widely there, but presumably they are still weak compared to other areas.
- D The surprising finding under discussion is why certain juvenile horseshoe crabs do not have significant barnacle populations, despite failing to engage in behavior that dislodges barnacles. That a very large barnacle population can hurt a horseshoe crab does not help explain such a finding.
- E **Correct.** This statement properly identifies something that helps explain the surprising finding: If juvenile horseshoe crabs regularly shed their shells, they also regularly shed the barnacles that cling to those shells. Thus juvenile horseshoe crabs would most likely be found not to have significant barnacle populations.

The correct answer is E.

60. Red blood cells in which the malarial-fever parasite resides are eliminated from a person's body after 120 days. Because the parasite cannot travel to a new generation of red blood cells, any fever that develops in a person more than 120 days after that person has moved to a malaria-free region is not due to the malarial parasite.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The fever caused by the malarial parasite may resemble the fever caused by flu viruses.
- (B) The anopheles mosquito, which is the principal insect carrier of the malarial parasite, has been eradicated in many parts of the world.
- (C) Many malarial symptoms other than the fever, which can be suppressed with antimalarial medication, can reappear within 120 days after the medication is discontinued.
- (D) In some cases, the parasite that causes malarial fever travels to cells of the spleen, which are less frequently eliminated from a person's body than are red blood cells.
- (E) In any region infested with malaria-carrying mosquitoes, there are individuals who appear to be immune to malaria.

Argument Evaluation

Situation The malarial-fever parasite lives in red blood cells, but these cells are eliminated after 120 days. If the infected person moves to a malaria-free region, any new fever that occurs after 120 days cannot be due to the malarial-fever parasite.

Reasoning *What weakens the conclusion?* The passage says that the malarial parasites that reside in red blood cells are eliminated after 120 days. What if malarial parasites can also reside in other places in a person's body? If for instance the parasites can reside in the spleen, from which they are not eliminated as frequently, as well as in red blood cells, they may not be eliminated within 120 days. Therefore, they could cause malarial fever after the 120-day period. In that case, the conclusion ruling out a new generation of malarial parasites as the cause of new fever is unfounded.

- A The issue is not about a similarity of symptoms but about where the parasites reside.
- B The existence of malaria-free regions is not in question.
- C The argument gives no reason to postulate any significant connection between the discontinuation of medication and the issue of whether symptoms can persist after a patient has been in a malaria-free region for 120 days.
- D **Correct.** This statement properly identifies a point that weakens the conclusion.
- E This tells us only that some individuals are immune; it does not help us determine whether those who are not can have symptoms occur more than 120 days after moving into a malaria-free area.

The correct answer is D.

61. Neither a rising standard of living nor balanced trade, by itself, establishes a country's ability to compete in the international marketplace. Both are required simultaneously since standards of living can rise because of growing trade deficits and trade can be balanced by means of a decline in a country's standard of living.

If the facts stated in the passage above are true, a proper test of a country's ability to be competitive is its ability to

- (A) balance its trade while its standard of living rises
- (B) balance its trade while its standard of living falls
- (C) increase trade deficits while its standard of living rises
- (D) decrease trade deficits while its standard of living falls
- (E) keep its standard of living constant while trade deficits rise

Argument Evaluation

Situation A country's ability to compete in the international marketplace depends on both a rising standard of living and balanced trade.

Reasoning *What must a country do to be considered competitive?* The passage states that there are two conditions that must be met simultaneously: The standard of living must rise, and trade must be balanced. While it is possible for the standard of living to rise when trade is not balanced and for trade to be balanced while the standard of living is falling, neither of these situations allows the country to be considered competitive internationally. The country must both balance trade and have a rising standard of living.

- A Correct.** This statement properly identifies the two requirements the country must meet at the same time.
- B** One of the two conditions is not met; the standard of living must be rising, not falling.
- C** One of the two conditions is not met; trade must be balanced.
- D** Neither of the conditions is met; trade must be balanced, and the standard of living must be rising.
- E** Neither of the conditions is met; the standard of living must be rising, not constant, and trade must be balanced.

The correct answer is A.

62. When there is less rainfall than normal, the water level of Australian rivers falls and the rivers flow more slowly. Because algae whose habitat is river water grow best in slow-moving water, the amount of algae per unit of water generally increases when there has been little rain. By contrast, however, following a period of extreme drought, algae levels are low even in very slow-moving river water.

Which of the following, if true, does most to explain the contrast described above?

- (A) During periods of extreme drought, the populations of some of the species that feed on algae tend to fall.
- (B) The more slowly water moves, the more conducive its temperature is to the growth of algae.
- (C) When algae populations reach very high levels, conditions within the river can become toxic for some of the other species that normally live there.
- (D) Australian rivers dry up completely for short intervals in periods of extreme drought.
- (E) Except during periods of extreme drought, algae levels tend to be higher in rivers in which the flow has been controlled by damming than in rivers that flow freely.

Argument Construction

Situation When Australian rivers flow slowly due to little rain, algae populations in those rivers increase. But after periods of extreme drought, algae levels are low even in water moving at speeds that would normally show population increases.

Reasoning *What would explain the contrast between algae levels in slow-moving water resulting from little rain and slow-moving water after a drought?* There must be some difference between what happens during periods in which there is simply less rainfall than normal and periods in which there is extreme drought, a difference that affects the algae population.

- A This indicates one of the consequences of drought, and slightly suggests that this might be due to a lower algae level. But it does nothing to explain why algae levels might be lower after a drought.
- B This could explain why some rivers that are slow-moving and have little water might have a high algae level—but not why the algae level is low in such rivers after a period of drought.
- C This explains why levels of other species might be low when algae populations are high, not why algae populations are high when there is little rain, but low following a period of extreme drought.
- D **Correct.** This statement properly identifies something that helps explain the contrast. According to the information given, the habitat of the algae under discussion is river water. If the river dries up, the algae will probably not survive. Then after the drought, algae population levels would likely take a while to rise again.
- E This emphasizes that there is a contrast between what happens to algae during periods of extreme drought and what happens to them at other times, but it does not help explain that contrast.

The correct answer is D.

63. When hypnotized subjects are told that they are deaf and are then asked whether they can hear the hypnotist, they reply, “No.” Some theorists try to explain this result by arguing that the selves of hypnotized subjects are dissociated into separate parts, and that the part that is deaf is dissociated from the part that replies.

Which of the following challenges indicates the most serious weakness in the attempted explanation described above?

- (A) Why does the part that replies not answer, “Yes”?
- (B) Why are the observed facts in need of any special explanation?
- (C) Why do the subjects appear to accept the hypnotist’s suggestion that they are deaf?
- (D) Why do hypnotized subjects all respond the same way in the situation described?
- (E) Why are the separate parts of the self the same for all subjects?

Argument Evaluation

Situation People under hypnosis are told they are deaf. When asked by the hypnotist if they can hear, they hear the question and respond, “No.” A theory explains this puzzling result by stating that the hypnotized subjects dissociate the part of themselves that is deaf from the part that replies to the question.

Reasoning *Which question points to a weakness in the theory?* According to the theory, hypnotized people dissociate themselves into separate parts: the hearing part and the deaf part. Then, they must be using the hearing part of themselves when they respond to the hypnotist’s question; obviously, if they were using the deaf part of themselves at that point, they would not hear or thus respond at all. So, if they are using the hearing part of themselves, as the theorists maintain, why would they respond “No” to the question, “Can you hear me?” The hearing part would more logically answer “Yes.”

- A Correct.** This statement properly identifies a challenge that demonstrates the weakness in the theory.
- B** This question does not address a weakness in the explanation; instead it asks why there needs to be an explanation at all.
- C** The theorists’ explanation, if true, can help answer this question, so this challenge does not indicate a weakness.
- D** The theorists’ explanation, if true, can help answer this question, so this challenge does not indicate a weakness.
- E** The theorists’ explanation does not address why the parts of the self are the same for all subjects, so this question does not get to a weakness of their argument.

The correct answer is A.

64. A prominent investor who holds a large stake in the Burton Tool Company has recently claimed that **the company is mismanaged**, citing as evidence the company's failure to slow production in response to a recent rise in its inventory of finished products. It is doubtful whether an investor's sniping at management can ever be anything other than counterproductive, **but in this case it is clearly not justified**. It is true that an increased inventory of finished products often indicates that production is outstripping demand, but in Burton's case it indicates no such thing. Rather, the increase in inventory is entirely attributable to products that have already been assigned to orders received from customers.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first states the position that the argument as a whole opposes; the second provides evidence to undermine the support for the position being opposed.
- (B) The first states the position that the argument as a whole opposes; the second is evidence that has been used to support the position being opposed.
- (C) The first states the position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.
- (D) The first is evidence that has been used to support a position that the argument as a whole opposes; the second provides information to undermine the force of that evidence.
- (E) The first is evidence that has been used to support a position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.

Argument Evaluation

Situation An investor states that Burton Tool must be mismanaged because it has failed to slow production in response to increasing inventory of finished products. This criticism is unjustified because the finished inventory has already been assigned to orders received.

Reasoning *Which option identifies the roles played by the boldfaced portions?* The first boldfaced portion expresses the investor's claim that the company is mismanaged. The argument asserts, in the second boldfaced portion, that this claim by the investor is unjustified. The passage then goes on to support this assertion.

- A The second boldfaced portion does not provide evidence to undermine the support for the position being opposed; instead, it states that this position is unjustified.
- B The second boldfaced portion is not said to have been used as evidence for the position being opposed; instead, it states that this position is unjustified.
- C **Correct.** This option correctly identifies the roles played in the argument by the boldfaced portions.
- D The first boldfaced portion is not *evidence for* the position being opposed; it *is* that position.
- E Again, first is not *evidence for* the position being opposed; it *is* that position.

The correct answer is C.

65. Excavation of the ancient city of Kourion on the island of Cyprus revealed a pattern of debris and collapsed buildings typical of towns devastated by earthquakes. Archaeologists have hypothesized that the destruction was due to a major earthquake known to have occurred near the island in A.D. 365.

Which of the following, if true, most strongly supports the archaeologists' hypothesis?

- (A) Bronze ceremonial drinking vessels that are often found in graves dating from years preceding and following A.D. 365 were also found in several graves near Kourion.
- (B) No coins minted after A.D. 365 were found in Kourion, but coins minted before that year were found in abundance.
- (C) Most modern histories of Cyprus mention that an earthquake occurred near the island in A.D. 365.
- (D) Several small statues carved in styles current in Cyprus in the century between A.D. 300 and A.D. 400 were found in Kourion.
- (E) Stone inscriptions in a form of the Greek alphabet that was definitely used in Cyprus after A.D. 365 were found in Kourion.

Argument Evaluation

Situation The excavation of Kourion reveals a pattern of destruction typical in towns destroyed by earthquakes. Archaeologists suggest Kourion was destroyed when an earthquake hit nearby in A.D. 365.

Reasoning *Which statement best supports the archaeologists' hypothesis?* An earthquake struck near Cyprus in A.D. 365; this fact is not disputed. If this earthquake is the one responsible for the devastation of Kourion, then there should be evidence of active occupation before A.D. 365, but no evidence of activity after that date. The dates on the coins found on the site suggest that life in Kourion was flourishing before A.D. 365; the total lack of coins after the year of the earthquake supports the idea that the city had been destroyed.

- A The existence of vessels made both before and after A.D. 365 suggests that Kourion was not destroyed by the earthquake.
- B Correct.** This statement properly identifies evidence that supports the archaeologists' hypothesis.
- C The occurrence of the earthquake is not in question; this statement simply confirms a fact already assumed in the argument.
- D The existence of statues carved in styles current after the date of the earthquake (A.D. 365–A.D. 400) argues against the town's destruction in A.D. 365.
- E The existence of inscriptions using an alphabet common only after the earthquake argues against the theory that the earthquake destroyed Kourion.

The correct answer is B.

66. To protect certain fledgling industries, the government of Country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

Which of the following conclusions about Country Z's adversely affected export-dependent industries is best supported by the passage?

- (A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.
- (B) Those industries had to contend with the fact that other countries banned imports from Country Z.
- (C) Those industries succeeded in expanding the domestic market for their products.
- (D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.
- (E) Those industries started to move into export markets that they had previously judged unprofitable.

Argument Construction

Situation Country Z bans the importation of products that would compete with those that some of its new industries are beginning to make. Consequently, the export-dependent local industries that buy these products must pay more for them, and these exporters are now less competitive in their markets.

Reasoning *What conclusion can be drawn about the export-dependent industries?* Any conclusion must be supported by the facts in the passage. The export-dependent industries could no longer compete effectively when they had to purchase necessary products at greater expense from local industries. The export-dependent industries' inability to adjust successfully to the rise in costs suggests that staying competitive in their markets required tight cost control to maintain their profit margins. It is reasonable to conclude then that their profit margins were not high enough for them to be able to absorb the increased costs caused by their new need to purchase domestically made products.

- A Correct.** This statement properly identifies the conclusion that the export-dependent industries were low-margin businesses that could not successfully accommodate the higher prices of the domestically made products.
- B** No information about other countries' ban of imports from Country Z is given in the passage.
- C** Not enough information is given in the passage to support this conclusion.
- D** No information about cutting labor costs is given in the passage.
- E** No information about the industries' moving into different markets is given in the passage.

The correct answer is A.

67. Several industries have recently switched at least partly from older technologies powered by fossil fuels to new technologies powered by electricity. It is thus evident that less fossil fuel is being used as a result of the operations of these industries than would have been used if these industries had retained their older technologies.

Which of the following, if true, most strengthens the argument above?

- (A) Many of the industries that have switched at least partly to the new technologies have increased their output.
- (B) Less fossil fuel was used to manufacture the machinery employed in the new technologies than was originally used to manufacture the machinery employed in the older technologies.
- (C) More electricity is used by those industries that have switched at least partly to the new technologies than by those industries that have not switched.
- (D) Some of the industries that have switched at least partly to the new technologies still use primarily technologies that are powered by fossil fuels.
- (E) The amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount that would have been used to power the older technologies.

Argument Evaluation

Situation Several industries have now switched, at least partly, to technologies using electricity rather than fossil fuels. Thus, less fossil fuel will be consumed as a result of the operation of these industries than otherwise would have been.

Reasoning *Which option most strengthens the argument?* One way to strengthen an argument is to eliminate or minimize one of its flaws or weaknesses. Because the conclusion is stated in terms of “fossil fuel consumed *as a result* of the operation of these industries,” the claim would encompass even any fossil fuel that might be used to generate the electricity that the newer technologies use. Yet the premise of the argument does not address this issue. So the argument is strengthened if it turns out that less fossil fuel was used to produce the electricity than would have been used to power the older technologies.

- A In an indirect way, this option slightly weakens rather than strengthens the argument. For *if* fossil fuels are used to produce the electricity now used by the industries and *if* it is because of these newer technologies that output has increased, the argument’s conclusion is *less* likely.
- B It does not matter how much fossil fuel was used to manufacture the older technologies *originally*. That has no bearing on whether more fossil fuel would have been expended as a result of the *continued operation* of the industries if the partial switch to newer technologies had not occurred.
- C This is what we would expect, but it in no way strengthens the argument.
- D This may seem to weaken the argument by indicating that the switch from older technologies will have less of an impact on fossil fuel consumption by these industries than we might have assumed. But since the conclusion makes no claim about how much consumption has been reduced, it is not clear that this option has any bearing on the strength of the argument one way or the other.
- E **Correct.** This is the option that most strengthens the argument.

The correct answer is E.

68. The local board of education found that, because the current physics curriculum has little direct relevance to today's world, physics classes attracted few high school students. So to attract students to physics classes, the board proposed a curriculum that emphasizes principles of physics involved in producing and analyzing visual images.

Which of the following, if true, provides the strongest reason to expect that the proposed curriculum will be successful in attracting students?

- (A) Several of the fundamental principles of physics are involved in producing and analyzing visual images.
- (B) Knowledge of physics is becoming increasingly important in understanding the technology used in today's world.
- (C) Equipment that a large producer of photographic equipment has donated to the high school could be used in the proposed curriculum.
- (D) The number of students interested in physics today is much lower than the number of students interested in physics 50 years ago.
- (E) In today's world the production and analysis of visual images is of major importance in communications, business, and recreation.

Evaluation of a Plan

Situation Low enrollment in physics classes is blamed on the lack of relevance of the current curriculum to the current world. To attract more students, the board proposes a new curriculum emphasizing the principles of physics involved in producing and analyzing visual images.

Reasoning *What is the best reason for the success of this plan?* To attract more students, the class must be relevant to today's world. Evidence that the proposed content of the curriculum is indeed relevant would provide strong support for the plan. If producing and analyzing visual images is of major importance in communications, business, and recreation, the curriculum has clear relevance to today's world and should therefore attract more students.

- A Given other claims made in the argument, this statement would not help explain why students would be attracted to the class unless producing and analyzing images is directly relevant to today's world. Nothing in the passage indicates that they are.
- B This statement explains why students should take physics, but not why they would be attracted to the class.
- C The availability of appropriate equipment is important once students are registered for the class, but it does not explain why they would be attracted to the class in the first place.
- D The downward trend in enrollment does not suggest much success for the new class.
- E **Correct.** This statement properly identifies a factor that would contribute to the success of the proposed plan to increase enrollment.

The correct answer is E.

69. Scientists have modified feed corn genetically, increasing its resistance to insect pests. Farmers who tried out the genetically modified corn last season applied less insecticide to their corn fields and still got yields comparable to those they would have gotten with ordinary corn. Ordinary corn seed, however, costs less, and what these farmers saved on insecticide rarely exceeded their extra costs for seed. Therefore, for most feed-corn farmers, switching to genetically modified seed would be unlikely to increase profits.

Which of the following would it be most useful to know in order to evaluate the argument?

- (A) Whether there are insect pests that sometimes reduce feed-corn yields, but against which commonly used insecticides and the genetic modification are equally ineffective
- (B) Whether the price that farmers receive for feed corn has remained steady over the past few years
- (C) Whether the insecticides typically used on feed corn tend to be more expensive than insecticides typically used on other crops
- (D) Whether most of the farmers who tried the genetically modified corn last season applied more insecticide than was actually necessary
- (E) Whether, for most farmers who plant feed corn, it is their most profitable crop

Argument Evaluation

Situation Farmers who grew feed corn genetically engineered to be pest resistant got yields comparable to those of farmers growing ordinary feed corn, but did so while using less pesticide. Since the amount saved on pesticide was rarely in excess of the extra costs for the genetically modified corn, most farmers will probably not increase profits by choosing the genetically engineered variety.

Reasoning *Which would be most useful to know in evaluating the argument?* To answer a question such as this, one should look for information that would strengthen or weaken the argument. If one had information that the farmers growing the genetically modified corn could have increased their yields last year at lower cost, this would be helpful in evaluating the argument, because this would show that the argument is weak.

- A It does not matter to the argument whether there are pests against which pesticides and genetic resistance are equally ineffective, because that is compatible with there being pests against which they are not equally effective.
- B Whether prices of feed corn go up or down affects the comparison groups equally.
- C The relative cost of insecticides for other crops has no bearing on the argument because the argument is concerned with only feed corn.
- D **Correct.** This option provides the information that it would be most useful to know in evaluating the argument. It shows that farmers growing genetically modified corn last year could have attained higher profits than they in fact did.
- E The argument concerns only the relative profitability of growing one variety of feed corn versus another.

The correct answer is D.

70. Although aspirin has been proven to eliminate moderate fever associated with some illnesses, many doctors no longer routinely recommend its use for this purpose. A moderate fever stimulates the activity of the body's disease-fighting white blood cells and also inhibits the growth of many strains of disease-causing bacteria.

If the statements above are true, which of the following conclusions is most strongly supported by them?

- (A) Aspirin, an effective painkiller, alleviates the pain and discomfort of many illnesses.
- (B) Aspirin can prolong a patient's illness by eliminating moderate fever helpful in fighting some diseases.
- (C) Aspirin inhibits the growth of white blood cells, which are necessary for fighting some illnesses.
- (D) The more white blood cells a patient's body produces, the less severe the patient's illness will be.
- (E) The focus of modern medicine is on inhibiting the growth of disease-causing bacteria within the body.

Argument Construction

Situation Many doctors do not recommend taking aspirin for moderate fever associated with illness because moderate fever activates the immune systems and hinders the growth of disease-carrying bacteria.

Reasoning *Which claim is best supported by this information?* This passage maintains that moderate fever can help fight some diseases by activating the immune system and inhibiting the growth of some bacteria that cause disease. Aspirin suppresses moderate fever. By doing so, aspirin can be viewed as hindering a beneficial process and prolonging an illness.

- A Though this may be true, the passage says nothing that supports the claim.
- B Correct.** This statement properly identifies a conclusion that can be drawn from the information.
- C Since moderate fever promotes the *activity* of the white blood cells, it is fair to conclude that suppressing the fever with aspirin affects the *activity* of the white blood cells. The passage gives no evidence, however, regarding whether this suppression has anything to do with aspirin's effect, if any, on the *growth* of white blood cells.
- D The passage does not provide enough information to conclude that the greater the number of white blood cells, the less severe the illness.
- E The passage is compatible with saying that inhibiting the growth of disease-causing bacteria within the body is one of many concerns of modern medicine, in which case saying that this is *the focus of modern medicine* would be an overstatement.

The correct answer is B.

71. Roland: The alarming fact is that 90 percent of the people in this country now report that they know someone who is unemployed.

Sharon: But a normal, moderate level of unemployment is 5 percent, with one out of 20 workers unemployed. So at any given time if a person knows approximately 50 workers, one or more will very likely be unemployed.

Sharon's argument relies on the assumption that

- (A) normal levels of unemployment are rarely exceeded
- (B) unemployment is not normally concentrated in geographically isolated segments of the population
- (C) the number of people who each know someone who is unemployed is always higher than 90 percent of the population
- (D) Roland is not consciously distorting the statistics he presents
- (E) knowledge that a personal acquaintance is unemployed generates more fear of losing one's job than does knowledge of unemployment statistics

Argument Construction

Situation Roland is alarmed that 90 percent of the population knows someone who is out of work. Sharon replies that a normal level of unemployment is 5 percent, illustrating her point by saying that if a person knows 50 workers, at least one of them is likely to be unemployed.

Reasoning *What assumption does Sharon make in putting together her argument?* Sharon makes a general statement claiming that if a person knows 50 workers, it is likely that at least one of them is unemployed. Sharon's generalization would not likely be true if unemployment were concentrated in certain geographically isolated areas.

- A Sharon's argument is about a normal level of unemployment; how rarely or frequently that level is exceeded is outside the scope of her argument.
- B Correct.** This statement properly identifies an assumption that underlies Sharon's argument.
- C Although Sharon's argument is compatible with saying that even more than 90 percent of the population knows someone who is unemployed, nothing suggests that she assumes that this is true.
- D Sharon's argument is not based on the figure Roland cites and does not assume its accuracy or inaccuracy; her argument merely points out that his figure is not inconsistent with a normal rate of unemployment.
- E The fear of losing a job is not part of Sharon's argument; this statement is irrelevant.

The correct answer is B.

72. Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist's reasoning?

- (A) Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- (B) Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
- (C) In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- (D) What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- (E) Do newly opened SaveAll stores ever lose money during their first five years of operation?

Argument Evaluation

Situation Morganville should stop SaveAll from opening a store on its outskirts if it wants to keep its shopping district healthy. Other small towns have experienced bankruptcies in 25 percent of the stores in their central shopping district within five years after such openings.

Reasoning *Which option provides the information that it would be most useful to know in evaluating the argument?* The argument contends that if SaveAll opens a store in Morganville, then that will somehow undermine the health of the shopping district. Two basic questions arise when evaluating the bankruptcy data from other small towns: (1) Did the opening of SaveAlls cause any of these bankruptcies? No information is given about bankruptcy rates in small towns without SaveAlls. (2) Is a 25 percent bankruptcy rate over five years *unhealthy*?

- A This has to do with the likelihood that the SaveAll will open; and not with what will happen if it does.
- B The conclusion would be supported just as well—or as poorly—if this question were answered with a yes as with a no.
- C **Correct.** This option provides the information that it would be most useful to know in evaluating the argument.
- D This may be important in determining the effect the SaveAll would have on Morganville residents, but the argument has only to do with SaveAll's effect on the economic health of the shopping district.
- E Whether SaveAlls tend to make or lose money in their first five years has no obvious bearing on whether they are apt to undermine the health of the town's shopping districts.

The correct answer is C.

73. In comparison to the standard typewriter keyboard, the EFCO keyboard, which places the most-used keys nearest the typist's strongest fingers, allows faster typing and results in less fatigue. Therefore, replacement of standard keyboards with the EFCO keyboard will result in an immediate reduction of typing costs.

Which of the following, if true, would most weaken the conclusion drawn above?

- (A) People who use both standard and EFCO keyboards report greater difficulty in the transition from the EFCO keyboard to the standard keyboard than in the transition from the standard keyboard to the EFCO keyboard.
- (B) EFCO keyboards are no more expensive to manufacture than are standard keyboards and require less frequent repair than do standard keyboards.
- (C) The number of businesses and government agencies that use EFCO keyboards is increasing each year.
- (D) The more training and experience an employee has had with the standard keyboard, the more costly it is to train that employee to use the EFCO keyboard.
- (E) Novice typists can learn to use the EFCO keyboard in about the same amount of time that it takes them to learn to use the standard keyboard.

Argument Evaluation

Situation Compared to the standard typewriter keyboard, the EFCO keyboard promotes faster typing while producing less fatigue. Replacing standard keyboards with EFCO keyboards promises immediate reduction of typing costs.

Reasoning *What point would weaken the conclusion about reduced typing costs?* Whenever a word like *immediate* is part of an argument, it is wise to be alert. Given the comparison with the standard keyboard, it could well be that over the longer term the EFCO keyboard will save money. What problems might there be initially, however, that would counteract the possibility of *immediate* savings? Personnel must first be retrained on the new EFCO keyboard, and it is possible that the costs of the training could offset any short-term savings. If the more experience employees have had with the standard keyboard, the more costly the initial training, then adopting the new keyboard could have high short-term costs that preclude *immediate* savings.

- A The greater ease of changing from the standard keyboard to the EFCO keyboard for typists experienced in both would support, not weaken, the conclusion.
- B The fewer repairs required by EFCO keyboards should save money in the long run; immediate costs will not go up since the price of both keyboards is the same. The conclusion is not weakened.
- C The increasing use of EFCO keyboards supports the conclusion, because it suggests that other offices have found the switch advantageous.
- D **Correct.** This statement properly identifies information that weakens the conclusion that savings will be immediate.
- E For new typists, training time is the same for both keyboards; this statement does not weaken the conclusion.

The correct answer is D.

74. In the past the country of Malvernia has relied heavily on imported oil. Malvernia recently implemented a program to convert heating systems from oil to natural gas. Malvernia currently produces more natural gas each year than it uses, and oil production in Malvernian oil fields is increasing at a steady pace. If these trends in fuel production and usage continue, therefore, Malvernian reliance on foreign sources for fuel is likely to decline soon.

Which of the following would it be most useful to establish in evaluating the argument?

- (A) When, if ever, will production of oil in Malvernia outstrip production of natural gas?
- (B) Is Malvernia among the countries that rely most on imported oil?
- (C) What proportion of Malvernia's total energy needs is met by hydroelectric, solar, and nuclear power?
- (D) Is the amount of oil used each year in Malvernia for generating electricity and fuel for transportation increasing?
- (E) Have any existing oil-burning heating systems in Malvernia already been converted to natural-gas-burning heating systems?

Argument Evaluation

Situation Malvernia has relied heavily on imported oil, but recently began a program to convert heating systems from oil to natural gas. Malvernia produces more natural gas than it uses, so it will probably reduce its reliance on imported oils if these trends continue.

Reasoning *Which option provides the information that it would be most useful to know in evaluating the argument?* In other words, we are looking for the option which—depending on whether it was answered yes or no—would either most weaken or most strengthen the argument. The argument indicates that Malvernia will be using less oil for heating and will be producing more oil domestically. But the conclusion that Malvernia's reliance on foreign oil will decline, assuming the current trends mentioned continue, would be seriously undermined if there was something in the works that was bound to offset these trends, for instance, if it turned out that the country's need for oil was going to rise drastically in the coming years.

- A Since both counteract the need for imported oil, it makes little difference to the argument whether domestic oil production exceeds domestic natural gas.
- B Whether there are many countries that rely more on foreign oil than Malvernia would have little impact on whether Malvernia's need for foreign oil can be expected to decline.
- C Since there is no information in the argument about whether Malvernia can expect an increase or decrease from these other energy sources, it does not matter how much they now provide.
- D Correct.** This option provides the information that it would be most useful to know in evaluating the argument.
- E The argument tells us that a program has begun *recently* to convert heating systems from oil to gas. So, even if no such conversions have been completed, the argument still indicates that they can be expected to occur.

The correct answer is D.

75. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

Which of the following, if true, would most weaken the argument above?

- (A) Industrial production also is declining in Country X.
- (B) Whereas Country Y is landlocked, Country X has a major seaport.
- (C) Both Country X and Country Y have been experiencing drought conditions.
- (D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.
- (E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

Argument Evaluation

Situation Two countries sharing similar climate conditions differ widely in agricultural production, one experiencing a rise and the other a decline. The decline is blamed on an overly centralized economy.

Reasoning *What point most weakens the argument that the economy is to blame?* If a factor other than the economy could account for the differences in agricultural production, then the argument is weakened. If the two countries grow different kinds of crops that may react differently to the same climate conditions, then the types of crops, rather than the economy could be responsible for the differences in production.

- A This weakly suggests that the overly centralized economy of Country X is to blame for its poor agricultural production; this strengthens the argument more than it weakens it.
- B The availability of a seaport does not explain the differences in agricultural production.
- C Similar climate conditions have already been established in the argument.
- D Correct.** This statement properly identifies a factor that weakens the argument.
- E The government's intention when instituting the economy does not have any bearing on whether the economy is responsible for the decline or not.

The correct answer is D.

76. Because no employee wants to be associated with bad news in the eyes of a superior, information about serious problems at lower levels is progressively softened and distorted as it goes up each step in the management hierarchy. The chief executive is, therefore, less well informed about problems at lower levels than are his or her subordinates at those levels.

The conclusion drawn above is based on the assumption that

- (A) problems should be solved at the level in the management hierarchy at which they occur
- (B) employees should be rewarded for accurately reporting problems to their superiors
- (C) problem-solving ability is more important at higher levels than it is at lower levels of the management hierarchy
- (D) chief executives obtain information about problems at lower levels from no source other than their subordinates
- (E) some employees are more concerned about truth than about the way they are perceived by their superiors

Argument Construction

Situation No employee wants to report bad news to a superior, so information about problems is softened and distorted as it goes up the ranks of management. As a result, chief executives know less about problems at lower levels than their subordinates do.

Reasoning *What assumption is being made in this argument?* This passage contends that information travels step by step upward through an organization, and that information becomes increasingly distorted along the route with each additional individual's reluctance to be candid with a superior about problems. What must be true about this information flow to support the conclusion? In order to conclude that chief executives are *less well informed* about problems than their subordinates, the argument must logically assume that they have no source of information except their subordinates.

- A This argument is not about how problems should be solved, only about how chief executives learn of them.
- B No recommendation for solving the problem is assumed; only the method of discovering the problem is assumed.
- C Problem-solving ability plays no role in the argument.
- D Correct.** This statement properly identifies an assumption that underlies the argument.
- E This statement undermines the assertion made in the first sentence of the passage and so cannot be assumed.

The correct answer is D.

77. Although the earliest surviving Greek inscriptions written in an alphabet date from the eighth century B.C., **the fact that the text of these Greek inscriptions sometimes runs from right to left and sometimes from left to right** indicates that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were produced. After all, the Greeks learned alphabetic writing from the Phoenicians, and presumably, along with the alphabet, they also adopted the then-current Phoenician practice with respect to the direction of text. **And although Phoenician writing was originally inconsistent in direction, by the eighth century B.C. Phoenician was consistently written from right to left and had been for about two centuries.**

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first and the second each describe evidence that has been used to challenge the position that the argument seeks to establish.
- (B) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is that position.
- (C) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is a consideration that is introduced to counter the force of that evidence.
- (D) The first and the second each provide evidence in support of the position that the argument seeks to establish.
- (E) The first provides evidence in support of the position that the argument seeks to establish; the second is that position.

Argument Evaluation

Situation The oldest surviving Greek inscriptions written in an alphabet are from the eighth century B.C. and run from both left to right and right to left. Therefore, it is likely that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were made. The Greeks adopted their alphabet from the Phoenicians, who wrote in both directions up until two centuries prior to the eighth century.

Reasoning *What roles do the two boldfaced portions play in the argument?* The conclusion of the argument is that the Greeks adopted alphabetic writing at least two centuries before the oldest surviving Greek inscriptions were written in the eighth century B.C. The first and second boldfaced portions work together to support this conclusion.

- A The first and second portions are not used to challenge the position the argument seeks to establish, but to support it.
- B The first is evidence for the conclusion, not for an objection to it; the second is as well.
- C The first is evidence for the conclusion, not for an objection to it; the second is as well.
- D Correct.** This option correctly identifies the roles played by the boldfaced portions.
- E The second boldfaced portion is not the conclusion, but evidence for that conclusion.

The correct answer is D.

78. A recent report determined that although only 3 percent of drivers on Maryland highways equipped their vehicles with radar detectors, 33 percent of all vehicles ticketed for exceeding the speed limit were equipped with them. Clearly, drivers who equip their vehicles with radar detectors are more likely to exceed the speed limit regularly than are drivers who do not.

The conclusion drawn above depends on which of the following assumptions?

- (A) Drivers who equip their vehicles with radar detectors are less likely to be ticketed for exceeding the speed limit than are drivers who do not.
- (B) Drivers who are ticketed for exceeding the speed limit are more likely to exceed the speed limit regularly than are drivers who are not ticketed.
- (C) The number of vehicles that were ticketed for exceeding the speed limit was greater than the number of vehicles that were equipped with radar detectors.
- (D) Many of the vehicles that were ticketed for exceeding the speed limit were ticketed more than once in the time period covered by the report.
- (E) Drivers on Maryland highways exceeded the speed limit more often than did drivers on other state highways not covered in the report.

Argument Construction

Situation Although only 3 percent of drivers on Maryland's highways have radar detectors in their vehicles, 33 percent of vehicles recently ticketed for driving over the speed limit on Maryland highways have had radar detectors. Drivers who have radar detectors are thus more likely to exceed the speed limit regularly than drivers who do not.

Reasoning *What assumption must be true for the conclusion to be drawn?* The argument moves from a particular example, that is, the percentage of vehicles ticketed for exceeding the speed limit that were equipped with radar detectors, to a generalization about the regular driving behaviors of all drivers who have radar detectors in their vehicles. The reasoning links the example to the generalization with an assumption. What can the assumption be? Only if the drivers ticketed in this instance are assumed to make a regular habit of exceeding the speed limit can the conclusion be drawn that drivers with radar detectors are more likely to do so *regularly* than drivers who are not ticketed.

- A While this statement about being ticketed may be true, the conclusion pertains to the recurrent exceeding of the speed limit, so this statement is not relevant.
- B Correct.** This statement properly identifies the conclusion's necessary assumption about ticketed drivers' being more likely to drive in excess of the speed limit than nonticketed drivers.
- C This statement is about the number of vehicles ticketed, not about the regular habits of drivers, so it is not assumed for the conclusion.
- D While this additional information could help support the conclusion, it is not a necessary assumption in the conclusion because it is about the particular example of the drivers in Maryland, not about drivers' habits in general.
- E Learning that Maryland drivers are not representative of other drivers undermines the conclusion about all drivers, so it is clearly not assumed.

The correct answer is B.

79. **In countries where automobile insurance includes compensation for whiplash injuries sustained in automobile accidents, reports of having suffered such injuries are twice as frequent as they are in countries where whiplash is not covered.** Presently, no objective test for whiplash exists, so it is true that spurious reports of whiplash injuries cannot be readily identified. Nevertheless, these facts do not warrant the conclusion drawn by some commentators that in the countries with the higher rates of reported whiplash injuries, half of the reported cases are spurious. Clearly, **in countries where automobile insurance does not include compensation for whiplash, people often have little incentive to report whiplash injuries that they actually have suffered.**

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first is a claim that the argument disputes; the second is a conclusion that has been based on that claim.
- (B) The first is a claim that has been used to support a conclusion that the argument accepts; the second is that conclusion.
- (C) The first is evidence that has been used to support a conclusion for which the argument provides further evidence; the second is the main conclusion of the argument.
- (D) The first is a finding whose implications are at issue in the argument; the second is a claim presented in order to argue against deriving certain implications from that finding.
- (E) The first is a finding whose accuracy is evaluated in the argument; the second is evidence presented to establish that the finding is accurate.

Argument Evaluation

Situation Reported whiplash injuries are twice as common in countries where car insurance companies pay compensation for such injuries as they are in countries where insurance companies do not. Although there is no objective test for whiplash, this does not mean, as some suggest, that half of the reports of such injuries are fake. It could simply be that where insurance will not pay for such injuries, people are less inclined to report them.

Reasoning *What roles do the two boldfaced portions play in the argument?* The first portion tells us about the correlation between reported cases of whiplash in countries and the willingness of insurance companies in those countries to compensate for whiplash injuries. The argument next states that whiplash is difficult to objectively verify. The argument then asserts that *although* this last fact, taken together with the first boldfaced portion, has led some to infer that over half of the reported cases in countries with the highest whiplash rates are spurious, such an inference is unwarranted. The second boldfaced portion then helps to explain why such an inference is not necessarily warranted by offering an alternative explanation.

- A The claim made in the first boldfaced portion is never disputed in the argument; at dispute is how to account for the fact that this claim is true. The second is not the argument's conclusion.
- B In a manner of speaking, perhaps, the argument uses the first portion to support its conclusion; but there is no indication that it has been used elsewhere to do so. In any case, the second boldfaced portion is not the argument's conclusion.
- C The first has been used to support a conclusion that the argument *rejects*; the second boldfaced portion is not the argument's conclusion.
- D **Correct.** This option correctly identifies the roles played in the argument by the boldfaced portions.
- E The accuracy of the first boldfaced portion is never questioned in the argument; nor is the second intended to somehow help show that the first is accurate. Rather, the argument assumes that the first portion is accurate.

The correct answer is D.

80. Products sold under a brand name used to command premium prices because, in general, they were superior to nonbrand rival products. Technical expertise in product development has become so widespread, however, that special quality advantages are very hard to obtain these days and even harder to maintain. As a consequence, brand-name products generally neither offer higher quality nor sell at higher prices. Paradoxically, brand names are a bigger marketing advantage than ever.

Which of the following, if true, most helps to resolve the paradox outlined above?

- (A) Brand names are taken by consumers as a guarantee of getting a product as good as the best rival products.
- (B) Consumers recognize that the quality of products sold under invariant brand names can drift over time.
- (C) In many acquisitions of one corporation by another, the acquiring corporation is interested more in acquiring the right to use certain brand names than in acquiring existing production facilities.
- (D) In the days when special quality advantages were easier to obtain than they are now, it was also easier to get new brand names established.
- (E) The advertising of a company's brand-name products is at times transferred to a new advertising agency, especially when sales are declining.

Argument Evaluation

Situation In both quality and price, brand-name and nonbrand products have now become similar. Yet brand names offer a bigger marketing advantage than ever.

Reasoning *How can this paradox be explained?* It is given that a brand-name product's only distinction from its rival products is likely to be a recognizable name. How, then, can brand names give products a bigger marketing advantage? Could consumers be relying on their outdated knowledge and believing that brand names continue to guarantee that a product's quality is at least as good as, and possibly higher than, that of the rival products at the same price? If so, they would choose to purchase the brand-name product trusting they would, at a minimum, get comparable quality for the same price.

- A **Correct.** This statement correctly identifies the consumer behavior that explains the marketing advantage of brand names.
- B Consumers would be less likely to buy brand-name products if they were unsure of their quality, so this statement does not resolve the paradox.
- C Corporations value brand names, but this statement does not say why, nor does it explain the marketing advantage of brand names.
- D Although it was easier in the past both to obtain special quality advantages and to establish new brand names, these facts are not linked other than coincidentally and do not explain why brand names are a marketing advantage now.
- E The shift from one advertising agency to another to counteract falling sales does not account for the general marketing advantage brand names enjoy.

The correct answer is A.

81. When demand for a factory's products is high, more money is spent at the factory for safety precautions and machinery maintenance than when demand is low. Thus the average number of on-the-job accidents per employee each month should be lower during periods when demand is high than when demand is low and less money is available for safety precautions and machinery maintenance.

Which of the following, if true about a factory when demand for its products is high, casts the most serious doubt on the conclusion drawn above?

- (A) Its employees ask for higher wages than they do at other times.
- (B) Its management hires new workers but lacks the time to train them properly.
- (C) Its employees are less likely to lose their jobs than they are at other times.
- (D) Its management sponsors a monthly safety award for each division in the factory.
- (E) Its old machinery is replaced with modern, automated models.

Argument Evaluation

Situation Because more money is spent on safety precautions and machinery maintenance at a factory when demand for its product is high, the average number of job-related accidents per employee at the factory should be lower when demand is high.

Reasoning *What point casts doubt on the conclusion?* Consider what other conditions can result from high demand for a factory's products. What if, when demand is high, more employees are hired to meet the demand? If, in the effort to increase production, there is not enough time for proper training, then it is likely that the new, poorly trained employees will have more job-related accidents than experienced, well-trained workers.

- A If employers consented to employees' request and diverted money from safety to wages, this statement might cast doubt on the conclusion. However, no such reallocation of resources is implied, and the passage conclusively states that more money *is* spent on safety precautions and machinery maintenance when demand for the product is high. Therefore this statement is irrelevant.
- B Correct.** This statement properly identifies a point that undermines the conclusion.
- C Increased job security could result in an increased number of workers, which might increase the total number of accidents. However, the conclusion is about the number of accidents *per employee*, so this point is irrelevant.
- D Actively promoting safety with an award would tend to support the argument, not weaken it.
- E Replacing outdated machinery with more modern machinery could result in a safer workplace; this point could strengthen the conclusion.

The correct answer is B.

82. A sudden increase in the production of elephant ivory artifacts on the Mediterranean coast of North Africa occurred in the tenth century. Historians explain this increase as the result of an area opening up as a new source of ivory and argue on this basis that the important medieval trade between North Africa and East Africa began at this period.

Each of the following, if true, provides some support for the historians' account described above EXCEPT:

- (A) In East Africa gold coins from Mediterranean North Africa have been found at a tenth-century site but at no earlier sites.
- (B) The many surviving letters of pre-tenth-century North African merchants include no mention of business transactions involving East Africa.
- (C) Excavations in East Africa reveal a tenth-century change in architectural style to reflect North African patterns.
- (D) Documents from Mediterranean Europe and North Africa that date back earlier than the tenth century show knowledge of East African animals.
- (E) East African carvings in a style characteristic of the tenth century depict seagoing vessels very different from those used by local sailors but of a type common in the Mediterranean.

Argument Evaluation

Situation There was a sudden increase in the production of ivory artifacts in an area of North Africa in the tenth century. Historians say this was brought about by a new source of ivory opening up, and argue from this that important trade between North Africa and East Africa began at this time.

Reasoning *Which option does NOT provide support for the historians' account?* The historians' account posits new trade between North and East Africa opening in the tenth century and infers this from the increase in ivory production in North Africa that occurred at about this time. Thus, an option that identifies some connection between North and East Africa which predates the tenth century would not support but rather undermine the historians' account.

- A That gold coins may have first been traded between East Africa and North Africa supports the idea that important trade between these areas opened up at this time.
- B This is support for the historians' conclusion, because if there had been important trade between East Africa and North Africa prior to the tenth century, there likely would have been some mention of it in at least some of the letters that survive from that period.
- C This change in architectural design suggests that North Africa began to influence East Africa around this time. Opening up of new trade would explain the emergence of this new influence.
- D **Correct.** This is the one option that does not support the historians' account.
- E The fact that East African carvings that are possibly from tenth century depict ships not from East Africa but possibly from North Africa would support the idea that trade was occurring at this time.

The correct answer is D.

83. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

- (A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.
- (B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.
- (C) The number of physics journals was the same last year as in previous years.
- (D) Particle accelerators can be used for more than one group of experiments in any given year.
- (E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

Argument Evaluation

Situation A journalist attributes the low number of articles about particle accelerators in physics journals to the fact that several accelerators at major research institutions had been out of service the previous year.

Reasoning *What point undermines the journalist's argument?* The journalist assumes that the researchers' lack of access to the accelerators is responsible for the decline in the number of articles. What else could explain fewer articles? What if the decline is due, not to the availability of the accelerators for experiments, but to policies regarding publishing articles related to such experiments? An alternate explanation is that changes in the editorial policies of physics journals, rather than the effect of the out-of-service accelerators, could well be responsible for the lower number of published articles about particle-accelerator research.

- A This statement rules out the possibility that submitted articles were not published, and eliminating this alternate explanation tends to support the argument.
- B A decline in waiting time would seem to promote more articles about accelerator research being written and published, not fewer.
- C While the decline in articles could be explained by a decline in the number of journals, this statement eliminates that alternate explanation.
- D If the accelerators can be used for multiple experiments, then it is reasonable to expect more articles related to them, not fewer.
- E **Correct.** This statement properly identifies a point that undermines the journalist's reasoning.

The correct answer is E.

84. Many people suffer an allergic reaction to certain sulfites, including those that are commonly added to wine as preservatives. However, since there are several winemakers who add sulfites to none of the wines they produce, people who would like to drink wine but are allergic to sulfites can drink wines produced by these winemakers without risking an allergic reaction to sulfites.

Which of the following is an assumption on which the argument depends?

- (A) These winemakers have been able to duplicate the preservative effect produced by adding sulfites by means that do not involve adding any potentially allergenic substances to their wine.
- (B) Not all forms of sulfite are equally likely to produce the allergic reaction.
- (C) Wine is the only beverage to which sulfites are commonly added.
- (D) Apart from sulfites, there are no substances commonly present in wine that give rise to an allergic reaction.
- (E) Sulfites are not naturally present in the wines produced by these winemakers in amounts large enough to produce an allergic reaction in someone who drinks these wines.

Argument Construction

Situation People who are allergic to certain sulfites can avoid risking an allergic reaction by drinking wine from one of the several producers that does not add sulfites.

Reasoning *On what assumption does the argument depend?* Drinking wine to which no sulfites have been *added* will not prevent exposure to sulfites if, for instance, sulfites occur naturally in wines. In particular, if the wines that do not have sulfites added have sulfites present naturally in quantities sufficient to produce an allergic reaction, drinking these wines will not prevent an allergic reaction. The argument therefore depends on assuming that this is not the case.

- A The argument does not require this because the conclusion does not address allergic reactions to substances other than sulfites.
- B The argument specifically refers to “certain sulfites” producing allergic reactions. It is entirely compatible with certain other forms of sulfites not producing allergic reactions in anyone.
- C This is irrelevant. The argument does not claim that one can avoid having an allergic reaction to sulfites *from any source* just by restricting one’s wine consumption to those varieties to which no sulfites have been added.
- D Once again, the argument’s conclusion does not address allergic reactions to substances other than sulfites in wine.
- E **Correct.** The argument relies on this assumption.

The correct answer is E.

85. Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur *Sandactylus* had similar networks of blood vessels in the skin of its wings provides evidence for the hypothesis that *Sandactylus* flew by flapping its wings, not just by gliding.

In the passage, the author develops the argument by

- (A) forming the hypothesis that best explains several apparently conflicting pieces of evidence
- (B) reinterpreting evidence that had been used to support an earlier theory
- (C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon
- (D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct
- (E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures

Argument Evaluation

Situation The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur *Sandactylus* to explain how the dinosaur flew.

Reasoning *How is this argument developed?* The author first shows that a physical characteristic of bats' wings is directly related to their style of flight. The author then argues that the similar structure found in the wings of *Sandactylus* is evidence that the dinosaur had a style of flight similar to that of bats. The structure of this argument is a comparison, or analogy, between a known phenomenon (bats) and an unknown one (*Sandactylus*).

- A The evidence of the blood vessels in the wings does not conflict with other evidence.
- B The evidence of the blood vessels in the wings is used to support only one theory—that *Sandactylus* flew by flapping its wings as well as by gliding; no evidence is discussed in relation to any earlier theory.
- C **Correct.** This statement properly identifies how the argument compares the wings of bats and of *Sandactylus* in order to draw a conclusion about how the dinosaur flew.
- D The argument is not about how the structures in the bats developed from the structures in the dinosaurs, but rather about how *Sandactylus* flew.
- E The comparison between bats and *Sandactylus* points out similarities, not differences.

The correct answer is C.

86. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry \$25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy.

Laura: The \$25 billion spent by some businesses will be revenue for others. Jobs and profits will be gained as well as lost.

Laura responds to Keith by

- (A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand
- (B) challenging the plausibility of the evidence that serves as the basis for Keith's argument
- (C) suggesting that Keith's argument overlooks a mitigating consequence
- (D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites
- (E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism

Argument Construction

Situation Keith argues that the cost of new regulations will result in a loss of jobs and profits, hurting the national economy. Laura points out that while one industry will suffer, others will gain by supplying the goods and services required by the regulations.

Reasoning *What is the strategy Laura uses in the counterargument?* Laura uses the same evidence, the \$25 billion spent on meeting new regulations, but comes to a different conclusion. While Keith focuses on the losses to one industry, Laura looks at the gains to other industries. By suggesting a consequence that Keith did not mention, she places the outcome in a more positive light.

- A Laura accepts the relevance of Keith's evidence and uses it herself when she replies that *the \$25 billion spent by some businesses will be revenue for others*.
- B Laura does not challenge Keith's evidence; she uses the same evidence as the basis of her own argument.
- C **Correct.** This statement properly identifies the strategy Laura employs in her counterargument. Laura points out that Keith did not consider that, in this case, losses for one industry mean gains for others.
- D Laura rejects rather than reinforces Keith's conclusion; while he notes the losses in jobs and profits that will harm the economy, she points out that *jobs and profits will be gained as well as lost*.
- E Laura does not agree with Keith's main conclusion that the regulations will harm the national economy; she argues instead that gains in other industries will compensate for the losses in one industry.

The correct answer is C.

87. In the United States, of the people who moved from one state to another when they retired, the percentage who retired to Florida has decreased by three percentage points over the past ten years. Since many local businesses in Florida cater to retirees, these declines are likely to have a noticeably negative economic effect on these businesses and therefore on the economy of Florida.

Which of the following, if true, most seriously weakens the argument given?

- (A) People who moved from one state to another when they retired moved a greater distance, on average, last year than such people did ten years ago.
- (B) People were more likely to retire to North Carolina from another state last year than people were ten years ago.
- (C) The number of people who moved from one state to another when they retired has increased significantly over the past ten years.
- (D) The number of people who left Florida when they retired to live in another state was greater last year than it was ten years ago.
- (E) Florida attracts more people who move from one state to another when they retire than does any other state.

Argument Evaluation

Situation Of those people who move to another state when they retire, the percentage moving to Florida has declined. This trend is apt to harm Florida's economy because many businesses there cater to retirees.

Reasoning *Which of the options most weakens the argument?* The argument draws its conclusion from data about the *proportion* of emigrating retirees moving to Florida. Yet what matters more directly to the conclusion (and to Florida's economy) is the *absolute number* of retirees immigrating to Florida. That number could have remained constant or even risen if the absolute number of emigrating retirees itself increased while the proportion going to Florida decreased.

- A This has no obvious bearing on the argument one way or another. It makes it more likely, perhaps, that a person in a distant state will retire to Florida, but less likely that one in a neighboring state will do so.
- B This has no bearing whether fewer people have been retiring to Florida over the last ten years.
- C **Correct.** This is the option that most seriously weakens the argument.
- D This makes it *more* likely that Florida's economy will be harmed because of decreasing numbers of retirees, but has no real bearing on the argument which concludes specifically that *declines in the proportion of emigrating retirees moving to Florida* will have a negative effect on the state's economy.
- E This is irrelevant. At issue is how the numbers of retirees in Florida from one year compare to the next, not how those numbers compare with numbers of retirees in other states.

The correct answer is C.

88. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government's plan to increase the amount of money available for development loans for businesses?

- (A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.
- (B) The increased tax revenue the government would receive as a result of business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.
- (C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.
- (D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.
- (E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

Evaluation of a Plan

Situation Because the lack of available money for development loans is harming businesses, the government plans to modify the income-tax structure, encouraging taxpayers to put more money into retirement accounts. This plan is intended to ensure that with more money put into these accounts, more money will in turn be available to business borrowers.

Reasoning *What potential flaw in this plan might prevent it from being effective?* What is the expectation behind the plan? The government's plan supposes that the money invested in retirement accounts will be available to business borrowers in the form of development loans. Consider what circumstances might hinder that availability. What if consumer borrowers compete with businesses? If it is known that, historically, increased savings in personal retirement accounts corresponds with increased consumer borrowing, then the government's effort to target businesses as the beneficiaries of this plan could well fail.

- A **Correct.** This statement properly identifies a reason that the government's plan could be less effective in meeting its goal.
- B A predicted revenue shortfall does not directly affect the plan's effectiveness in reaching its stated goal, and might be deemed an acceptable cost of achieving that goal.
- C As long as the total amount deposited in personal retirement accounts increases sufficiently, the decision of *some people* not to increase their contributions will not keep the plan from achieving its goal.
- D The plan would increase the money available specifically for development loans, not existing loans.
- E The universal tax savings does not affect the effectiveness of the plan.

The correct answer is A.

89. Since it has become known that **several of a bank's top executives have been buying shares in their own bank**, the bank's depositors, who had been worried by rumors that the bank faced impending financial collapse, have been greatly relieved. They reason that, since top executives evidently have faith in the bank's financial soundness, those worrisome rumors must be false. Such reasoning might well be overoptimistic, however, since **corporate executives have been known to buy shares in their own company in a calculated attempt to dispel negative rumors about the company's health**.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first describes evidence that has been taken as supporting a conclusion; the second gives a reason for questioning that support.
- (B) The first describes evidence that has been taken as supporting a conclusion; the second states a contrary conclusion that is the main conclusion of the argument.
- (C) The first provides evidence in support of the main conclusion of the argument; the second states that conclusion.
- (D) The first describes the circumstance that the argument as a whole seeks to explain; the second gives the explanation that the argument seeks to establish.
- (E) The first describes the circumstance that the argument as a whole seeks to explain; the second provides evidence in support of the explanation that the argument seeks to establish.

Argument Evaluation

Situation Top executives at a bank that has been rumored to be in financial trouble have been buying shares in the bank. Bank depositors see this as a good sign, because they believe that it indicates that the executives have faith in the bank. However, corporate executives sometimes do this just to dispel rumors about a company's health.

Reasoning *What is the role that the two boldfaced portions play in the argument?* The first boldfaced portion states that bank executives are buying bank shares, which the passage indicates is taken by bank depositors to be evidence of the executives' faith in the bank. The passage then tells us what some have inferred from this, and finally offers in the second boldfaced statement evidence that undermines this inference.

- A **Correct.** This option correctly identifies the roles played by the boldfaced portions.
- B This correctly describes the first statement's role, but the second statement is not offered as a conclusion—no evidence is given for it; rather it is evidence for something else.
- C Again, the second statement is not offered as a conclusion; no evidence is given for it.
- D The second statement is not itself offered as an explanation of why these bank executives are investing in the bank; if it were, that would mean that the bank executives are doing so *because* corporate executives are known to do such things in a calculated effort to dispel worries. Furthermore the argument does not conclude that this other explanation (which the boldfaced portion points to) is correct, only that the one inferred by depositors may not be.
- E Again, the argument is not so much seeking to establish an explanation of its own as it is trying to undermine that inferred by the depositors.

The correct answer is A.

90. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

- (A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.
- (B) Corporate sponsors of research in university facilities are entitled to tax credits under new federal tax-code guidelines.
- (C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.
- (D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profit-making corporations.
- (E) Logos University is unlikely to attract corporate sponsorship of its scientific research.

Evaluation of a Plan

Situation Universities own the patents resulting from government-sponsored research at their institutions. One university plans to sell its patents to corporations to fund a program to improve teaching.

Reasoning *Which point casts doubt on the university's plan?* The university's plan assumes there will be a market for its patents, and that the corporations will want to buy them. What might make this untrue? If some of the corporations have already done the same or similar research, they will not be prospective buyers of the university's patents.

- A This point is irrelevant to the plan to sell patents in order to fund a program.
- B The university plans to sell the patents to the corporations, not to invite the corporations to sponsor research.
- C This point is irrelevant to the university's plan to sell off patents since the plan does not specify that the research scientists will be involved in the programs to improve undergraduate teaching.
- D Correct.** This statement properly identifies a factor that casts doubt on the university's plan to sell its patents to corporations.
- E The plan concerns selling patents resulting from government-sponsored research, not attracting corporate sponsorship for research.

The correct answer is D.

91. Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete resources.

The environmentalist's statements, if true, best support which of the following as a conclusion?

- (A) The use of technology is the reason for the increasing encroachment of people on nature.
- (B) It is possible to determine how many fish are in the sea in some way other than by catching fish.
- (C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.
- (D) Modern technologies waste resources by catching inedible fish.
- (E) Marine fish continue to be an endangered resource.

Argument Construction

Situation A public official argues that increased catches show that marine fish are no longer endangered. An environmentalist attacks the position and cites technology as the cause of the increased catch.

Reasoning *What conclusion do the environmentalist's statements support?* The environmentalist casts doubt by saying the commissioner *would have the public believe* that the increased catch shows that the fish are no longer endangered; the phrasing indicates that the environmentalist believes just the reverse. The environmentalist does believe the marine fish are endangered, and, after attacking the commissioner's argument as *specious*, or false, and offering an analogy to make that argument look ridiculous, the environmentalist gives an alternate explanation for the increased catch that is consistent with that belief.

- A Although the environmentalist claims that technology causes people's greater encroachment on nature in this single instance, there is nothing in the argument to suggest that such encroachment caused by technology is a general trend.
- B The environmentalist's claims imply that the number of fish caught is not a reliable indicator of how many are left in the ocean but do not give any indication that it is possible to find out by any other means, either.
- C The environmentalist creates an analogy between fish caught and rain forest trees cut down but does not compare their proportion.
- D Nothing about how the fish can be used, including whether they are edible or inedible, plays any role in the environmentalist's argument.
- E **Correct.** This statement properly identifies a conclusion supported by the environmentalist's statements: The marine fish are endangered.

The correct answer is E.

92. In the country of Veltria, the past two years' broad economic recession has included a business downturn in the clothing trade, where sales are down by about 7 percent as compared to two years ago. Clothing wholesalers have found, however, that the proportion of credit extended to retailers that was paid off on time fell sharply in the first year of the recession but returned to its prerecession level in the second year.

Which of the following, if true, most helps to explain the change between the first and the second year of the recession in the proportion of credit not paid off on time?

- (A) The total amount of credit extended to retailers by clothing wholesalers increased between the first year of the recession and the second year.
- (B) Between the first and second years of the recession, clothing retailers in Veltria saw many of their costs, rent and utilities in particular, increase.
- (C) Of the considerable number of clothing retailers in Veltria who were having financial difficulties before the start of the recession, virtually all were forced to go out of business during its first year.
- (D) Clothing retailers in Veltria attempted to stimulate sales in the second year of the recession by discounting merchandise.
- (E) Relatively recession-proof segments of the clothing trade, such as work clothes, did not suffer any decrease in sales during the first year of the recession.

Argument Evaluation

Situation Two years of recession in Veltria included a downturn in the clothing trade where sales are down 7 percent from two years ago. Yet, in the second year of the recession, the proportion of credit extended from clothing wholesalers to retailers that was paid off on time has returned to its prerecession level, after having fallen sharply during the first year.

Reasoning *Which option would most help to explain the change between the first and second year in the proportion of credit paid off on time?* The apparent discrepancy in the passage that needs explaining is between the downturn in the clothing trade over the last two years and the return to prerecession rates in the proportion of credit extended to clothing retailers that was paid on time. How can the proportion this past year be similar to what it would be in a normal year? After all, one would expect retailers to have a harder time paying off credit in a recession. And what changed in the past year to bring this about? If the first year of the recession drove out of business many of the retailers who were most apt to get behind in their payments to wholesalers, then that would explain how the rate at which credit was being paid on time could be as high in the second year of the recession as it was before the recession.

- A The fact that the absolute amount of credit that was extended to retailers went up in the second year does not help to explain why the *proportion that was paid on time* also went up.
- B If anything, this would suggest that more retailers would have trouble paying their credit to wholesalers on time.
- C **Correct.** This is the option that most helps to explain the phenomenon.
- D Just because retailers *tried* to stimulate sales does not mean that they succeeded, and the passage tells us that the downturn in sales in the clothing trade continued into the second year.
- E This does not change the fact that there was a downturn in sales of clothing during the first year. Furthermore, the question is why the rate of unpaid credit dropped in the *second* year of the recession.

The correct answer is C.

93. Commentator: The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

- (A) No country actually acts according to the theory of trade retaliation.
- (B) No country should block any of its markets to foreign trade.
- (C) Trade disputes should be settled by international tribunal.
- (D) For any two countries, at least one has some market closed to the other.
- (E) Countries close their markets to foreigners to protect domestic producers.

Argument Construction

Situation The theory of trade retaliation is explained as the action and reaction of closing markets between trading nations; no country would ever trade with another, the observation is offered, if every country acted according to the theory.

Reasoning *What assumption underlies this argument?* What makes the commentator conclude that no country would be trading if the theory were operative? The commentator must perceive of some condition as a given here. The argument assumes an initial action, a country's closing of a market to a trading partner, that is followed by a reaction, the retaliatory closing of a market by that partner. In this unending pattern of action-reaction, at least one of the two countries must have a market closed to the other.

- A The argument does not assume that no country acts according to the theory, just that not all countries do so.
- B The commentator's argument is about what the theory of trade retaliation predicts, not about what trade policies countries ought to follow, and a statement about the latter is not an assumption for the former.
- C This alternative scenario—trade disputes settled by international tribunal rather than by trade retaliation—plays no role in the argument.
- D Correct.** This statement properly identifies the assumption required to create the never-ending action-reaction pattern.
- E The argument does not pertain to countries' initial reasons for closing their markets to foreign trade, only to the consequences of doing so.

The correct answer is D.

94. Studies in restaurants show that the tips left by customers who pay their bill in cash tend to be larger when the bill is presented on a tray that bears a credit-card logo. Consumer psychologists hypothesize that simply seeing a credit-card logo makes many credit-card holders willing to spend more because it reminds them that their spending power exceeds the cash they have immediately available.

Which of the following, if true, most strongly supports the psychologists' interpretation of the studies?

- (A) The effect noted in the studies is not limited to patrons who have credit cards.
- (B) Patrons who are under financial pressure from their credit-card obligations tend to tip less when presented with a restaurant bill on a tray with a credit-card logo than when the tray has no logo.
- (C) In virtually all of the cases in the studies, the patrons who paid bills in cash did not possess credit cards.
- (D) In general, restaurant patrons who pay their bills in cash leave larger tips than do those who pay by credit card.
- (E) The percentage of restaurant bills paid with a given brand of credit card increases when that credit card's logo is displayed on the tray with which the bill is presented.

Argument Evaluation

Situation Studies have found that restaurant customers give more generous tips when their bills are brought on trays bearing a credit-card logo. Psychologists speculate that this is because the logo reminds customers of their ability to spend more money than they have.

Reasoning *Which of the options most helps to support the psychologists' explanation of the studies?* The psychologists' hypothesis is that the credit-card logos on the trays bring to the minds of those who tip more the fact that they have more purchasing power than merely the cash that they have at hand. This explanation would not be valid even if those people who are *not* reminded of their own excess purchasing power—if in fact they have any such power—when they see such a logo nonetheless tip more in such trays. Thus, if restaurant patrons who are under financial pressure from their credit-card obligations do not tip more when their bills are presented on trays bearing credit-card logos, then the psychologists' interpretation of the studies is supported.

- A This undermines the psychologists' interpretation, for it shows that the same phenomenon occurs even when the alleged cause has been removed.
- B Correct.** This option identifies the result that would most strengthen the psychologists' interpretation.
- C This undermines the psychologists' interpretation by showing that the same phenomenon occurs even when the alleged cause has been removed; patrons cannot be reminded of something that is not there.
- D To the extent that this bears on the interpretation of the study, it weakens it. Patrons *using* credit cards are surely aware that they have credit, and yet they spend *less* generously.
- E This does not support the idea that being reminded that one has a credit card induces one to be *more generous*, only that it induces one to *use* that credit card.

The correct answer is B.

95. Although parapsychology is often considered a pseudoscience, it is in fact a genuine scientific enterprise, for it uses scientific methods such as controlled experiments and statistical tests of clearly stated hypotheses to examine the questions it raises.

The conclusion above is properly drawn if which of the following is assumed?

- (A) If a field of study can conclusively answer the questions it raises, then it is a genuine science.
- (B) Since parapsychology uses scientific methods, it will produce credible results.
- (C) Any enterprise that does not use controlled experiments and statistical tests is not genuine science.
- (D) Any field of study that employs scientific methods is a genuine scientific enterprise.
- (E) Since parapsychology raises clearly statable questions, they can be tested in controlled experiments.

Argument Construction

Situation The argument states that parapsychology is a genuine science because it uses scientific methods.

Reasoning *What assumption does the argument make?* The argument asserts that parapsychology is a science, *for it uses scientific methods*. The argument thus assumes that the use of scientific methods proves that a field of study is a genuine science.

- A The argument is based on an assumption about how the questions are investigated rather than on how well they are answered.
- B The argument is not about whether the results are credible, so this assumption is irrelevant.
- C The argument does not concern what is *not* genuine science, so there is no need for this assumption.
- D **Correct.** This statement properly identifies the argument's assumption that the use of scientific method is sufficient to make an enterprise genuine science.
- E This assumption does not make the connection required by the argument between the use of scientific methods and a field of study's status as genuine science.

The correct answer is D.

96. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

- (A) Another manufacturer's introduction to the market of a similarly efficient burner
- (B) The Clifton Asphalt plant's need for more than one new burner
- (C) Very poor efficiency in the Clifton Asphalt plant's old burner
- (D) A decrease in the demand for asphalt
- (E) A steady increase in the price of oil beginning soon after the new burner is installed

Evaluation of a Plan

Situation Hotco produces a very efficient oil burner. It sells a burner to an asphalt plant, stating that the price of the burner is how much money the plant saves on oil using the new burner.

Reasoning *Hotco will be at a disadvantage if which of the following occurs?* Hotco is to be paid based on how much money the plant saves on oil over a two-year period. There is an assumption that a number of factors will remain relatively stable from the previous two years to the next two years. What is a factor that could cause a disadvantage for Hotco? If the price of oil goes up, then the plant will experience smaller savings than Hotco anticipated, despite the plant's using less oil than previously because of its new, more efficient burners. If the plant's savings go down, Hotco will not get the payment it is expecting.

- A The burner is already installed, so a competitor is not a problem.
- B The plant's need for multiple burners should be an opportunity for Hotco, not a disadvantage.
- C If the old burner was very inefficient, the new burner should save a great deal of money that would ultimately go to Hotco.
- D If demand decreases, less oil would need to be purchased, and Hotco would get more money.
- E **Correct.** This statement properly identifies a factor that would constitute a disadvantage for the plan: since the payment for the burner is based on savings in oil purchases, any increases in the price of oil will decrease savings and thus decrease payments to Hotco.

The correct answer is E.

97. **Delta Products Inc. has recently switched at least partly from older technologies using fossil fuels to new technologies powered by electricity.** The question has been raised whether it can be concluded that **for a given level of output Delta's operation now causes less fossil fuel to be consumed than it did formerly.** The answer, clearly, is yes, since the amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount needed to power the older technologies, provided level of output is held constant.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first identifies the content of the conclusion of the argument; the second provides support for that conclusion.
- (B) The first provides support for the conclusion of the argument; the second identifies the content of that conclusion.
- (C) The first states the conclusion of the argument; the second calls that conclusion into question.
- (D) The first provides support for the conclusion of the argument; the second calls that conclusion into question.
- (E) Each provides support for the conclusion of the argument.

Argument Evaluation

Situation Delta switched from technologies using fossil fuels to ones using electricity. It has been asked whether this results in less fossil fuel used per level of output. The answer is that it does.

Reasoning *What roles do the two boldfaced portions play in the argument?* The first boldfaced statement is simply asserted by the passage. But the second boldfaced statement, when it is first introduced, is not asserted to be true, but rather is identified as something that might be inferred from the first statement. By the end of the passage the argument concludes that the second statement is true.

- A This option simply reverses the roles that the statements play in the argument.
- B Correct.** This option identifies the roles the boldfaced portions play.
- C Nothing in the passage is intended to support the first statement; and the second statement is not supposed to call the first into question.
- D This correctly identifies the role of the first statement, but the second boldfaced portion does not call the argument's conclusion into question—it is part of a sentence that refers to the question whether that conclusion can be drawn from the first statement.
- E Again, this is only half right. The second boldfaced portion is not offered as support for the conclusion; if it were offered as such support, the argument would be guilty of circular reasoning, since the second boldfaced portion states exactly what the argument concludes.

The correct answer is B.

98. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

- (A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.
- (B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.
- (C) People who are better at abstract pattern recognition have more energy-efficient neural connections.
- (D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.
- (E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.

Argument Construction

Situation Experimental subjects worked with pattern recognition and completion. The subjects who performed best showed the lowest expenditure of energy in neurons in the brain.

Reasoning *Which hypothesis best accounts for the findings?* In order to account for the findings, the hypothesis must suggest a plausible link between successful performance and the energy expenditure of neurons in the brain. Consider each answer choice, and evaluate its plausibility and logic. Where is there a reasonably direct relationship between the given factors and the conclusion that is drawn? Understand that hypotheses based on factors not included in the experiment cannot be used to account for the findings.

- A The experiment did not compare types of reasoning so this hypothesis does not account for the results.
- B No information is provided about subjects' satisfaction, so this hypothesis is not warranted.
- C **Correct.** This statement properly identifies a hypothesis that connects subjects' performance with their energy expenditure and so could account for the experiment's results.
- D The most successful subjects would presumably not have completed fewer patterns than average, so the posited increase in energy would likely lead to higher energy expenditures for them, not lower.
- E No information is offered on the subjects, so no hypothesis about athletes is warranted.

The correct answer is C.

99. Which of the following most logically completes the argument?

The irradiation of food kills bacteria and thus retards spoilage. However, it also lowers the nutritional value of many foods. For example, irradiation destroys a significant percentage of whatever vitamin B1 a food may contain. Proponents of irradiation point out that irradiation is no worse in this respect than cooking. However, this fact is either beside the point, since much irradiated food is eaten raw, or else misleading, since _____.

- (A) many of the proponents of irradiation are food distributors who gain from foods' having a longer shelf life
- (B) it is clear that killing bacteria that may be present on food is not the only effect that irradiation has
- (C) cooking is usually the final step in preparing food for consumption, whereas irradiation serves to ensure a longer shelf life for perishable foods
- (D) certain kinds of cooking are, in fact, even more destructive of vitamin B1 than carefully controlled irradiation is
- (E) for food that is both irradiated and cooked, the reduction of vitamin B1 associated with either process individually is compounded

Argument Construction

Situation Irradiation kills bacteria but it also lowers the amount of nutrients—including vitamin B1—in foods. Proponents try to dismiss this concern by arguing that cooking destroys B1 as well. That point is said to be misleading.

Reasoning *Which option most logically completes the argument?* For the proponents' claim to be misleading it needs to be suggesting something about irradiation that is false. By stating that irradiation destroys no more B1 than cooking does, the proponent seems to be suggesting that any food that is going to be cooked might as well be irradiated because it will end up with the same amount of B1 either way. But if the effects of radiation and cooking combine to destroy more B1 than cooking or irradiation alone would, then the proponents' claim suggests something that is false.

- A This might make the assurances of the proponents less credible but it does not make their claim misleading.
- B Nothing about the proponents' claim suggests that the only effect irradiation has is to kill bacteria.
- C The fact that cooking and irradiation have different purposes does not indicate that the proponents' claim suggests something that is false.
- D If anything, this strengthens the proponents' point by minimizing the relative damage caused by irradiation.
- E **Correct.** This option most logically completes the argument.

The correct answer is E.

100. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called “benchmarking,” permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

- (A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.
- (B) Getting “inside” information about the unique practices of competitors is particularly difficult.
- (C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.
- (D) Managers are generally more receptive to new ideas that they find outside their own industry.
- (E) Much of the success of good companies is due to their adoption of practices that take advantage of the special circumstances of their products or markets.

Argument Construction

Situation “Benchmarking” is a technique for judging the performance of a company by comparing it with other companies. The goal is to find and adopt better industrial practices.

Reasoning *Which one condition does NOT recommend benchmarking against noncompetitors? Which one condition IS a well-founded reason to benchmark against competitors?* First, sort through the given information and the answer choices for the question to gain an understanding of the potential advantages or disadvantages of comparing a company to its competitors or to noncompetitors. What are the reasons in favor of benchmarking against noncompetitors? Information about noncompeting companies is easier to obtain; it can offer new insights; and it may be easier to put into practice. Why then might a manager choose to benchmark against competitors? Competing companies do share special circumstances involving products and markets. If companies are often successful because of practices related to these special circumstances within their industry, then benchmarking against competitors will reveal these practices and so be more fruitful than benchmarking against noncompetitors.

- A Since benchmarking against competitors would yield few new practices, it would be better to benchmark against noncompetitors.
- B If information about competitors is hard to obtain, benchmarking against noncompetitors is preferable.
- C Since benchmarking against noncompetitors would yield practices useful in beating competitors, benchmarking against noncompetitors is preferable.
- D If managers are more likely to adopt new practices learned from benchmarking against noncompetitors, then this technique is preferable.
- E **Correct.** This statement properly identifies the rationale that supports a company’s benchmarking against its competitors.

The correct answer is E.

101. For a trade embargo against a particular country to succeed, a high degree of both international accord and ability to prevent goods from entering or leaving that country must be sustained. A total blockade of Patria's ports is necessary to an embargo, but such an action would be likely to cause international discord over the embargo.

The claims above, if true, most strongly support which of the following conclusions?

- (A) The balance of opinion is likely to favor Patria in the event of a blockade.
- (B) As long as international opinion is unanimously against Patria, a trade embargo is likely to succeed.
- (C) A naval blockade of Patria's ports would ensure that no goods enter or leave Patria.
- (D) Any trade embargo against Patria would be likely to fail at some time.
- (E) For a blockade of Patria's ports to be successful, international opinion must be unanimous.

Argument Construction

Situation The success of a trade embargo requires both international accord and the ability to enforce the embargo. In the case of Patria, an embargo would require a total blockade of the ports, but the blockade itself would likely lead to international discord.

Reasoning *What conclusion can be drawn from this information?* A conclusion must be based only on the information provided. Since the given information discusses the general conditions for a successful trade embargo and the conditions specific to the possible embargo in Patria, the conclusion should be about the likelihood of success for a trade embargo against Patria. Since international accord is necessary for the success of an embargo but the blockade required in this case would create international discord, the contradictions of this paradoxical situation make any embargo unlikely to succeed.

- A Although international discord would likely result from a blockade, no information allows a conclusion to be drawn about the balance of opinion.
- B This conclusion is not justified because a successful embargo requires both international accord and the ability to enforce the embargo.
- C This statement simply defines the purpose of a blockade; it is not a conclusion from the information given.
- D **Correct.** This statement properly identifies a conclusion supported by the claims.
- E The necessary condition for success is *a high degree of international accord*, not unanimity, so this conclusion cannot be justified.

The correct answer is D.

102. Theater Critic: The play *La Finestrina*, now at Central Theater, was written in Italy in the eighteenth century. The director claims that this production is as similar to the original production as is possible in a modern theater. Although the actor who plays Harlequin the clown gives a performance very reminiscent of the twentieth-century American comedian Groucho Marx, Marx's comic style was very much within the comic acting tradition that had begun in sixteenth-century Italy.

The considerations given best serve as part of an argument that

- (A) modern audiences would find it hard to tolerate certain characteristics of a historically accurate performance of an eighteenth-century play
- (B) Groucho Marx once performed the part of the character Harlequin in *La Finestrina*
- (C) in the United States the training of actors in the twentieth century is based on principles that do not differ radically from those that underlay the training of actors in eighteenth-century Italy
- (D) the performance of the actor who plays Harlequin in *La Finestrina* does not serve as evidence against the director's claim
- (E) the director of *La Finestrina* must have advised the actor who plays Harlequin to model his performance on comic performances of Groucho Marx

Argument Construction

Situation The director of the local production of *La Finestrina* says it is as similar to the original production as is possible in a modern theater. The actor playing Harlequin gives a performance reminiscent of Groucho Marx, whose comic style falls within an acting tradition which began in sixteenth-century Italy.

Reasoning *For which of the options would the consideration given best serve as an argument?* The actor's performance was reminiscent of someone who fell within a tradition going back to sixteenth-century Italy. The play was written, and therefore was likely first performed, in eighteenth-century Italy. All of this suggests that there could be a similarity between the performances of Harlequin in the local production and in the original production. While the two performances *might* have been quite dissimilar, there is nothing *here* that supports that.

- A Regardless of how plausible this option might be on its own merits, the passage provides no support for it because the passage provides no information about the characteristics of a historically accurate performance of an eighteenth-century play.
- B The passage neither says this nor implies it.
- C The passage says nothing about the training of actors, so this option would be supported by the passage only in a very roundabout, indirect way.
- D **Correct.** This is the option that the considerations most support.
- E That the performance reminded the theater critic of Groucho Marx hardly shows that the similarity was intentional, let alone that it was at the director's instruction.

The correct answer is D.

103. The cost of producing radios in Country Q is 10 percent less than the cost of producing radios in Country Y. Even after transportation fees and tariff charges are added, it is still cheaper for a company to import radios from Country Q to Country Y than to produce radios in Country Y.

The statements above, if true, best support which of the following assertions?

- (A) Labor costs in Country Q are 10 percent below those in Country Y.
- (B) Importing radios from Country Q to Country Y will eliminate 10 percent of the manufacturing jobs in Country Y.
- (C) The tariff on a radio imported from Country Q to Country Y is less than 10 percent of the cost of manufacturing the radio in Country Y.
- (D) The fee for transporting a radio from Country Q to Country Y is more than 10 percent of the cost of manufacturing the radio in Country Q.
- (E) It takes 10 percent less time to manufacture a radio in Country Q than it does in Country Y.

Argument Construction

Situation One country's manufacturing costs for a product are 10 percent higher than another country's. Even with tariffs and transportation costs, importing is a less expensive option than local production.

Reasoning *What conclusion can be drawn from this information?* Because production costs are 10 percent higher in Country Y than in Country Q, importing radios is less expensive only if the combined costs of tariffs and transportation are less than 10 percent of the manufacturing costs.

- A Lower labor costs may explain the lower production costs in Country Q, but there may be a variety of other reasons as well.
- B It is possible that manufacturing jobs would be decreased, but no evidence in the passage leads to that conclusion.
- C **Correct.** This statement properly identifies the point that, for importing to be less expensive, tariffs and transportation costs together must be less than 10 percent of manufacturing costs. Therefore, tariffs alone must be less than 10 percent
- D If transportation costs were more than 10 percent, importing would be more expensive, not less.
- E Less production time may explain the lower costs in Country Q, but there may be a variety of other reasons as well.

The correct answer is C.

104. Although the discount stores in Goreville's central shopping district are expected to close within five years as a result of competition from a SpendLess discount department store that just opened, those locations will not stay vacant for long. In the five years since the opening of Colson's, a nondiscount department store, a new store has opened at the location of every store in the shopping district that closed because it could not compete with Colson's.

Which of the following, if true, most seriously weakens the argument?

- (A) Many customers of Colson's are expected to do less shopping there than they did before the SpendLess store opened.
- (B) Increasingly, the stores that have opened in the central shopping district since Colson's opened have been discount stores.
- (C) At present, the central shopping district has as many stores operating in it as it ever had.
- (D) Over the course of the next five years, it is expected that Goreville's population will grow at a faster rate than it has for the past several decades.
- (E) Many stores in the central shopping district sell types of merchandise that are not available at either SpendLess or Colson's.

Argument Evaluation

Situation Due to competition from a recently opened SpendLess discount department store, discount stores in Goreville's central shopping district are expected to close within five years. But those locations will not be vacant long, for new stores have replaced all those that closed because of the opening five years ago of a Colson's nondiscount department store.

Reasoning *The question is which option would most weaken the argument?* The arguer infers that stores that leave because of the SpendLess will be replaced in their locations by other stores because that is what happened after the Colson's department came in. Since the reasoning relies on a presumed similarity between the two cases, any information that brings to light a relevant dissimilarity would weaken the argument. If the stores that were driven out by Colson's were replaced mostly by discount stores, that suggests that the stores were replaced because of a need that no longer exists after the opening of SpendLess.

- A The fact that Colson's may be seeing fewer customers does not mean that the discount stores that close will not be replaced; they might be replaced by stores that in no way compete with Colson's or SpendLess.
- B Correct.** This option most seriously weakens the argument.
- C If anything, this strengthens the argument by indicating that Goreville's central shopping district is thriving.
- D This, too, strengthens the argument because one is more likely to open a new store in an area with a growing population.
- E Because this statement does not indicate whether any of these stores that offer goods not sold at SpendLess or Colson's will be among those that are closing, it is not possible to determine what effect it has on the strength of the argument.

The correct answer is B.

105. The average normal infant born in the United States weighs between 12 and 14 pounds at the age of three months. Therefore, if a three-month-old child weighs only 10 pounds, its weight gain has been below the United States average.

Which of the following indicates a flaw in the reasoning above?

- (A) Weight is only one measure of normal infant development.
- (B) Some three-month-old children weigh as much as 17 pounds.
- (C) It is possible for a normal child to weigh 10 pounds at birth.
- (D) The phrase “below average” does not necessarily mean insufficient.
- (E) Average weight gain is not the same as average weight.

Argument Evaluation

Situation An infant’s low weight at three months, compared with the national average, shows that the child’s weight gain has not been average.

Reasoning *How is this reasoning flawed?* The conclusion relies on a direct connection between average weight and average weight gain. While the infant’s weight is known to be below average for a three-month-old child, no conclusion can be drawn about this infant’s weight gain. No information is given about average birth weights or average weight gains.

- A The passage does not say that weight is the sole measure of development; this statement fails to point out any error in the reasoning.
- B The greater weight of some infants would be calculated in reaching the average.
- C This birth weight may be consistent with the weight range at three months; not enough information is provided to make a judgment.
- D The passage does not claim that *below average* is the same as *insufficient*, so pointing out the distinction does not show an error in the reasoning.
- E **Correct.** This statement properly identifies the logical flaw in the reasoning, which takes evidence about average weight to draw a conclusion about average weight gain. The two measures are not the same.

The correct answer is E.

106. Kale has more nutritional value than spinach. But since collard greens have more nutritional value than lettuce, it follows that kale has more nutritional value than lettuce.

Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:

- (A) Collard greens have more nutritional value than kale.
- (B) Spinach has more nutritional value than lettuce.
- (C) Spinach has more nutritional value than collard greens.
- (D) Spinach and collard greens have the same nutritional value.
- (E) Kale and collard greens have the same nutritional value.

Argument Construction

Situation Using the symbol > to mean “has (or have) more nutritional value than,” this statement can be expressed as kale > spinach, and collard greens > lettuce. The conclusion that kale > lettuce remains valid if all but one of the premises is added.

Reasoning *Which premise makes the conclusion incorrect?* The information given in the passage is that kale > spinach and that collard greens > lettuce. This is not enough to conclude that kale > lettuce; another premise is needed to establish the relative nutritional value of kale and lettuce. Look at each premise offered in the answers to see whether the conclusion kale > lettuce remains valid. The ranking of vegetables may change with the additional premises; the conclusion, kale > lettuce, must not change. Find the one answer that does NOT support the conclusion.

- A Correct.** This statement properly identifies an additional premise that would invalidate the argument. If collard greens > kale, then it is possible that lettuce > kale, because the ranking could be collard greens > lettuce > kale > spinach.
- B** If spinach > lettuce, then kale > lettuce because kale > spinach.
- C** If spinach > collard greens, then kale > lettuce because the ranking would then be kale > spinach > collard greens > lettuce.
- D** If spinach = collard greens, then kale > lettuce because the ranking would be kale > spinach = collard greens > lettuce.
- E** If kale = collard greens, then kale > lettuce because kale = collard greens > lettuce.

The correct answer is A.

107. Last year all refuse collected by Shelbyville city services was incinerated. This incineration generated a large quantity of residual ash. In order to reduce the amount of residual ash Shelbyville generates this year to half of last year's total, the city has revamped its collection program. This year city services will separate for recycling enough refuse to reduce the number of truckloads of refuse to be incinerated to half of last year's number.

Which of the following is required for the revamped collection program to achieve its aim?

- (A) This year, no materials that city services could separate for recycling will be incinerated.
- (B) Separating recyclable materials from materials to be incinerated will cost Shelbyville less than half what it cost last year to dispose of the residual ash.
- (C) Refuse collected by city services will contain a larger proportion of recyclable materials this year than it did last year.
- (D) The refuse incinerated this year will generate no more residual ash per truckload incinerated than did the refuse incinerated last year.
- (E) The total quantity of refuse collected by Shelbyville city services this year will be no greater than that collected last year.

Argument Construction

Situation To cut in half the residual ash produced at its incinerator, the city will separate for recycling enough refuse to cut in half the number of truckloads of refuse going to the incinerator.

Reasoning *Which option is required if the city's revamped collection program is to achieve its aim?* Cutting the number of truckloads of refuse in half must reduce the amount of residual ash to half last year's level. But if removal of the recycled refuse does not proportionately reduce the amount of ash, this will not happen. So if the amount of residual ash produced per truckload increases after recycling, then the amount of ash produced will not be cut in half by cutting in half the number of truckloads.

- A This merely indicates that no further reduction of ash through recycling could be achieved this year; it indicates nothing about how much the ash will be reduced.
- B This suggests a further benefit from recycling, but does not bear on the amount of ash that will be produced.
- C Since no information is provided about how much, if any, recyclable materials were removed from the refuse last year, this does not affect the reasoning.
- D Correct.** This states a requirement for the collection program to achieve its aim.
- E This is not a requirement because even if the city collects more refuse this year, it could still cut in half the amount of residual ash by cutting in half the number of truckloads going to the incinerator.

The correct answer is D.

108. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

- (A) The amount of time a patient spends in surgery versus the amount of time spent recovering from surgery
- (B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them
- (C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements
- (D) The degree to which custom replacements produced with the new technique are more carefully manufactured than are ordinary replacements
- (E) The amount by which custom replacements produced with the new technique will drop in cost as the production procedures become standardized and applicable on a larger scale

Argument Evaluation

Situation Custom prosthetic bone replacements, although twice as expensive as ordinary replacements, should be cost-effective because they reduce the time of surgery, recovery, and potential future hospitalizations.

Reasoning *What research study would help in evaluating this argument?* The custom replacements must be compared with the ordinary replacements on the basis of the costs of surgery, recovery, and potential repeat hospitalizations. Repeat surgery involves all three kinds of costs; the extent to which such repeat surgery can be avoided is a sound measure of the cost-effectiveness of the two types of replacements.

- A Comparing time in surgery with time in recovery does not lead to a conclusion about the two kinds of replacements and their cost-effectiveness.
- B The cost-effectiveness of the custom replacements is being projected in the current moment; a previous decline in production costs would already have been taken into account.
- C **Correct.** This statement properly identifies evidence of cost-effectiveness that would assist in evaluating the argument.
- D The analysis is about cost-effectiveness; it is not about the level of care taken in manufacture.
- E Anticipating a future drop in production costs is outside the scope of the analysis, which should be based on current conditions.

The correct answer is C.

109. Springfield Fire Commissioner: The vast majority of false fire alarms are prank calls made anonymously from fire alarm boxes on street corners. Since virtually everyone has access to a private telephone, these alarm boxes have outlived their usefulness. Therefore, we propose to remove the boxes. Removing the boxes will reduce the number of prank calls without hampering people's ability to report a fire.

Which of the following, if true, most strongly supports the claim that the proposal, if carried out, will have the announced effect?

- (A) The fire department traces all alarm calls made from private telephones and records where they came from.
- (B) Maintaining the fire alarm boxes costs Springfield approximately \$5 million annually.
- (C) A telephone call can provide the fire department with more information about the nature and size of a fire than can an alarm placed from an alarm box.
- (D) Responding to false alarms significantly reduces the fire department's capacity for responding to fires.
- (E) On any given day, a significant percentage of the public telephones in Springfield are out of service.

Argument Evaluation

Situation It is proposed that fire alarm boxes on street corners be removed. Doing so will reduce the number of prank calls without hampering people's ability to report fires. Most false alarms are prank calls made from these boxes. They have outlived their usefulness, as most people now have private telephones.

Reasoning Which option most strongly supports the claim that removing the alarm boxes will reduce the number of prank calls without hampering people's ability to report a fire? The argument already provides some evidence that (1) removing the boxes will reduce prank calls—because that is where most such call are now made from—and that (2) doing so will not hamper people's ability to report fires—virtually everyone already has a private telephone from which they could report a fire. So for an option to be correct it must support either (1) or (2) or both, and provide more such support than the other options. If prank calls from private telephones are traced back to their origin, that should deter people from making such calls.

- A **Correct.** This option provides the most support for the claim.
- B This may provide a reason for supporting the proposal, but it provides no support for either (1) or (2).
- C This indicates that it is better to receive fire calls from telephones than from alarm boxes—other things being equal—but that supports neither (1) nor (2). There is still the possibility that the only person aware that a fire has started is near an alarm box but lacks access to a telephone.
- D This merely indicates that it would be good if the proposal had the intended effects.
- E This actually *weakens* support for (2), by enhancing the possibility that the only person aware that a fire has started is near an alarm box but lacks access to a working telephone.

The correct answer is A.

110. Correctly measuring the productivity of service workers is complex. Consider, for example, postal workers: they are often said to be more productive if more letters are delivered per postal worker. But is this really true? What if more letters are lost or delayed per worker at the same time that more are delivered?

The objection implied above to the productivity measure described is based on doubts about the truth of which of the following statements?

- (A) Postal workers are representative of service workers in general.
- (B) The delivery of letters is the primary activity of the postal service.
- (C) Productivity should be ascribed to categories of workers, not to individuals.
- (D) The quality of services rendered can appropriately be ignored in computing productivity.
- (E) The number of letters delivered is relevant to measuring the productivity of postal workers.

Argument Evaluation

Situation In considering how best to measure productivity, the assumption is made that the more letters postal workers deliver, the more productive they are. This assumption is then challenged: What if the number of delayed and lost letters increases proportionately with the number of letters delivered?

Reasoning *Which statement would NOT be accepted by those objecting to the measure?* The point of the objection is that the number of letters delivered is, by itself, an inadequate measure of postal workers' productivity. The challenge introduces the issue of the quality of the work being performed by suggesting that the number of misdirected letters should also be taken into account. The challenge is based on rejecting the idea that quality can be ignored when measuring productivity.

- A The argument uses postal workers as an example; the challenge does not question the fairness of the example.
- B Letter delivery is assumed to be the primary activity of postal workers because their productivity is measured on that basis; the challenge does not reject this point.
- C The argument does discuss a category of workers, postal workers, rather than individuals; the challenge does not reject this point.
- D **Correct.** This statement properly identifies the point that is the basis of the challenge to the measure; the objection does NOT accept the position that quality can be ignored in evaluating productivity.
- E There is no doubt that counting letters delivered is part of measuring productivity; the challenge is to its being the only measure.

The correct answer is D.

111. The difficulty with the proposed high-speed train line is that a used plane can be bought for one-third the price of the train line, and the plane, which is just as fast, can fly anywhere. The train would be a fixed linear system, and we live in a world that is spreading out in all directions and in which consumers choose the free-wheel systems (cars, buses, aircraft), which do not have fixed routes. Thus a sufficient market for the train will not exist.

Which of the following, if true, most severely weakens the argument presented above?

- (A) Cars, buses, and planes require the efforts of drivers and pilots to guide them, whereas the train will be guided mechanically.
- (B) Cars and buses are not nearly as fast as the high-speed train will be.
- (C) Planes are not a free-wheel system because they can fly only between airports, which are less convenient for consumers than the high-speed train's stations would be.
- (D) The high-speed train line cannot use currently underutilized train stations in large cities.
- (E) For long trips, most people prefer to fly rather than to take ground-level transportation.

Argument Evaluation

Situation A free-wheel system of transportation, the airplane, is as fast as a fixed linear system, the high-speed train. Because people prefer free-wheel systems that do not have fixed routes, the high-speed train will never find a sufficient market.

Reasoning *What is the potential weakness in this argument?* The passage argues that consumers will choose to fly rather than use the high-speed train. The argument is based upon a consumer preference for free-wheel systems over fixed linear systems. The definition of a free-wheel system is one that does *not have fixed routes*. The argument is weakened by any challenge to the definition of flying as a free-wheel transportation system. It is true that airplanes may be able to go almost anywhere, but commercial airlines do establish fixed routes and necessarily must travel to and from airports. Furthermore, if airports are less conveniently located for consumers than are train terminals, consumers might well prefer the more convenient of the two fixed-route alternatives.

- A The method of guidance is irrelevant to the argument about free-wheel versus fixed linear systems.
- B The passage compares the speed and system models of airplanes and high-speed trains. The argument does not incorporate buses and cars, which are included only to give examples of free-wheel systems, and so this statement is irrelevant.
- C **Correct.** This statement properly identifies the weakness in the argument: Airplanes are not truly a free-wheel system because they are restricted to traveling between airports. Additionally, airports tend to be less conveniently located than train terminals, which has further potential to weaken the argument in favor of airplanes.
- D The inability of high-speed trains to use some convenient train stations strengthens, rather than weakens, the argument in favor of airplanes.
- E Consumer preference for air travel over ground travel on long trips strengthens, rather than weakens, the argument in favor of airplanes.

The correct answer is C.

112. The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- (A) The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
- (B) Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
- (C) The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
- (D) The number of televisions assembled annually in Vernland has increased significantly during the past three years.
- (E) The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.

Argument Construction

Situation Television assemblers in Vernland are paid less than those in neighboring Borodia. The number of televisions sold in Borodia has not dropped since its tariffs on Borodian TVs were lowered three years ago, but the number of TV assemblers in Borodia has. So TV imports from Vernland have likely increased.

Reasoning *What assumption does the argument depend on?* The fact that fewer individuals in Borodia are working as TV assemblers is offered as evidence that TV imports from Vernland into Borodia have likely increased. That piece of evidence is relevant *only* as an indication that the number of TVs being produced within Borodia has decreased. But a drop in the number of TV assemblers does not indicate a drop in the number of TVs being assembled *if* the number of TVs an average assembler puts together has increased. Thus, the argument must be assuming that the average time it takes an assembler to put together a TV has not significantly decreased.

- A The argument does not rely on any information about the number of television assemblers in Vernland nor for that matter on the number of TVs assembled in Vernland.
- B The argument need not assume there is any difference in the features of the TVs produced in the two countries. Increased sales of Vernlandian TVs in Borodia could be due to any number of other reasons, such as price or quality.
- C **Correct.** This option states an assumption on which the argument depends.
- D The argument does not depend upon this being so: Vernland's domestic TV sales (or perhaps its exports to countries other than Borodia) may have decreased by more than its imports into Borodia have increased.
- E The argument's conclusion addresses what *has* happened; the argument in no way relies on any assumptions about what may or may not happen in the coming years.

The correct answer is C.

113. The pharmaceutical industry argues that because new drugs will not be developed unless heavy development costs can be recouped in later sales, the current 20 years of protection provided by patents should be extended in the case of newly developed drugs. However, in other industries new-product development continues despite high development costs, a fact that indicates that the extension is unnecessary.

Which of the following, if true, most strongly supports the pharmaceutical industry's argument against the challenge made above?

- (A) No industries other than the pharmaceutical industry have asked for an extension of the 20-year limit on patent protection.
- (B) Clinical trials of new drugs, which occur after the patent is granted and before the new drug can be marketed, often now take as long as 10 years to complete.
- (C) There are several industries in which the ratio of research and development costs to revenues is higher than it is in the pharmaceutical industry.
- (D) An existing patent for a drug does not legally prevent pharmaceutical companies from bringing to market alternative drugs, provided they are sufficiently dissimilar to the patented drug.
- (E) Much recent industrial innovation has occurred in products—for example, in the computer and electronics industries—for which patent protection is often very ineffective.

Argument Evaluation

Situation The pharmaceutical industry argues for longer patents for new drugs to offset high development costs, claiming that no new drugs can be developed profitably otherwise. Its critics argue that the patent extension is unnecessary because other industries with high development costs keep developing new products.

Reasoning *How can the pharmaceutical industry best answer the challenge concerning other industries?* The pharmaceutical industry must explain how it differs from other industries. Unlike other industries, it must wait for clinical trials of new drugs before those drugs can be marketed. The clinical trials may take half the patent period, so the pharmaceutical industry may have only half the time allowed to other industries to market new products and recover development costs.

- A Other industries' failure to ask for the same extension does not justify the pharmaceutical industry request.
- B Correct.** This statement properly identifies evidence that supports the pharmaceutical industry's argument.
- C Pointing out that other industries may have even higher ratios of costs to revenues weakens the pharmaceutical industry's argument.
- D If alternative drugs can rival a patented drug, then the extended patent protection the pharmaceutical industry seeks would appear to be useless.
- E Innovation's effects on patent protection in other industries do not explain why the pharmaceutical industry needs longer patent protection.

The correct answer is B.

114. Guidebook writer: I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

Which of the following, if true, most seriously weakens the guidebook writer's argument?

- (A) The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.
- (B) Hotels built since 1930 can generally accommodate more guests than those built before 1930.
- (C) The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.
- (D) The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.
- (E) The average length of apprenticeship for carpenters has declined significantly since 1930.

Argument Evaluation

Situation The original carpentry in hotels built before 1930 shows superior care, skill, and effort to that in hotels built after 1930. This leads to the conclusion that carpenters working on hotels before 1930 were superior in skill, care, and effort to those that came after.

Reasoning *Which option most seriously weakens the argument?* The argument draws an inference from a comparison between carpentry in hotels of different eras to a judgment about the carpenters working on hotels in those eras. One way to weaken this inference is by finding some way in which the carpentry in the hotels may be unrepresentative of the skill, care, and effort of the carpenters working in the eras. The comparison is between the carpentry evident in hotels of the two eras *that still exist*. Thus, if there is some reason to think that hotels with good carpentry survive longer than those with bad carpentry, then still-existing hotels from the older era will have disproportionately more good carpentry, even assuming no difference between the skill, care, and effort of the carpenters from the two eras.

- A This option applies equally to both eras, so it has no bearing on the argument.
- B It is not clear whether carpenters working on larger hotels would exercise more, less, or the same skill and care as those working on smaller hotels; thus this option does not weaken the argument.
- C The argument does not rely, even implicitly, on there being any difference in the quality of materials used in the two eras, so it does not weaken the argument to point out that no such difference exists.
- D **Correct.** This weakens the reasoning in the argument by showing a respect in which the comparison between *existing* hotels is unrepresentative.
- E The longer a carpenter works as an apprentice, the more skill he or she is apt to have upon becoming a full-fledged carpenter. So this option would tend to slightly strengthen rather than weaken the argument.

The correct answer is D.

115. Caterpillars of all species produce an identical hormone called “juvenile hormone” that maintains feeding behavior. Only when a caterpillar has grown to the right size for pupation to take place does a special enzyme halt the production of juvenile hormone. This enzyme can be synthesized and will, on being ingested by immature caterpillars, kill them by stopping them from feeding.

Which of the following, if true, most strongly supports the view that it would NOT be advisable to try to eradicate agricultural pests that go through a caterpillar stage by spraying croplands with the enzyme mentioned above?

- (A) Most species of caterpillar are subject to some natural predation.
- (B) Many agricultural pests do not go through a caterpillar stage.
- (C) Many agriculturally beneficial insects go through a caterpillar stage.
- (D) Since caterpillars of different species emerge at different times, several sprayings would be necessary.
- (E) Although the enzyme has been synthesized in the laboratory, no large-scale production facilities exist as yet.

Argument Evaluation

Situation The feeding behavior of immature caterpillars of all species is regulated by the *juvenile hormone*; an enzyme stops the production of this hormone when the caterpillars have reached an appropriate level of growth. At any earlier time in their development, ingesting this enzyme, which can be produced synthetically, kills the immature caterpillars because they stop feeding. What sort of evidence would count against the advisability of spraying croplands with this enzyme to eradicate agricultural pests that undergo a caterpillar stage?

Reasoning *What evidence strengthens the argument that the synthetic enzyme should not be sprayed on croplands?* Spraying the enzyme will kill all insects that go through a caterpillar stage. If the goal is to eradicate insect pests by killing them at the caterpillar stage, why is this spraying inadvisable? The relationship between crops and insects is complicated; while some insects harm crops, others benefit them. If the spraying kills all susceptible insects, regardless of whether they harm or help the crops, it can also destroy agriculturally beneficial insects. This is a good reason to doubt whether the spraying would be advisable.

- A Spraying would eradicate all pests that go through a caterpillar stage and so is more effective than natural predators are. This statement provides no reason not to spray.
- B Spraying affects only those agricultural pests that do go through a caterpillar stage, so this statement is irrelevant.
- C **Correct.** This statement properly identifies evidence that strengthens the argument against spraying.
- D The need to spray repeatedly does not provide any significant evidence that spraying is inadvisable, but simply suggests that the process will be more complicated.
- E The mere lack of *current* production facilities does not mean that it would be inadvisable to develop and use the spray in the future.

The correct answer is C.

116. Firms adopting “profit-related-pay” (PRP) contracts pay wages at levels that vary with the firm’s profits. In the metalworking industry last year, firms with PRP contracts in place showed productivity per worker on average 13 percent higher than that of their competitors who used more traditional contracts.

If, on the basis of the evidence above, it is argued that PRP contracts increase worker productivity, which of the following, if true, would most seriously weaken that argument?

- (A) Results similar to those cited for the metalworking industry have been found in other industries where PRP contracts are used.
- (B) Under PRP contracts costs other than labor costs, such as plant, machinery, and energy, make up an increased proportion of the total cost of each unit of output.
- (C) Because introducing PRP contracts greatly changes individual workers’ relationships to the firm, negotiating the introduction of PRP contracts is complex and time-consuming.
- (D) Many firms in the metalworking industry have modernized production equipment in the last five years, and most of these introduced PRP contracts at the same time.
- (E) In firms in the metalworking industry where PRP contracts are in place, the average take-home pay is 15 percent higher than it is in those firms where workers have more traditional contracts.

Argument Evaluation

Situation Last year, firms using profit-related-pay (PRP) contracts found that productivity per worker increased significantly as compared to firms that used traditional wage contracts.

Reasoning *What point weakens the argument that PRP contracts increase productivity?* The argument directly attributes increased productivity to the existence of PRP contracts. Any information that other factors might have contributed to the increase in productivity would weaken the argument. If production equipment was modernized during the same period that the new contracts took effect, then it is possible that the modernized equipment was responsible for the higher level of productivity.

- A Similar findings in other industries strengthen rather than weaken the argument.
- B If workers are more productive, labor costs are a smaller proportion of total costs and nonlabor costs are a greater proportion. This point does not weaken the argument.
- C The difficulty of negotiating the contracts is irrelevant to a conclusion about what happens once the contracts are in place.
- D **Correct.** This statement properly identifies information that weakens the argument.
- E The higher pay of workers on PRP contracts is consistent with their higher productivity. This statement does not weaken the argument.

The correct answer is D.

117. Scientists typically do their most creative work before the age of forty. It is commonly thought that this happens because aging by itself brings about a loss of creative capacity. However, studies show that **of scientists who produce highly creative work beyond the age of forty, a disproportionately large number entered their field at an older age than is usual**. Since by the age of forty the large majority of scientists have been working in their field for at least fifteen years, the studies' finding strongly suggests that the real reason why scientists over forty rarely produce highly creative work is not that they have aged but rather that **scientists over forty have generally spent too long in their field**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a claim, the accuracy of which is at issue in the argument; the second is a conclusion drawn on the basis of that claim.
- (B) The first is an objection that has been raised against a position defended in the argument; the second is that position.
- (C) The first is evidence that has been used to support an explanation that the argument challenges; the second is that explanation.
- (D) The first is evidence that has been used to support an explanation that the argument challenges; the second is a competing explanation that the argument favors.
- (E) The first provides evidence to support an explanation that the argument favors; the second is that explanation.

Argument Evaluation

Situation It is generally thought that the reason scientists tend to do their most creative work before age forty is that creative capacity declines with age. Yet those scientists who do creative work after forty tend, disproportionately, to have started their careers in science later in life. So a better explanation is that many scientists over forty have just been at it too long.

Reasoning *What roles do the two portions of the argument that are in boldface play?* The argument describes a phenomenon and what is commonly thought to explain it. Then, the first boldfaced statement introduces evidence that suggests that there may be another explanation. After this evidence is further developed, the argument then concludes that there is indeed a better explanation for the phenomenon; that explanation is stated in the second boldfaced portion.

- A The accuracy of the first statement is never called into question by the argument; rather, it is relied upon as the basis for the argument's conclusion.
- B The first statement is not an objection against the position the argument defends; instead, it is a basis for that position.
- C The first statement is not used to support a position the argument challenges, and the second statement is the explanation the argument supports, not the one it challenges.
- D The second statement is indeed an explanation that the argument favors; but the first statement is not used to support a competing explanation that the argument challenges.
- E **Correct.** This option correctly identifies the roles played by the boldfaced portions of the argument.

The correct answer is E.

118. Northern Air has dozens of flights daily into and out of Belleville Airport, which is highly congested. Northern Air depends for its success on economy and quick turnaround and consequently is planning to replace its large planes with Skybuses, whose novel aerodynamic design is extremely fuel efficient. The Skybus's fuel efficiency results in both lower fuel costs and reduced time spent refueling.

Which of the following, if true, could present the most serious disadvantage for Northern Air in replacing their large planes with Skybuses?

- (A) The Skybus would enable Northern Air to schedule direct flights to destinations that currently require stops for refueling.
- (B) Aviation fuel is projected to decline in price over the next several years.
- (C) The fuel efficiency of the Skybus would enable Northern Air to eliminate refueling at some of its destinations, but several mechanics would lose their jobs.
- (D) None of Northern Air's competitors that use Belleville Airport are considering buying Skybuses.
- (E) The aerodynamic design of the Skybus causes turbulence behind it when taking off that forces other planes on the runway to delay their takeoffs.

Evaluation of a Plan

Situation An airline flies in and out of a highly congested airport many times a day. Because the airline's success depends on low costs and quick turnaround, it plans to replace its current planes with Skybuses, whose more fuel-efficient design will reduce both fuel costs and the time spent refueling.

Reasoning *What could be a serious disadvantage of the plan?* Since it is given that the Skybuses provide fuel economy and quicker refueling, what could be a disadvantage of the proposed plan? What if the use of the particular aircraft somehow contributed to the congestion at the busy airport or caused slower turnaround? While the Skybus's design promotes fuel economy, if it also creates turbulence on takeoff, the turbulence would then delay the takeoffs of any other planes. Since the airport is congested and the airline flies through it many times a day, such takeoff delays would ultimately impede Northern Air's turnaround time, as well as its success.

- A The ability to schedule direct flights would be an advantage, not a disadvantage.
- B The decline in the price of aviation fuel might make the plan seem less pressing, and it could conceivably complicate the issue of whether the expected savings would justify the investment in new planes. However, lower fuel costs would not diminish the crucial time-saving advantage of Skybuses, and any hypotheses about their relevance to the overall decision are purely speculative.
- C The ability to eliminate refueling is an advantage to the airline. The loss of jobs could, in theory, have some negative effect on the airline due to lowered morale among remaining employees. However, *several* does not support a hypothesis that the effect would be very significant, and any hypotheses about whether it might override the benefits are purely speculative.
- D The decisions made by other airlines are irrelevant to the plan.
- E **Correct.** This statement properly identifies a potentially serious disadvantage to the plan.

The correct answer is E.

119. It is true of both men and women that those who marry as young adults live longer than those who never marry. This does not show that marriage causes people to live longer, since, as compared with other people of the same age, young adults who are about to get married have fewer of the unhealthy habits that can cause a person to have a shorter life, most notably smoking and immoderate drinking of alcohol.

Which of the following, if true, most strengthens the argument above?

- (A) Marriage tends to cause people to engage less regularly in sports that involve risk of bodily harm.
- (B) A married person who has an unhealthy habit is more likely to give up that habit than a person with the same habit who is unmarried.
- (C) A person who smokes is much more likely than a nonsmoker to marry a person who smokes at the time of marriage, and the same is true for people who drink alcohol immoderately.
- (D) Among people who marry as young adults, most of those who give up an unhealthy habit after marriage do not resume the habit later in life.
- (E) Among people who as young adults neither drink alcohol immoderately nor smoke, those who never marry live as long as those who marry.

Argument Evaluation

Situation We should not conclude that getting married causes one to live longer based merely on the fact that those who marry young tend to live longer than those who never marry at all. Those who marry young tend to have fewer unhealthy habits to begin with, such as drinking and smoking, than do those who will never marry.

Reasoning *Which of the options most strengthens the argument?* The argument is trying to show that the difference in longevity between the two groups need not be *caused by* marital status. The argument relies on the fact that even before marriage those who will be married tend to live healthier lifestyles than those who will never marry. Yet, even if those who are apt to live longer are more apt to marry young, it could still be that marriage *further enhances* one's longevity. So, by showing that a person who gets married young tends to live about as long as one who had been living an equally healthy lifestyle as a young adult but who never got married, the argument is greatly strengthened.

- A To the extent that risk of bodily harm decreases longevity, this weakens rather than strengthens the argument.
- B This option, too, weakens the argument rather than strengthens it, since it suggests that marriage does indeed enhance one's longevity.
- C Even if a person with unhealthy habits who marries is more likely to wind up with a spouse with unhealthy habits than is a person with healthy habits who marries, that tells us nothing about whether the average person who gets married gets a boost in longevity.
- D This option does not tell us whether it is also true of those who never marry that most of them who give up an unhealthy habit as a young adult ever resume that habit later in life. Thus, by itself, this option has no bearing on the strength of the argument.
- E **Correct.** This strengthens the argument against the causal connection between marriage and longevity by showing that the longevity difference disappears when the longevity of those who marry young is compared with young adults with similar health habits who will never marry.

The correct answer is E.

120. The earliest Mayan pottery found at Colha, in Belize, is about 3,000 years old. Recently, however, 4,500-year-old stone agricultural implements were unearthed at Colha. These implements resemble Mayan stone implements of a much later period, also found at Colha. Moreover, the implements' designs are strikingly different from the designs of stone implements produced by other cultures known to have inhabited the area in prehistoric times. Therefore, there were surely Mayan settlements in Colha 4,500 years ago.

Which of the following, if true, most seriously weakens the argument?

- (A) Ceramic ware is not known to have been used by the Mayan people to make agricultural implements.
- (B) Carbon-dating of corn pollen in Colha indicates that agriculture began there around 4,500 years ago.
- (C) Archaeological evidence indicates that some of the oldest stone implements found at Colha were used to cut away vegetation after controlled burning of trees to open areas of swampland for cultivation.
- (D) Successor cultures at a given site often adopt the style of agricultural implements used by earlier inhabitants of the same site.
- (E) Many religious and social institutions of the Mayan people who inhabited Colha 3,000 years ago relied on a highly developed system of agricultural symbols.

Argument Evaluation

Situation Recently, 4,500-year-old stone agricultural implements have been found in Colha, a location where 3,000-year-old Mayan pottery had previously been found. The implements resemble other Mayan implements of a much later time that were also found in Colha, and they are unlike the implements used by other local cultures in prehistoric times. These recently discovered implements thus prove that Mayan culture was established in Colha 4,500 years ago.

Reasoning *Which point weakens the argument?* First, identify a crucial underlying assumption. The argument assumes the distinctive 4,500-year-old implements must be Mayan because they are similar to implements the Mayans are known to have used there much later. What if there is another reason for the similarity? What if a culture that comes to an already inhabited site tends to adapt its implements to the style of the resident culture's implements? In that case, the Mayans could have come to the already established community of Colha at some later point, and the later Mayan agricultural tools could be copies of the earlier culture's tools.

- A The argument does not suggest that the Mayans used ceramics for implements, so this point does not weaken the argument; it is irrelevant to it.
- B Since the point of the argument is who, specifically, established a settlement in Colha 4,500 years ago, the evidence that some unidentified people were practicing agriculture there at that time neither strengthens nor weakens the argument.
- C Discovering how the implements were used does not explain who was using them, so this information is not relevant to the conclusion.
- D **Correct.** This statement properly identifies the weakness in the argument that the similarity between the 4,500-year-old implements and the later Mayan implements may be attributed to the Mayans' adopting the style of implements used earlier by another culture.
- E That the Mayans relied on agricultural symbols at that time is nearly irrelevant to the issue of whether the earlier implements belonged to their culture. To the extent that this is relevant, it very slightly supports, rather than weakens, the argument; *highly developed* suggests that Mayans had been practicing agriculture for a long time.

The correct answer is D.

121. Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated but contains clues to when it was produced. Its first 80 pages are by a single copyist, but the remaining 20 pages are by three different copyists, which indicates some significant disruption. Since a letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148, Codex Berinensis was probably produced in that year.

Which of the following, if true, most strongly supports the hypothesis that Codex Berinensis was produced in 1148?

- (A) Other than Codex Berinensis, there are no known samples of the handwriting of the first three copyists.
- (B) According to the account by the fourth copyist, the plague went on for 10 months.
- (C) A scribe would be able to copy a page of text the size and style of Codex Berinensis in a day.
- (D) There was only one outbreak of plague in Florence in the 1100s.
- (E) The number of pages of Codex Berinensis produced by a single scribe becomes smaller with each successive change of copyist.

Argument Evaluation

Situation The Florentine copy of an ancient Roman work is undated but provides clues as to the time it was produced. The first 80 pages of Codex Berinensis are the work of one copyist. The fact that the last 20 pages are the work of a succession of three different copyists is an indication of serious turmoil at the time the copying was done. Since a letter in the fourth copyist's handwriting reveals that a plague killed many people there in 1148, Codex Berinensis was probably produced in that year.

Reasoning *Which information supports the hypothesis dating the Codex to 1148?* Consider the basis of the hypothesis: the succession of copyists indicating the work was significantly disrupted, and the fourth copyist's letter indicating the plague of 1148 caused serious loss of life. From this it is argued that the plague of 1148 was the reason for the multiple copyists and that the work can thus be dated to that year. What if there were multiple plagues? In that case, Codex Berinensis could have been produced at another time. If instead only one plague occurred in the 1100s, the elimination of that possibility supports the hypothesis that the work was done in 1148.

- A Examples of the copyists' handwriting might help date Codex Berinensis; the absence of handwriting samples does not help support 1148 as the date.
- B The length of the plague, while it may account for the succession of copyists, does not help support the particular year the work was done.
- C The amount of work a copyist could achieve each day does not provide any information about the year the work appeared.
- D **Correct.** This statement properly identifies a circumstance that supports the hypothesis.
- E The productivity or tenure of the various copyists is irrelevant to establishing the date.

The correct answer is D.

122. The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale—the seven-note musical scale used in much of Western music since the Renaissance. Musicologists therefore hypothesize that the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians.

Which of the following, if true, most strongly supports the hypothesis?

- (A) Bone flutes were probably the only musical instrument made by Neanderthals.
- (B) No musical instrument that is known to have used a diatonic scale is of an earlier date than the flute found at the Neanderthal campsite.
- (C) The flute was made from a cave-bear bone and the campsite at which the flute fragment was excavated was in a cave that also contained skeletal remains of cave bears.
- (D) Flutes are the simplest wind instrument that can be constructed to allow playing a diatonic scale.
- (E) The cave-bear leg bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

Argument Evaluation

Situation The arrangement of the holes in a bone fragment from a Neanderthal campsite match part of the scale used in Western music since the Renaissance. Musicologists hypothesize from this that the scale was developed thousands of years before Western musicians adopted it.

Reasoning *Which of the options, if true, would provide the most support for the musicologists' hypothesis?* One way to approach this question is to ask yourself, "If this option were false, would the hypothesis be *less* likely to be true?" If the Neanderthal bone fragment could *not* have been part of a flute that encompassed *the entire* seven-note diatonic scale, then the bone fragment's existence would not provide strong support for the hypothesis.

- A To the extent that this is even relevant, it tends to weaken the hypothesis; it makes less likely the possibility that Neanderthals used other types of musical instruments employing the diatonic scale.
- B This also weakens the hypothesis, because it states that there is no known evidence of a certain type that would support the hypothesis.
- C The fact that the cave-bear bone fragment that was apparently a flute came from a site where many other cave-bear skeletal remains were found has little bearing on the hypothesis, and in no way supports it.
- D This does not strengthen the hypothesis, for even if the option were false—even if a simpler instrument could be constructed that employed the diatonic scale—the existence of a flute employing the diatonic scale would provide no less support for the hypothesis.
- E **Correct.** This option most strongly supports the hypothesis.

The correct answer is E.

123. Outsourcing is the practice of obtaining from an independent supplier a product or service that a company has previously provided for itself. Since a company's chief objective is to realize the highest possible year-end profits, any product or service that can be obtained from an independent supplier for less than it would cost the company to provide the product or service on its own should be outsourced.

Which of the following, if true, most seriously weakens the argument?

- (A) If a company decides to use independent suppliers for a product, it can generally exploit the vigorous competition arising among several firms that are interested in supplying that product.
- (B) Successful outsourcing requires a company to provide its suppliers with information about its products and plans that can fall into the hands of its competitors and give them a business advantage.
- (C) Certain tasks, such as processing a company's payroll, are commonly outsourced, whereas others, such as handling the company's core business, are not.
- (D) For a company to provide a product or service for itself as efficiently as an independent supplier can provide it, the managers involved need to be as expert in the area of that product or service as the people in charge of that product or service at an independent supplier are.
- (E) When a company decides to use an independent supplier for a product or service, the independent supplier sometimes hires members of the company's staff who formerly made the product or provided the service that the independent supplier now supplies.

Argument Evaluation

Situation In order to realize the highest year-end profits, a company should outsource any service or product that can be obtained from an independent supplier for less than it would cost the company to provide that service or product itself.

Reasoning *What weakens this argument?* When could outsourcing a service or product result in a business disadvantage or lower profits? It is clear that the company must give independent suppliers enough information to enable them to provide the contracted products and services, but this means that the company can lose control over who has possession of such critical information. If the information becomes known to the company's competitors and gives them a business advantage, the company's profitability may be harmed rather than helped by outsourcing. This possibility weakens the argument.

- A This would strengthen the argument since the pricing competition among independent suppliers is an advantage for the company.
- B Correct.** This statement properly identifies one disadvantage of outsourcing: the company no longer controls access to its information and plans. With the increased possibility of competitors' gaining access to its proprietary information, the company's business is put at risk.
- C Providing examples of the tasks typically outsourced or handled internally does not affect the argument.
- D Expertise in a particular area is an advantage of outsourcing and thus a strength of the argument.
- E The supplier's hiring of members of the company's staff to handle work no longer performed within the company is not shown to be a disadvantage.

The correct answer is B.

124. Museums that house Renaissance oil paintings typically store them in environments that are carefully kept within narrow margins of temperature and humidity to inhibit any deterioration. Laboratory tests have shown that the kind of oil paint used in these paintings actually adjusts to climatic changes quite well. If, as some museum directors believe, **paint is the most sensitive substance in these works**, then by relaxing the standards for temperature and humidity control, **museums can reduce energy costs without risking damage to these paintings**. Museums would be rash to relax those standards, however, since results of preliminary tests indicate that gesso, a compound routinely used by Renaissance artists to help paint adhere to the canvas, is unable to withstand significant variations in humidity.

In the argument above, the two portions in boldface play which of the following roles?

- (A) The first is an objection that has been raised against the position taken by the argument; the second is the position taken by the argument.
- (B) The first is the position taken by the argument; the second is the position that the argument calls into question.
- (C) The first is a judgment that has been offered in support of the position that the argument calls into question; the second is a circumstance on which that judgment is, in part, based.
- (D) The first is a judgment that has been offered in support of the position that the argument calls into question; the second is that position.
- (E) The first is a claim that the argument calls into question; the second is the position taken by the argument.

Argument Evaluation

Situation Museums house Renaissance paintings under strictly controlled climatic conditions to prevent deterioration. This is costly. But the paint in these works actually adjusts well to climate changes. On the other hand, another compound routinely used in these paintings, gesso, does not react well to changes in humidity.

Reasoning *What roles do the two boldfaced statements play in the argument?* The first statement is not asserted by the author of the argument, but rather attributed as a belief to some museum directors. What the argument itself asserts is that IF this belief is true THEN the second boldfaced statement is true. But the argument then goes on to offer evidence that the first statement is false and so concludes that museum directors would be ill-advised to assume that the second statement was true.

- A This option mistakenly claims that the argument adopts the second statement as its position, when in fact the argument calls this position into question.
- B Rather than adopting the first statement, the argument offers evidence that calls it into question.
- C This option contends that the first statement is a judgment that is based on the second; in fact the opposite is true.
- D **Correct.** This option properly identifies the roles the two portions in boldface play in the argument.
- E While the argument does call the first statement into question, it also calls the second statement into question.

The correct answer is D.

8.4 Practice Questions

Each of the **critical reasoning** questions is based on a short argument, a set of statements, or a plan of action. For each question, select the best answer of the choices given.

1. Snowmaking machines work by spraying a mist that freezes immediately on contact with cold air. Because the sudden freezing kills bacteria, QuickFreeze is planning to market a wastewater purification system that works on the same principle. The process works only when temperatures are cold, however, so municipalities using it will still need to maintain a conventional system.

Which of the following, if true, provides the strongest grounds for a prediction that municipalities will buy QuickFreeze's purification system despite the need to maintain a conventional purification system as well?

- (A) Bacteria are not the only impurities that must be removed from wastewater.
- (B) Many municipalities have old wastewater purification systems that need to be replaced.
- (C) Conventional wastewater purification systems have not been fully successful in killing bacteria at cold temperatures.
- (D) During times of warm weather, when it is not in use, QuickFreeze's purification system requires relatively little maintenance.
- (E) Places where the winters are cold rarely have a problem of water shortage.

2. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author

- (A) fails to distinguish between purchasing and consuming
- (B) does not supply information about homeowners in age groups other than 40 to 50
- (C) depends on popular belief rather than on documented research findings
- (D) does not specify the precise amount of ice cream purchased by any demographic group
- (E) discusses ice cream rather than more nutritious and healthful foods

3. Suncorp, a new corporation with limited funds, has been clearing large sections of the tropical Amazon forest for cattle ranching. This practice continues even though greater profits can be made from rubber tapping, which does not destroy the forest, than from cattle ranching, which does destroy the forest.

Which of the following, if true, most helps to explain why Suncorp has been pursuing the less profitable of the two economic activities mentioned above?

- (A) The soil of the Amazon forest is very rich in nutrients that are important in the development of grazing lands.
- (B) Cattle-ranching operations that are located in tropical climates are more profitable than cattle-ranching operations that are located in cold-weather climates.

- (C) In certain districts, profits made from cattle ranching are more heavily taxed than profits made from any other industry.
- (D) Some of the cattle that are raised on land cleared in the Amazon are killed by wildcats.
- (E) The amount of money required to begin a rubber-tapping operation is twice as high as the amount needed to begin a cattle ranch.

4. According to a prediction of the not-so-distant future published in 1940, electricity would revolutionize agriculture. Electrodes would be inserted into the soil, and the current between them would kill bugs and weeds and make crop plants stronger.

Which of the following, if true, most strongly indicates that the logic of the prediction above is flawed?

- (A) In order for farmers to avoid electric shock while working in the fields, the current could be turned off at such times without diminishing the intended effects.
- (B) If the proposed plan for using electricity were put into practice, farmers would save on chemicals now being added to the soil.
- (C) It cannot be taken for granted that the use of electricity is always beneficial.
- (D) Since weeds are plants, electricity would affect weeds in the same way as it would affect crop plants.
- (E) Because a planting machine would need to avoid coming into contact with the electrodes, new parts for planting machines would need to be designed.

5. A company is considering changing its policy concerning daily working hours. Currently, this company requires all employees to arrive at work at 8 a.m. The proposed policy would permit each employee to decide when to arrive—from as early as 6 a.m. to as late as 11 a.m.

The adoption of this policy would be most likely to decrease employees' productivity if the employees' job functions required them to

- (A) work without interruption from other employees
- (B) consult at least once a day with employees from other companies
- (C) submit their work for a supervisor's eventual approval
- (D) interact frequently with each other throughout the entire workday
- (E) undertake projects that take several days to complete

6. Parland's alligator population has been declining in recent years, primarily because of hunting. Alligators prey heavily on a species of freshwater fish that is highly valued as food by Parlanders, who had hoped that the decline in the alligator population would lead to an increase in the numbers of these fish available for human consumption. Yet the population of this fish species has also declined, even though the annual number caught for human consumption has not increased.

Which of the following, if true, most helps to explain the decline in the population of the fish species?

- (A) The decline in the alligator population has meant that fishers can work in some parts of lakes and rivers that were formerly too dangerous.
- (B) Over the last few years, Parland's commercial fishing enterprises have increased the number of fishing boats they use.
- (C) The main predator of these fish is another species of fish on which alligators also prey.
- (D) Many Parlanders who hunt alligators do so because of the high market price of alligator skins, not because of the threat alligators pose to the fish population.
- (E) In several neighboring countries through which Parland's rivers also flow, alligators are at risk of extinction as a result of extensive hunting.

7. The amount of time it takes for most of a worker's occupational knowledge and skills to become obsolete has been declining because of the introduction of advanced manufacturing technology (AMT). Given the rate at which AMT is currently being introduced in manufacturing, the average worker's old skills become obsolete and new skills are required within as little as five years.

Which of the following plans, if feasible, would allow a company to prepare most effectively for the rapid obsolescence of skills described above?

- (A) The company will develop a program to offer selected employees the opportunity to receive training six years after they were originally hired.
 - (B) The company will increase its investment in AMT every year for a period of at least five years.
 - (C) The company will periodically survey its employees to determine how the introduction of AMT has affected them.
 - (D) Before the introduction of AMT, the company will institute an educational program to inform its employees of the probable consequences of the introduction of AMT.
 - (E) The company will ensure that it can offer its employees any training necessary for meeting their job requirements.
8. In virtually any industry, technological improvements increase labor productivity, which is the output of goods and services per person-hour worked. In Parland's industries, labor productivity is significantly higher than it is in Vergia's industries. Clearly, therefore, Parland's industries must, on the whole, be further advanced technologically than Vergia's are.

The argument is most vulnerable to which of the following criticisms?

- (A) It offers a conclusion that is no more than a paraphrase of one of the pieces of information provided in its support.
- (B) It presents as evidence in support of a claim information that is inconsistent with other evidence presented in support of the same claim.

- (C) It takes one possible cause of a condition to be the actual cause of that condition without considering any other possible causes.
- (D) It takes a condition to be the effect of something that happened only after the condition already existed.
- (E) It makes a distinction that presupposes the truth of the conclusion that is to be established.

9. While many people think of genetic manipulation of food crops as being aimed at developing larger and larger plant varieties, some plant breeders have in fact concentrated on discovering or producing dwarf varieties, which are roughly half as tall as normal varieties.

Which of the following would, if true, most help to explain the strategy of the plant breeders referred to above?

- (A) Plant varieties used as food by some are used as ornamentals by others.
 - (B) The wholesale prices of a given crop decrease as the supply of it increases.
 - (C) Crops once produced exclusively for human consumption are often now used for animal feed.
 - (D) Short plants are less vulnerable to strong wind and heavy rains.
 - (E) Nations with large industrial sectors tend to consume more processed grains.
10. Traverton's city council wants to minimize the city's average yearly expenditures on its traffic signal lights and so is considering replacing the incandescent bulbs currently in use with arrays of light-emitting diodes (LEDs) as the incandescent bulbs burn out. Compared to incandescent bulbs, LED arrays consume significantly less energy and cost no more to purchase. Moreover, the costs associated with the conversion of existing fixtures so as to accept LED arrays would be minimal.
- Which of the following would it be most useful to know in determining whether switching to LED arrays would be likely to help minimize Traverton's yearly maintenance costs?

- (A) Whether the expected service life of LED arrays is at least as long as that of the currently used incandescent bulbs
- (B) Whether any cities have switched from incandescent lights in their traffic signals to lighting elements other than LED arrays
- (C) Whether the company from which Traverton currently buys incandescent bulbs for traffic signals also sells LED arrays
- (D) Whether Traverton's city council plans to increase the number of traffic signal lights in Traverton
- (E) Whether the crews that currently replace incandescent bulbs in Traverton's traffic signals know how to convert the existing fixtures so as to accept LED arrays
11. The Maxilux car company's design for its new luxury model, the Max 100, included a special design for the tires that was intended to complement the model's image. The winning bid for supplying these tires was submitted by Rubco. Analysts concluded that the bid would only just cover Rubco's costs on the tires, but Rubco executives claim that winning the bid will actually make a profit for the company.

Which of the following, if true, most strongly justifies the claim made by Rubco's executives?

- (A) In any Maxilux model, the spare tire is exactly the same make and model as the tires that are mounted on the wheels.
- (B) Rubco holds exclusive contracts to supply Maxilux with the tires for a number of other models made by Maxilux.
- (C) The production facilities for the Max 100 and those for the tires to be supplied by Rubco are located very near each other.
- (D) When people who have purchased a carefully designed luxury automobile need to replace a worn part of it, they almost invariably replace it with a part of exactly the same make and type.
- (E) When Maxilux awarded the tire contract to Rubco, the only criterion on which Rubco's bid was clearly ahead of its competitors' bids was price.

12. Which of the following most logically completes the passage?

Most bicycle helmets provide good protection for the top and back of the head, but little or no protection for the temple regions on the sides of the head. A study of head injuries resulting from bicycle accidents showed that a large proportion were caused by blows to the temple area. Therefore, if bicycle helmets protected this area, the risk of serious head injury in bicycle accidents would be greatly reduced, especially since _____.

- (A) among the bicyclists included in the study's sample of head injuries, only a very small proportion had been wearing a helmet at the time of their accident
- (B) even those bicyclists who regularly wear helmets have a poor understanding of the degree and kind of protection that helmets afford
- (C) a helmet that included protection for the temples would have to be somewhat larger and heavier than current helmets
- (D) the bone in the temple area is relatively thin and impacts in that area are thus very likely to cause brain injury
- (E) bicyclists generally land on their arm or shoulder when they fall to the side, which reduces the likelihood of severe impacts on the side of the head

13. In order to reduce the number of items damaged while in transit to customers, packaging consultants recommended that the TrueSave mail-order company increase the amount of packing material so as to fill any empty spaces in its cartons. Accordingly, TrueSave officials instructed the company's packers to use more packing material than before, and the packers zealously acted on these instructions and used as much as they could. Nevertheless, customer reports of damaged items rose somewhat.

Which of the following, if true, most helps to explain why acting on the consultants' recommendation failed to achieve its goal?

- (A) The change in packing policy led to an increase in expenditure on packing material and labor.
- (B) When packing material is compressed too densely, it loses some of its capacity to absorb shock.
- (C) The amount of packing material used in a carton does not significantly influence the ease with which a customer can unpack the package.
- (D) Most of the goods that TrueSave ships are electronic products that are highly vulnerable to being damaged in transit.
- (E) TrueSave has lost some of its regular customers as a result of the high number of damaged items they received.

14. Wood smoke contains dangerous toxins that cause changes in human cells. Because wood smoke presents such a high health risk, legislation is needed to regulate the use of open-air fires and wood-burning stoves.

Which of the following, if true, provides the most support for the argument above?

- (A) The amount of dangerous toxins contained in wood smoke is much less than the amount contained in an equal volume of automobile exhaust.
- (B) Within the jurisdiction covered by the proposed legislation, most heating and cooking is done with oil or natural gas.
- (C) Smoke produced by coal-burning stoves is significantly more toxic than smoke from wood-burning stoves.

- (D) No significant beneficial effect on air quality would result if open-air fires were banned within the jurisdiction covered by the proposed legislation.
- (E) In valleys where wood is used as the primary heating fuel, the concentration of smoke results in poor air quality.

15. A certain automaker aims to increase its market share by deeply discounting its vehicles' prices for the next several months. The discounts will cut into profits, but because they will be heavily advertised the manufacturer hopes that they will attract buyers away from rival manufacturers' cars. In the longer term, the automaker envisions that customers initially attracted by the discounts may become loyal customers.

In assessing the plan's chances of achieving its aim, it would be most useful to know which of the following?

- (A) Whether the automaker's competitors are likely to respond by offering deep discounts on their own products
- (B) Whether the advertisements will be created by the manufacturer's current advertising agency
- (C) Whether some of the automaker's models will be more deeply discounted than others
- (D) Whether the automaker will be able to cut costs sufficiently to maintain profit margins even when the discounts are in effect
- (E) Whether an alternative strategy might enable the automaker to enhance its profitability while holding a constant or diminishing share of the market

16. In Washington County, attendance at the movies is just large enough for the cinema operators to make modest profits. The size of the county's population is stable and is not expected to increase much. Yet there are investors ready to double the number of movie screens in the county within five years, and they are predicting solid profits both for themselves and for the established cinema operators.

Which of the following, if true about Washington County, most helps to provide a justification for the investors' prediction?

- (A) Over the next ten years, people in their teenage years, the prime moviegoing age, will be a rapidly growing proportion of the county's population.
- (B) As distinct from the existing cinemas, most of the cinemas being planned would be located in downtown areas, in hopes of stimulating an economic revitalization of those areas.
- (C) Spending on video purchases, as well as spending on video rentals, has been increasing modestly each year for the past ten years.
- (D) The average number of screens per cinema is lower among existing cinemas than it is among cinemas still in the planning stages.
- (E) The sale of snacks and drinks in cinemas accounts for a steadily growing share of most cinema operators' profits.
17. Hollywood restaurant is replacing some of its standard tables with tall tables and stools. The restaurant already fills every available seat during its operating hours, and the change in seating arrangements will not result in an increase in the restaurant's seating capacity. Nonetheless, the restaurant's management expects revenue to increase as a result of the seating change without any concurrent change in menu, prices, or operating hours.

Which of the following, if true, provides the best reason for the expectation?

- (A) One of the taller tables takes up less floor space than one of the standard tables.
- (B) Diners seated on stools typically do not linger over dinner as long as diners seated at standard tables.
- (C) Since the restaurant will replace only some of its standard tables, it can continue to accommodate customers who do not care for the taller tables.
- (D) Few diners are likely to avoid the restaurant because of the new seating arrangement.
- (E) The standard tables being replaced by tall tables would otherwise have to be replaced with new standard tables at a greater expense.

18. Hunter: **Many people blame hunters alone for the decline in Greenrock National Forest's deer population over the past ten years.** Yet clearly, black bears have also played an important role in this decline. In the past ten years, the forest's protected black bear population has risen sharply, and examination of black bears found dead in the forest during the deer hunting season showed that a number of them had recently fed on deer.

In the hunter's argument, the portion in boldface plays which of the following roles?

- (A) It is the main conclusion of the argument.
- (B) It is a finding that the argument seeks to explain.
- (C) It is an explanation that the argument concludes is correct.
- (D) It provides evidence in support of the main conclusion of the argument.
- (E) It introduces a judgment that the argument opposes.

19. A major network news organization experienced a drop in viewership in the week following the airing of a controversial report on the economy. The network also received a very large number of complaints regarding the report. The network, however, maintains that negative reactions to the report had nothing to do with its loss of viewers.

Which of the following, if true, most strongly supports the network's position?

- (A) The other major network news organizations reported similar reductions in viewership during the same week.
- (B) The viewers who registered complaints with the network were regular viewers of the news organization's programs.
- (C) Major network news organizations publicly attribute drops in viewership to their own reports only when they receive complaints about those reports.
- (D) This was not the first time that this network news organization has aired a controversial report on the economy that has inspired viewers to complain to the network.
- (E) Most network news viewers rely on network news broadcasts as their primary source of information regarding the economy.

20. Physician: The hormone melatonin has shown promise as a medication for sleep disorders when taken in synthesized form. Because the long-term side effects of synthetic melatonin are unknown, however, I cannot recommend its use at this time.

Patient: Your position is inconsistent with your usual practice. You prescribe many medications that you know have serious side effects, so concern about side effects cannot be the real reason you will not prescribe melatonin.

The patient's argument is flawed because it fails to consider that

- (A) the side effects of synthetic melatonin might be different from those of naturally produced melatonin
 - (B) it is possible that the physician does not believe that melatonin has been conclusively shown to be effective
 - (C) sleep disorders, if left untreated, might lead to serious medical complications
 - (D) the side effects of a medication can take some time to manifest themselves
 - (E) known risks can be weighed against known benefits, but unknown risks cannot
21. In recent years, many cabinetmakers have been winning acclaim as artists. But since furniture must be useful, cabinetmakers must exercise their craft with an eye to the practical utility of their product. For this reason, cabinetmaking is not art.

Which of the following is an assumption that supports drawing the conclusion above from the reason given for that conclusion?

- (A) Some furniture is made to be placed in museums, where it will not be used by anyone.
- (B) Some cabinetmakers are more concerned than others with the practical utility of the products they produce.
- (C) Cabinetmakers should be more concerned with the practical utility of their products than they currently are.
- (D) An object is not an art object if its maker pays attention to the object's practical utility.
- (E) Artists are not concerned with the monetary value of their products.

22. Only a reduction of 10 percent in the number of scheduled flights using Greentown's airport will allow the delays that are so common there to be avoided. Hevelia airstrip, 40 miles away, would, if upgraded and expanded, be an attractive alternative for fully 20 percent of the passengers using Greentown airport. Nevertheless, experts reject the claim that turning Hevelia into a full-service airport would end the chronic delays at Greentown.

Which of the following, if true, most helps to justify the experts' position?

- (A) Turning Hevelia into a full-service airport would require not only substantial construction at the airport itself, but also the construction of new access highways.
 - (B) A second largely undeveloped airstrip close to Greentown airport would be a more attractive alternative than Hevelia for many passengers who now use Greentown.
 - (C) Hevelia airstrip lies in a relatively undeveloped area but would, if it became a full-service airport, be a magnet for commercial and residential development.
 - (D) If an airplane has to wait to land, the extra jet fuel required adds significantly to the airline's costs.
 - (E) Several airlines use Greentown as a regional hub, so that most flights landing at Greentown have many passengers who then take different flights to reach their final destinations.
23. Male bowerbirds construct elaborately decorated nests, or bowers. Basing their judgment on the fact that different local populations of bowerbirds of the same species build bowers that exhibit different building and decorative styles, researchers have concluded that the bowerbirds' building styles are a culturally acquired, rather than a genetically transmitted, trait.

Which of the following, if true, would most strengthen the conclusion drawn by the researchers?

- (A) There are more common characteristics than there are differences among the bower-building styles of the local bowerbird population that has been studied most extensively.
- (B) Young male bowerbirds are inept at bower-building and apparently spend years watching their elders before becoming accomplished in the local bower style.
- (C) The bowers of one species of bowerbird lack the towers and ornamentation characteristic of the bowers of most other species of bowerbird.
- (D) Bowerbirds are found only in New Guinea and Australia, where local populations of the birds apparently seldom have contact with one another.
- (E) It is well known that the song dialects of some songbirds are learned rather than transmitted genetically.

24. Plan: Concerned about the welfare of its senior citizens, the government of Runagia decided two years ago to increase by 20 percent the government-provided pension paid to all Runagians age sixty-five and older.

Result: Many Runagian senior citizens are no better off financially now than they were before the increase.

Further information: The annual rate of inflation since the pension increase has been below 5 percent, and the increased pension has been duly received by all eligible Runagians.

In light of the further information, which of the following, if true, does most to explain the result that followed implementation of the plan?

- (A) The majority of senior citizens whose financial position has not improved rely entirely on the government pension for their income.
- (B) The Runagian banking system is so inefficient that cashing a pension check can take as much as three weeks.
- (C) The prices of goods and services that meet the special needs of many senior citizens have increased at a rate much higher than the rate of inflation.
- (D) The pension increase occurred at a time when the number of Runagians age sixty-five and older who were living below the poverty level was at an all-time high.
- (E) The most recent pension increase was only the second such increase in the last ten years.

25. A drug that is highly effective in treating many types of infection can, at present, be obtained only from the bark of the ibora, a tree that is quite rare in the wild. It takes the bark of 5,000 trees to make one kilogram of the drug. It follows, therefore, that continued production of the drug must inevitably lead to the ibora's extinction.

Which of the following, if true, most seriously weakens the argument above?

- (A) The drug made from ibora bark is dispensed to doctors from a central authority.
- (B) The drug made from ibora bark is expensive to produce.
- (C) The leaves of the ibora are used in a number of medical products.
- (D) The ibora can be propagated from cuttings and grown under cultivation.
- (E) The ibora generally grows in largely inaccessible places.

26. When a polygraph test is judged inconclusive, this is no reflection on the examinee. Rather, such a judgment means that the test has failed to show whether the examinee was truthful or untruthful. Nevertheless, employers will sometimes refuse to hire a job applicant because of an inconclusive polygraph test result.

Which of the following conclusions can most properly be drawn from the information above?

- (A) Most examinees with inconclusive polygraph test results are in fact untruthful.
- (B) Polygraph tests should not be used by employers in the consideration of job applicants.
- (C) An inconclusive polygraph test result is sometimes unfairly held against the examinee.
- (D) A polygraph test indicating that an examinee is untruthful can sometimes be mistaken.
- (E) Some employers have refused to consider the results of polygraph tests when evaluating job applicants.

27. For similar cars and comparable drivers, automobile insurance for collision damage has always cost more in Greatport than in Fairmont. Police studies, however, show that cars owned by Greatport residents are, on average, slightly less likely to be involved in a collision than cars in Fairmont. Clearly, therefore, insurance companies are making a greater profit on collision-damage insurance in Greatport than in Fairmont.

In evaluating the argument, it would be most useful to compare

- (A) the level of traffic congestion in Greatport with the level of traffic congestion in Fairmont
 - (B) the cost of repairing collision damage in Greatport with the cost of repairing collision damage in Fairmont
 - (C) the rates Greatport residents pay for other forms of insurance with the rates paid for similar insurance by residents of Fairmont
 - (D) the condition of Greatport's roads and streets with the condition of Fairmont's roads and streets
 - (E) the cost of collision-damage insurance in Greatport and Fairmont with that in other cities
28. Last year a record number of new manufacturing jobs were created. Will this year bring another record? Well, a new manufacturing job is created either within an existing company or by the start-up of a new company. Within existing firms, new jobs have been created this year at well below last year's record pace. At the same time, there is considerable evidence that the number of new companies starting up will be no higher this year than it was last year, and surely **the new companies starting up this year will create no more jobs per company than did last year's start-ups**. Clearly, it can be concluded that **the number of new jobs created this year will fall short of last year's record**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is that main conclusion.
- (B) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is a conclusion drawn in order to support that main conclusion.

- (C) The first is an objection that the argument rejects; the second is the main conclusion of the argument.
- (D) The first is an objection that the argument rejects; the second presents a conclusion that could be drawn if that objection were allowed to stand.
- (E) The first is a claim that has been advanced in support of a position that the argument opposes; the second is a claim advanced in support of the main conclusion of the argument.

29. The tulu, a popular ornamental plant, does not reproduce naturally, and is only bred and sold by specialized horticultural companies. Unfortunately, the tulu is easily devastated by a contagious fungal rot. The government ministry plans to reassure worried gardeners by requiring all tulu plants to be tested for fungal rot before being sold. However, infected plants less than 30 weeks old have generally not built up enough fungal rot in their systems to be detected reliably. And many tulu plants are sold before they are 24 weeks old.

Which of the following, if performed by the government ministry, could logically be expected to overcome the problem with their plan to test for the fungal rot?

- (A) Releasing a general announcement that tulu plants less than 30 weeks old cannot be effectively tested for fungal rot
- (B) Requiring all tulu plants less than 30 weeks old to be labeled as such
- (C) Researching possible ways to test tulu plants less than 24 weeks old for fungal rot
- (D) Ensuring that tulu plants not be sold before they are 30 weeks old
- (E) Quarantining all tulu plants from horticultural companies at which any case of fungal rot has been detected until those tulu plants can be tested for fungal rot

30. The Eurasian ruffe, a fish species inadvertently introduced into North America's Great Lakes in recent years, feeds on the eggs of lake whitefish, a native species, thus threatening the lakes' natural ecosystem. To help track the ruffe's spread, government agencies have produced wallet-sized cards about the ruffe. The cards contain pictures of the ruffe and explain the danger they pose; the cards also request anglers to report any ruffe they catch.

Which of the following, if true, would provide most support for the prediction that the agencies' action will have its intended effect?

- (A) The ruffe has spiny fins that make it unattractive as prey.
- (B) Ruffe generally feed at night, but most recreational fishing on the Great Lakes is done during daytime hours.
- (C) Most people who fish recreationally on the Great Lakes are interested in the preservation of the lake whitefish because it is a highly prized game fish.
- (D) The ruffe is one of several nonnative species in the Great Lakes whose existence threatens the survival of lake whitefish populations there.
- (E) The bait that most people use when fishing for whitefish on the Great Lakes is not attractive to ruffe.

31. Which of the following most logically completes the argument?

Ferber's syndrome, a viral disease that frequently affects cattle, is transmitted to these animals through infected feed. Even though chickens commercially raised for meat are often fed the type of feed identified as the source of infection in cattle, Ferber's syndrome is only rarely observed in chickens. This fact, however, does not indicate that most chickens are immune to the virus that causes Ferber's syndrome, since _____.

- (A) chickens and cattle are not the only kinds of farm animal that are typically fed the type of feed liable to be contaminated with the virus that causes Ferber's syndrome
- (B) Ferber's syndrome has been found in animals that have not been fed the type of feed liable to be contaminated with the virus that can cause the disease
- (C) resistance to some infectious organisms such as the virus that causes Ferber's syndrome can be acquired by exposure to a closely related infectious organism
- (D) chickens and cattle take more than a year to show symptoms of Ferber's syndrome, and chickens commercially raised for meat, unlike cattle, are generally brought to market during the first year of life
- (E) the type of feed liable to be infected with the virus that causes Ferber's syndrome generally constitutes a larger proportion of the diet of commercially raised chickens than of commercially raised cattle

32. Last year the rate of inflation was 1.2 percent, but for the current year it has been 4 percent. We can conclude that inflation is on an upward trend and the rate will be still higher next year.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The inflation figures were computed on the basis of a representative sample of economic data rather than all of the available data.
- (B) Last year a dip in oil prices brought inflation temporarily below its recent stable annual level of 4 percent.
- (C) Increases in the pay of some workers are tied to the level of inflation, and at an inflation rate of 4 percent or above, these pay raises constitute a force causing further inflation.
- (D) The 1.2 percent rate of inflation last year represented a 10-year low.
- (E) Government intervention cannot affect the rate of inflation to any significant degree.

33. Which of the following most logically completes the argument below?

Although the number of large artificial satellites orbiting the Earth is small compared to the number of small pieces of debris in orbit, the large satellites interfere more seriously with telescope observations because of the strong reflections they produce. Because many of those large satellites have ceased to function, the proposal has recently been made to eliminate interference from nonfunctioning satellites by exploding them in space. This proposal, however, is ill conceived, since _____.

- (A) many nonfunctioning satellites remain in orbit for years
 - (B) for satellites that have ceased to function, repairing them while they are in orbit would be prohibitively expensive
 - (C) there are no known previous instances of satellites' having been exploded on purpose
 - (D) the only way to make telescope observations without any interference from debris in orbit is to use telescopes launched into extremely high orbits around the Earth
 - (E) a greatly increased number of small particles in Earth's orbit would result in a blanket of reflections that would make certain valuable telescope observations impossible
34. Thyrian lawmaker: Thyria's Cheese Importation Board inspects all cheese shipments to Thyria and rejects shipments not meeting specified standards. Yet only 1 percent is ever rejected. Therefore, since the health consequences and associated economic costs of not rejecting that 1 percent are negligible, whereas the board's operating costs are considerable, for economic reasons alone the board should be disbanded.

Consultant: I disagree. The threat of having their shipments rejected deters many cheese exporters from shipping substandard product.

The consultant responds to the lawmaker's argument by

- (A) rejecting the lawmaker's argument while proposing that the standards according to which the board inspects imported cheese should be raised
- (B) providing evidence that the lawmaker's argument has significantly overestimated the cost of maintaining the board
- (C) objecting to the lawmaker's introducing into the discussion factors that are not strictly economic
- (D) pointing out a benefit of maintaining the board, which the lawmaker's argument has failed to consider
- (E) shifting the discussion from the argument at hand to an attack on the integrity of the cheese inspectors

35. Which of the following best completes the passage below?

The computer industry's estimate that it loses millions of dollars when users illegally copy programs without paying for them is greatly exaggerated. Most of the illegal copying is done by people with no serious interest in the programs. Thus, the loss to the industry is quite small, because _____.

- (A) many users who illegally copy programs never find any use for them
- (B) most people who illegally copy programs would not purchase them even if purchasing them were the only way to obtain them
- (C) even if the computer industry received all the revenue it claims to be losing, it would still be experiencing financial difficulties
- (D) the total market value of all illegal copies is low in comparison to the total revenue of the computer industry
- (E) the number of programs that are frequently copied illegally is low in comparison to the number of programs available for sale

36. The growing popularity of computer-based activities was widely expected to result in a decline in television viewing, since it had been assumed that people lack sufficient free time to maintain current television-viewing levels while spending increasing amounts of free time on the computer. That assumption, however, is evidently false: In a recent mail survey concerning media use, a very large majority of respondents who report increasing time spent per week using computers report no change in time spent watching television.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether a large majority of the survey respondents reported watching television regularly
 - (B) Whether the amount of time spent watching television is declining among people who report that they rarely or never use computers
 - (C) Whether the type of television programs a person watches tends to change as the amount of time spent per week using computers increases
 - (D) Whether a large majority of the computer owners in the survey reported spending increasing amounts of time per week using computers
 - (E) Whether the survey respondents' reports of time spent using computers included time spent using computers at work
37. In the last decade there has been a significant decrease in coffee consumption. During this same time, there has been increasing publicity about the adverse long-term effects on health of the caffeine in coffee. Therefore, the decrease in coffee consumption must have been caused by consumers' awareness of the harmful effects of caffeine.

Which of the following, if true, most seriously calls into question the explanation above?

- (A) On average, people consume 30 percent less coffee today than they did 10 years ago.
- (B) Heavy coffee drinkers may have mild withdrawal symptoms, such as headaches, for a day or so after significantly decreasing their coffee consumption.
- (C) Sales of specialty types of coffee have held steady as sales of regular brands have declined.
- (D) The consumption of fruit juices and caffeine-free herbal teas has increased over the past decade.
- (E) Coffee prices increased steadily in the past decade because of unusually severe frosts in coffee-growing nations.

38. Which of the following best completes the passage below?

When the products of several competing suppliers are perceived by consumers to be essentially the same, classical economics predicts that price competition will reduce prices to the same minimal levels and all suppliers' profits to the same minimal levels.

Therefore, if classical economics is true, and given suppliers' desire to make as much profit as possible, it should be expected that _____.

- (A) in a crowded market widely differing prices will be charged for products that are essentially the same as each other
- (B) as a market becomes less crowded as suppliers leave, the profits of the remaining suppliers will tend to decrease
- (C) each supplier in a crowded market will try to convince consumers that its product differs significantly from its competitors' products.
- (D) when consumers are unable to distinguish the products in a crowded market, consumers will judge that the higher-priced products are of higher quality
- (E) suppliers in crowded markets will have more incentive to reduce prices and thus increase sales than to introduce innovations that would distinguish their product from their competitors' products

39. Which of the following most logically completes the argument?

Sviatovin is a medieval Moringian text whose author and exact date of composition are unknown. However, the events in the life of Prince Sviatov that the text describes occurred in 1165, and in the diagram of Sviatov's family that accompanies the text his father, who died in 1167, is identified as still living. Thus *Sviatovin* must have been written between 1165 and 1167, assuming that _____.

- (A) the life of Prince Sviatov is not the subject of any other medieval Moringian texts
 - (B) the author of *Sviatovin* intended it to provide as accurate a report about Prince Sviatov's exploits as possible
 - (C) the diagram accurately represents the composition of Sviatov's family at the time *Sviatovin* was written
 - (D) *Sviatovin* is the earliest Moringian text whose composition can be dated to within a few years
 - (E) *Sviatovin* was not written by Sviatov's father himself
40. Crowding on Mooreville's subway frequently leads to delays, because it is difficult for passengers to exit from the trains. Subway ridership is projected to increase by 20 percent over the next 10 years. The Mooreville Transit Authority plans to increase the number of daily train trips by only 5 percent over the same period. Officials predict that this increase is sufficient to ensure that the incidence of delays due to crowding does not increase.

Which of the following, if true, provides the strongest grounds for the officials' prediction?

- (A) By changing maintenance schedules, the Transit Authority can achieve the 5 percent increase in train trips without purchasing any new subway cars.
- (B) The Transit Authority also plans a 5 percent increase in the number of bus trips on routes that connect to subways.
- (C) For most commuters who use the subway system, there is no practical alternative public transportation available.

- (D) Most of the projected increase in ridership is expected to occur in off-peak hours when trains are now sparsely used.
- (E) The 5 percent increase in the number of train trips can be achieved without an equal increase in Transit Authority operational costs.

41. Installing scrubbers in smokestacks and switching to cleaner-burning fuel are the two methods available to Northern Power for reducing harmful emissions from its plants. Scrubbers will reduce harmful emissions more than cleaner-burning fuels will. Therefore, by installing scrubbers, Northern Power will be doing the most that can be done to reduce harmful emissions from its plants.

Which of the following is an assumption on which the argument depends?

- (A) Switching to cleaner-burning fuel will not be more expensive than installing scrubbers.
- (B) Northern Power can choose from among various kinds of scrubbers, some of which are more effective than others.
- (C) Northern Power is not necessarily committed to reducing harmful emissions from its plants.
- (D) Harmful emissions from Northern Power's plants cannot be reduced more by using both methods together than by the installation of scrubbers alone.
- (E) Aside from harmful emissions from the smokestacks of its plants, the activities of Northern Power do not cause significant air pollution.

42. Trancorp currently transports all its goods to Burland Island by truck. The only bridge over the channel separating Burland from the mainland is congested, and trucks typically spend hours in traffic. Trains can reach the channel more quickly than trucks, and freight cars can be transported to Burland by barges that typically cross the channel in an hour. Therefore, to reduce shipping time, Trancorp plans to switch to trains and barges to transport goods to Burland.

Which of the following would be most important to know in determining whether Trancorp's plan, if implemented, is likely to achieve its goal?

- (A) Whether transportation by train and barge would be substantially less expensive than transportation by truck
- (B) Whether there are boats that can make the trip between the mainland and Burland faster than barges can
- (C) Whether loading the freight cars onto barges is very time consuming
- (D) Whether the average number of vehicles traveling over the bridge into Burland has been relatively constant in recent years
- (E) Whether most trucks transporting goods into Burland return to the mainland empty

43. Some anthropologists study modern-day societies of foragers in an effort to learn about our ancient ancestors who were also foragers. A flaw in this strategy is that forager societies are extremely varied. Indeed, any forager society with which anthropologists are familiar has had considerable contact with modern, non-forager societies.

Which of the following, if true, would most weaken the criticism made above of the anthropologists' strategy?

- (A) All forager societies throughout history have had a number of important features in common that are absent from other types of societies.
- (B) Most ancient forager societies either dissolved or made a transition to another way of life.
- (C) All anthropologists study one kind or another of modern-day society.
- (D) Many anthropologists who study modern-day forager societies do not draw inferences about ancient societies on the basis of their studies.
- (E) Even those modern-day forager societies that have not had significant contact with modern societies are importantly different from ancient forager societies.

44. Contrary to earlier predictions, demand for sugarcane has not increased in recent years. Yet, even though prices and production amounts have also been stable during the last three years, sugarcane growers last year increased their profits by more than 10 percent over the previous year's level.

Any of the following statements, if true about last year, helps to explain the rise in profits EXCEPT:

- (A) Many countries that are large consumers of sugarcane increased their production of sugarcane-based ethanol, yet their overall consumption of sugarcane decreased.
- (B) Sugarcane growers have saved money on wages by switching from paying laborers an hourly wage to paying them by the amount harvested.
- (C) The price of oil, the major energy source used by sugarcane growers in harvesting their crops, dropped by over 20 percent.
- (D) Many small sugarcane growers joined together to form an association of sugarcane producers and began to buy supplies at low group rates.
- (E) Rainfall in sugarcane-growing regions was higher than it had been during the previous year, allowing the growers to save money on expensive artificial irrigation.

45. Which of the following most logically completes the argument below?

Davison River farmers are currently deciding between planting winter wheat this fall or spring wheat next spring. Winter wheat and spring wheat are usually about equally profitable. Because of new government restrictions on the use of Davison River water for irrigation, per acre yields for winter wheat, though not for spring wheat, would be much lower than average. Therefore, planting spring wheat will be more profitable than planting winter wheat, since _____.

- (A) the smaller-than-average size of a winter wheat harvest this year would not be compensated for by higher winter wheat prices
- (B) new crops of spring wheat must be planted earlier than the time at which standing crops of winter wheat are ready to be harvested
- (C) the spring wheat that farmers in the Davison River region plant is well adapted to the soil of the region
- (D) spring wheat has uses that are different from those of winter wheat
- (E) planting spring wheat is more profitable than planting certain other crops, such as rye

46. If the county continues to collect residential trash at current levels, landfills will soon be overflowing and parkland will need to be used in order to create more space. Charging each household a fee for each pound of trash it puts out for collection will induce residents to reduce the amount of trash they create; this charge will therefore protect the remaining county parkland.

Which of the following is an assumption made in drawing the conclusion above?

- (A) Residents will reduce the amount of trash they put out for collection by reducing the number of products they buy.
 - (B) The collection fee will not significantly affect the purchasing power of most residents, even if their households do not reduce the amount of trash they put out.
 - (C) The collection fee will not induce residents to dump their trash in the parklands illegally.
 - (D) The beauty of county parkland is an important issue for most of the county's residents.
 - (E) Landfills outside the county's borders could be used as dumping sites for the county's trash.
47. Certain genetically modified strains of maize produce a powerful natural insecticide. The insecticide occurs throughout the plant, including its pollen. Maize pollen is dispersed by the wind and frequently blows onto milkweed plants that grow near maize fields. Caterpillars of monarch butterflies feed exclusively on milkweed leaves. When these caterpillars are fed milkweed leaves dusted with pollen from modified maize plants, they die. Therefore, by using genetically modified maize, farmers put monarch butterflies at risk.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether the natural insecticide is as effective against maize-eating insects as commercial insecticides typically used on maize are
- (B) Whether the pollen of genetically modified maize contains as much insecticide as other parts of these plants

- (C) Whether monarch butterfly caterpillars are actively feeding during the part of the growing season when maize is releasing pollen
- (D) Whether insects that feed on genetically modified maize plants are likely to be killed by insecticide from the plant's pollen
- (E) Whether any maize-eating insects compete with monarch caterpillars for the leaves of milkweed plants growing near maize fields

48. Although computers can enhance people's ability to communicate, computer games are a cause of underdeveloped communication skills in children. After-school hours spent playing computer games are hours not spent talking with people. Therefore, children who spend all their spare time playing these games have less experience in interpersonal communication than other children have.

The argument depends on which of the following assumptions?

- (A) Passive activities such as watching television and listening to music do not hinder the development of communication skills in children.
- (B) Most children have other opportunities, in addition to after-school hours, in which they can choose whether to play computer games or to interact with other people.
- (C) Children who do not spend all of their after-school hours playing computer games spend at least some of that time talking with other people.
- (D) Formal instruction contributes little or nothing to children's acquisition of communication skills.
- (E) The mental skills developed through playing computer games do not contribute significantly to children's intellectual development.

49. Maize contains the vitamin niacin, but not in a form the body can absorb. Pellagra is a disease that results from niacin deficiency. When maize was introduced into southern Europe from the Americas in the eighteenth century, it quickly became a dietary staple, and many Europeans who came to subsist primarily on maize developed pellagra. Pellagra was virtually unknown at that time in the Americas, however, even among people who subsisted primarily on maize.

Which of the following, if true, most helps to explain the contrasting incidence of pellagra described above?

- (A) Once introduced into southern Europe, maize became popular with landowners because of its high yields relative to other cereal crops.
- (B) Maize grown in the Americas contained more niacin than maize grown in Europe did.
- (C) Traditional ways of preparing maize in the Americas convert maize's niacin into a nutritionally useful form.
- (D) In southern Europe many of the people who consumed maize also ate niacin-rich foods.
- (E) Before the discovery of pellagra's link with niacin, it was widely believed that the disease was an infection that could be transmitted from person to person.

50. One variety of partially biodegradable plastic beverage container is manufactured from small bits of plastic bound together by a degradable bonding agent such as cornstarch. Since only the bonding agent degrades, leaving the small bits of plastic, no less plastic refuse per container is produced when such containers are discarded than when comparable nonbiodegradable containers are discarded.

Which of the following, if true, most strengthens the argument above?

- (A) Both partially biodegradable and non-biodegradable plastic beverage containers can be crushed completely flat by refuse compactors.
- (B) The partially biodegradable plastic beverage containers are made with more plastic than comparable nonbiodegradable ones in order to compensate for the weakening effect of the bonding agents.

- (C) Many consumers are ecology-minded and prefer to buy a product sold in the partially biodegradable plastic beverage containers rather than in nonbiodegradable containers, even if the price is higher.
- (D) The manufacturing process for the partially biodegradable plastic beverage containers results in less plastic waste than the manufacturing process for nonbiodegradable plastic beverage containers.
- (E) Technological problems with recycling currently prevent the reuse as food or beverage containers of the plastic from either type of plastic beverage container.

51. Rye sown in the fall and plowed into the soil in early spring leaves a residue that is highly effective at controlling broad-leaved weeds, but unfortunately for only about forty-five days. No major agricultural crop matures from seed in as little as forty-five days. Synthetic herbicides, on the other hand, although not any longer-lasting, can be reapplied as the crop grows. Clearly, therefore, for major agricultural crops, plowing rye into the soil can play no part in effective weed control.

The argument is most vulnerable to the objection that it fails to

- (A) consider that there might be minor, quick-growing crops that do mature in forty-five days or less
- (B) identify any alternative method of weed control that could be used instead of the method it rejects
- (C) distinguish among the various kinds of synthetic herbicides
- (D) allow for the possibility of combining the two weed-control methods it mentions
- (E) allow for the possibility that plants other than rye, handled the same way, might have the same effect

52. Most employees in the computer industry move from company to company, changing jobs several times in their careers. However, Summit Computers is known throughout the industry for retaining its employees. Summit credits its success in retaining employees to its informal, nonhierarchical work environment.

Which of the following, if true, most strongly supports Summit's explanation of its success in retaining employees?

- (A) Some people employed in the computer industry change jobs if they become bored with their current projects.
 - (B) A hierarchical work environment hinders the cooperative exchange of ideas that computer industry employees consider necessary for their work.
 - (C) Many of Summit's senior employees had previously worked at only one other computer company.
 - (D) In a nonhierarchical work environment, people avoid behavior that might threaten group harmony and thus avoid discussing with their colleagues any dissatisfaction they might have with their jobs.
 - (E) The cost of living near Summit is relatively low compared to areas in which some other computer companies are located.
53. Insurance Company X is considering issuing a new policy to cover services required by elderly people who suffer from diseases that afflict the elderly. Premiums for the policy must be low enough to attract customers. Therefore, Company X is concerned that the income from the policies would not be sufficient to pay for the claims that would be made.

Which of the following strategies would be most likely to minimize Company X's losses on the policies?

- (A) Attracting middle-aged customers unlikely to submit claims for benefits for many years
- (B) Insuring only those individuals who did not suffer any serious diseases as children
- (C) Including a greater number of services in the policy than are included in other policies of lower cost

- (D) Insuring only those individuals who were rejected by other companies for similar policies
- (E) Insuring only those individuals who are wealthy enough to pay for the medical services

54. The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than the lawyers who do not advertise. Therefore, if the state removes any of its current restrictions, such as the one against advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

If the statements above are true, which of the following must be true?

- (A) Some lawyers who now advertise will charge more for specific services if they do not have to specify fee arrangements in the advertisements.
 - (B) More consumers will use legal services if there are fewer restrictions on the advertising of legal services.
 - (C) If the restriction against advertisements that do not specify fee arrangements is removed, more lawyers will advertise their services.
 - (D) If more lawyers advertise lower prices for specific services, some lawyers who do not advertise will also charge less than they currently charge for those services.
 - (E) If the only restrictions on the advertising of legal services were those that apply to every type of advertising, most lawyers would advertise their services.
55. Which of the following most logically completes the argument given below?
- People in isolated rain-forest communities tend to live on a largely vegetarian diet, and they eat little salt. Few of them suffer from high blood pressure, and their blood pressure does not tend to increase with age, as is common in industrialized countries. Such people often do develop high blood pressure when they move to cities and adopt high-salt diets. Though suggestive, these facts do not establish salt as the culprit in high blood pressure, however, because _____.

- (A) genetic factors could account for the lack of increase of blood pressure with age among such people
- (B) people eating high-salt diets and living from birth in cities in industrialized societies generally have a tendency to have high blood pressure
- (C) it is possible to have a low-salt diet while living in a city in an industrialized country
- (D) there are changes in other aspects of diet when such people move to the city
- (E) salt is a necessity for human life, and death can occur when the body loses too much salt

56. Even though most universities retain the royalties from faculty members' inventions, the faculty members retain the royalties from books and articles they write. Therefore, faculty members should retain the royalties from the educational computer software they develop.

The conclusion above would be more reasonably drawn if which of the following were inserted into the argument as an additional premise?

- (A) Royalties from inventions are higher than royalties from educational software programs.
- (B) Faculty members are more likely to produce educational software programs than inventions.
- (C) Inventions bring more prestige to universities than do books and articles.
- (D) In the experience of most universities, educational software programs are more marketable than are books and articles.
- (E) In terms of the criteria used to award royalties, educational software programs are more nearly comparable to books and articles than to inventions.

57. In order to withstand tidal currents, juvenile horseshoe crabs frequently burrow in the sand. Such burrowing discourages barnacles from clinging to their shells. When fully grown, however, the crabs can readily withstand tidal currents without burrowing, and thus they acquire substantial populations of barnacles. Surprisingly, in areas where tidal currents are very weak, juvenile horseshoe crabs are found not to have significant barnacle populations, even though they seldom burrow.

Which of the following, if true, most helps to explain the surprising finding?

- (A) Tidal currents do not themselves dislodge barnacles from the shells of horseshoe crabs.
- (B) Barnacles most readily attach themselves to horseshoe crabs in areas where tidal currents are weakest.
- (C) The strength of the tidal currents in a given location varies widely over the course of a day.
- (D) A very large barnacle population can significantly decrease the ability of a horseshoe crab to find food.
- (E) Until they are fully grown, horseshoe crabs shed their shells and grow new ones several times a year.

58. Red blood cells in which the malarial-fever parasite resides are eliminated from a person's body after 120 days. Because the parasite cannot travel to a new generation of red blood cells, any fever that develops in a person more than 120 days after that person has moved to a malaria-free region is not due to the malarial parasite.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The fever caused by the malarial parasite may resemble the fever caused by flu viruses.
- (B) The anopheles mosquito, which is the principal insect carrier of the malarial parasite, has been eradicated in many parts of the world.
- (C) Many malarial symptoms other than the fever, which can be suppressed with antimalarial medication, can reappear within 120 days after the medication is discontinued.
- (D) In some cases, the parasite that causes malarial fever travels to cells of the spleen, which are less frequently eliminated from a person's body than are red blood cells.
- (E) In any region infested with malaria-carrying mosquitoes, there are individuals who appear to be immune to malaria.

59. Which of the following most logically completes the passage?

A recent government study links the high rates of respiratory ailments in Groverston to airborne pollutants released by the Woodco plywood manufacturing plant there. To address the problem, the government imposed strict regulations on emissions which will go into effect in four years. Although Woodco plans to cut its emissions in half two years ahead of schedule, it is unlikely that the rate of respiratory ailments will decline before the regulations go into effect, since _____.

- (A) the number of facilities capable of treating respiratory ailments is not likely to increase
 - (B) reducing emissions even further than planned would necessitate decreasing production at Woodco
 - (C) it is difficult to make accurate, long-term predictions about emissions
 - (D) not all respiratory ailments are caused by airborne pollutants
 - (E) three new plywood manufacturing plants are about to go into production in Groverston
60. Neither a rising standard of living nor balanced trade, by itself, establishes a country's ability to compete in the international marketplace. Both are required simultaneously since standards of living can rise because of growing trade deficits and trade can be balanced by means of a decline in a country's standard of living.
- If the facts stated in the passage above are true, a proper test of a country's ability to be competitive is its ability to
- (A) balance its trade while its standard of living rises
 - (B) balance its trade while its standard of living falls
 - (C) increase trade deficits while its standard of living rises
 - (D) decrease trade deficits while its standard of living falls
 - (E) keep its standard of living constant while trade deficits rise

61. When there is less rainfall than normal, the water level of Australian rivers falls and the rivers flow more slowly. Because algae whose habitat is river water grow best in slow-moving water, the amount of algae per unit of water generally increases when there has been little rain. By contrast, however, following a period of extreme drought, algae levels are low even in very slow-moving river water.

Which of the following, if true, does most to explain the contrast described above?

- (A) During periods of extreme drought, the populations of some of the species that feed on algae tend to fall.
 - (B) The more slowly water moves, the more conducive its temperature is to the growth of algae.
 - (C) When algae populations reach very high levels, conditions within the river can become toxic for some of the other species that normally live there.
 - (D) Australian rivers dry up completely for short intervals in periods of extreme drought.
 - (E) Except during periods of extreme drought, algae levels tend to be higher in rivers in which the flow has been controlled by damming than in rivers that flow freely.
62. When hypnotized subjects are told that they are deaf and are then asked whether they can hear the hypnotist, they reply, "No." Some theorists try to explain this result by arguing that the selves of hypnotized subjects are dissociated into separate parts, and that the part that is deaf is dissociated from the part that replies.
- Which of the following challenges indicates the most serious weakness in the attempted explanation described above?
- (A) Why does the part that replies not answer, "Yes"?
 - (B) Why are the observed facts in need of any special explanation?
 - (C) Why do the subjects appear to accept the hypnotist's suggestion that they are deaf?
 - (D) Why do hypnotized subjects all respond the same way in the situation described?
 - (E) Why are the separate parts of the self the same for all subjects?

63. A prominent investor who holds a large stake in the Burton Tool Company has recently claimed that **the company is mismanaged**, citing as evidence the company's failure to slow production in response to a recent rise in its inventory of finished products. It is doubtful whether an investor's sniping at management can ever be anything other than counterproductive, **but in this case it is clearly not justified**. It is true that an increased inventory of finished products often indicates that production is outstripping demand, but in Burton's case it indicates no such thing. Rather, the increase in inventory is entirely attributable to products that have already been assigned to orders received from customers.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first states the position that the argument as a whole opposes; the second provides evidence to undermine the support for the position being opposed.
- (B) The first states the position that the argument as a whole opposes; the second is evidence that has been used to support the position being opposed.
- (C) The first states the position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.
- (D) The first is evidence that has been used to support a position that the argument as a whole opposes; the second provides information to undermine the force of that evidence.
- (E) The first is evidence that has been used to support a position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.

64. Excavation of the ancient city of Kourion on the island of Cyprus revealed a pattern of debris and collapsed buildings typical of towns devastated by earthquakes. Archaeologists have hypothesized that the destruction was due to a major earthquake known to have occurred near the island in A.D. 365.

Which of the following, if true, most strongly supports the archaeologists' hypothesis?

- (A) Bronze ceremonial drinking vessels that are often found in graves dating from years preceding and following A.D. 365 were also found in several graves near Kourion.
- (B) No coins minted after A.D. 365 were found in Kourion, but coins minted before that year were found in abundance.
- (C) Most modern histories of Cyprus mention that an earthquake occurred near the island in A.D. 365.
- (D) Several small statues carved in styles current in Cyprus in the century between A.D. 300 and A.D. 400 were found in Kourion.
- (E) Stone inscriptions in a form of the Greek alphabet that was definitely used in Cyprus after A.D. 365 were found in Kourion.

65. Which of the following most logically completes the passage?

Pecan growers get a high price for their crop when pecans are comparatively scarce, but the price drops sharply when pecans are abundant. Thus, in high-yield years, growers often hold back part of their crop in refrigerated warehouses for one or two years, hoping for higher prices in the future. This year's pecan crop was the smallest in five years. It is nonetheless quite possible that a portion of this year's crop will be held back, since _____.

- (A) each of the last two years produced record-breaking pecan yields
- (B) the quality of this year's pecan crop is no worse than the quality of the pecan crops of the previous five years
- (C) pecan prices have not been subject to sharp fluctuations in recent years
- (D) for some pecan growers, this year's crop was no smaller than last year's
- (E) the practice of holding back part of one year's crop had not yet become widespread the last time the pecan crop was as small as it was this year

66. To protect certain fledgling industries, the government of Country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

Which of the following conclusions about Country Z's adversely affected export-dependent industries is best supported by the passage?

- (A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.
 - (B) Those industries had to contend with the fact that other countries banned imports from Country Z.
 - (C) Those industries succeeded in expanding the domestic market for their products.
 - (D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.
 - (E) Those industries started to move into export markets that they had previously judged unprofitable.
67. Several industries have recently switched at least partly from older technologies powered by fossil fuels to new technologies powered by electricity. It is thus evident that less fossil fuel is being used as a result of the operations of these industries than would have been used if these industries had retained their older technologies.

Which of the following, if true, most strengthens the argument above?

- (A) Many of the industries that have switched at least partly to the new technologies have increased their output.
- (B) Less fossil fuel was used to manufacture the machinery employed in the new technologies than was originally used to manufacture the machinery employed in the older technologies.

- (C) More electricity is used by those industries that have switched at least partly to the new technologies than by those industries that have not switched.
- (D) Some of the industries that have switched at least partly to the new technologies still use primarily technologies that are powered by fossil fuels.
- (E) The amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount that would have been used to power the older technologies.

68. Scientists have modified feed corn genetically, increasing its resistance to insect pests. Farmers who tried out the genetically modified corn last season applied less insecticide to their corn fields and still got yields comparable to those they would have gotten with ordinary corn. Ordinary corn seed, however, costs less, and what these farmers saved on insecticide rarely exceeded their extra costs for seed. Therefore, for most feed-corn farmers, switching to genetically modified seed would be unlikely to increase profits.

Which of the following would it be most useful to know in order to evaluate the argument?

- (A) Whether there are insect pests that sometimes reduce feed-corn yields, but against which commonly used insecticides and the genetic modification are equally ineffective
- (B) Whether the price that farmers receive for feed corn has remained steady over the past few years
- (C) Whether the insecticides typically used on feed corn tend to be more expensive than insecticides typically used on other crops
- (D) Whether most of the farmers who tried the genetically modified corn last season applied more insecticide than was actually necessary
- (E) Whether, for most farmers who plant feed corn, it is their most profitable crop

69. Which of the following most logically completes the argument?

By competing with rodents for seeds, black ants help control rodent populations that pose a public health risk. However, a very aggressive species of black ant, the Loma ant, which has recently invaded a certain region, has a venomous sting that is often fatal to humans. Therefore, the planned introduction into that region of ant flies, which prey on Loma ants, would benefit public health, since _____.

- (A) ant flies do not attack black ants other than Loma ants
 - (B) Loma ants are less effective than many bird species in competing with rodents for seeds
 - (C) certain other species of black ants are more effective than Loma ants in competing with rodents for seeds
 - (D) the sting of Loma ants can also be fatal to rodents
 - (E) some pesticides that could be used to control Loma ants are harmful to the environment
70. Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist's reasoning?

- (A) Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- (B) Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?

- (C) In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- (D) What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- (E) Do newly opened SaveAll stores ever lose money during their first five years of operation?

71. In comparison to the standard typewriter keyboard, the EFCO keyboard, which places the most-used keys nearest the typist's strongest fingers, allows faster typing and results in less fatigue. Therefore, replacement of standard keyboards with the EFCO keyboard will result in an immediate reduction of typing costs.

Which of the following, if true, would most weaken the conclusion drawn above?

- (A) People who use both standard and EFCO keyboards report greater difficulty in the transition from the EFCO keyboard to the standard keyboard than in the transition from the standard keyboard to the EFCO keyboard.
- (B) EFCO keyboards are no more expensive to manufacture than are standard keyboards and require less frequent repair than do standard keyboards.
- (C) The number of businesses and government agencies that use EFCO keyboards is increasing each year.
- (D) The more training and experience an employee has had with the standard keyboard, the more costly it is to train that employee to use the EFCO keyboard.
- (E) Novice typists can learn to use the EFCO keyboard in about the same amount of time that it takes them to learn to use the standard keyboard.

72. In the past the country of Malvernia has relied heavily on imported oil. Malvernia recently implemented a program to convert heating systems from oil to natural gas. Malvernia currently produces more natural gas each year than it uses, and oil production in Malvernian oil fields is increasing at a steady pace. If these trends in fuel production and usage continue, therefore, Malvernian reliance on foreign sources for fuel is likely to decline soon.

Which of the following would it be most useful to establish in evaluating the argument?

- (A) When, if ever, will production of oil in Malvernia outstrip production of natural gas?
 - (B) Is Malvernia among the countries that rely most on imported oil?
 - (C) What proportion of Malvernia's total energy needs is met by hydroelectric, solar, and nuclear power?
 - (D) Is the amount of oil used each year in Malvernia for generating electricity and fuel for transportation increasing?
 - (E) Have any existing oil-burning heating systems in Malvernia already been converted to natural-gas-burning heating systems?
73. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

Which of the following, if true, would most weaken the argument above?

- (A) Industrial production also is declining in Country X.
- (B) Whereas Country Y is landlocked, Country X has a major seaport.
- (C) Both Country X and Country Y have been experiencing drought conditions.
- (D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.
- (E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

74. Which of the following most logically completes the argument below?

Using broad-spectrum weed killers on weeds that are competing with crops for sunlight, water, and nutrients presents a difficulty: how to keep the crop from being killed along with the weeds. For at least some food crops, specially treated seed that produces plants resistant to weed killers is under development. This resistance wears off as the plants mature. Therefore, the special seed treatment will be especially useful for plants that _____.

- (A) produce their crop over an extended period of time, as summer squash does
 - (B) produce large seeds that are easy to treat individually, as corn and beans do
 - (C) provide, as they approach maturity, shade dense enough to keep weeds from growing
 - (D) are typically grown in large tracts devoted to a single crop
 - (E) are cultivated specifically for the seed they produce rather than for their leaves or roots
75. Because no employee wants to be associated with bad news in the eyes of a superior, information about serious problems at lower levels is progressively softened and distorted as it goes up each step in the management hierarchy. The chief executive is, therefore, less well informed about problems at lower levels than are his or her subordinates at those levels.
- The conclusion drawn above is based on the assumption that
- (A) problems should be solved at the level in the management hierarchy at which they occur
 - (B) employees should be rewarded for accurately reporting problems to their superiors
 - (C) problem-solving ability is more important at higher levels than it is at lower levels of the management hierarchy
 - (D) chief executives obtain information about problems at lower levels from no source other than their subordinates
 - (E) some employees are more concerned about truth than about the way they are perceived by their superiors

76. Although the earliest surviving Greek inscriptions written in an alphabet date from the eighth century B.C., **the fact that the text of these Greek inscriptions sometimes runs from right to left and sometimes from left to right** indicates that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were produced. After all, the Greeks learned alphabetic writing from the Phoenicians, and presumably, along with the alphabet, they also adopted the then-current Phoenician practice with respect to the direction of text. **And although Phoenician writing was originally inconsistent in direction, by the eighth century B.C. Phoenician was consistently written from right to left and had been for about two centuries.**

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first and the second each describe evidence that has been used to challenge the position that the argument seeks to establish.
 - (B) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is that position.
 - (C) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is a consideration that is introduced to counter the force of that evidence.
 - (D) The first and the second each provide evidence in support of the position that the argument seeks to establish.
 - (E) The first provides evidence in support of the position that the argument seeks to establish; the second is that position.
77. A recent report determined that although only 3 percent of drivers on Maryland highways equipped their vehicles with radar detectors, 33 percent of all vehicles ticketed for exceeding the speed limit were equipped with them. Clearly, drivers who equip their vehicles with radar detectors are more likely to exceed the speed limit regularly than are drivers who do not.
- The conclusion drawn above depends on which of the following assumptions?
- (A) Drivers who equip their vehicles with radar detectors are less likely to be ticketed for exceeding the speed limit than are drivers who do not.
 - (B) Drivers who are ticketed for exceeding the speed limit are more likely to exceed the speed limit regularly than are drivers who are not ticketed.
 - (C) The number of vehicles that were ticketed for exceeding the speed limit was greater than the number of vehicles that were equipped with radar detectors.
 - (D) Many of the vehicles that were ticketed for exceeding the speed limit were ticketed more than once in the time period covered by the report.
 - (E) Drivers on Maryland highways exceeded the speed limit more often than did drivers on other state highways not covered in the report.

78. **In countries where automobile insurance includes compensation for whiplash injuries sustained in automobile accidents, reports of having suffered such injuries are twice as frequent as they are in countries where whiplash is not covered.** Presently, no objective test for whiplash exists, so it is true that spurious reports of whiplash injuries cannot be readily identified. Nevertheless, these facts do not warrant the conclusion drawn by some commentators that in the countries with the higher rates of reported whiplash injuries, half of the reported cases are spurious. Clearly, **in countries where automobile insurance does not include compensation for whiplash, people often have little incentive to report whiplash injuries that they actually have suffered.**

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first is a claim that the argument disputes; the second is a conclusion that has been based on that claim.
 - (B) The first is a claim that has been used to support a conclusion that the argument accepts; the second is that conclusion.
 - (C) The first is evidence that has been used to support a conclusion for which the argument provides further evidence; the second is the main conclusion of the argument.
 - (D) The first is a finding whose implications are at issue in the argument; the second is a claim presented in order to argue against deriving certain implications from that finding.
 - (E) The first is a finding whose accuracy is evaluated in the argument; the second is evidence presented to establish that the finding is accurate.
79. When demand for a factory's products is high, more money is spent at the factory for safety precautions and machinery maintenance than when demand is low. Thus the average number of on-the-job accidents per employee each month should be lower during periods when demand is high than when demand is low and less money is available for safety precautions and machinery maintenance.
- Which of the following, if true about a factory when demand for its products is high, casts the most serious doubt on the conclusion drawn above?
- (A) Its employees ask for higher wages than they do at other times.
 - (B) Its management hires new workers but lacks the time to train them properly.
 - (C) Its employees are less likely to lose their jobs than they are at other times.
 - (D) Its management sponsors a monthly safety award for each division in the factory.
 - (E) Its old machinery is replaced with modern, automated models.
80. A sudden increase in the production of elephant ivory artifacts on the Mediterranean coast of North Africa occurred in the tenth century. Historians explain this increase as the result of an area opening up as a new source of ivory and argue on this basis that the important medieval trade between North Africa and East Africa began at this period.
- Each of the following, if true, provides some support for the historians' account described above EXCEPT:
- (A) In East Africa gold coins from Mediterranean North Africa have been found at a tenth-century site but at no earlier sites.
 - (B) The many surviving letters of pre-tenth-century North African merchants include no mention of business transactions involving East Africa.
 - (C) Excavations in East Africa reveal a tenth-century change in architectural style to reflect North African patterns.
 - (D) Documents from Mediterranean Europe and North Africa that date back earlier than the tenth century show knowledge of East African animals.
 - (E) East African carvings in a style characteristic of the tenth century depict seagoing vessels very different from those used by local sailors but of a type common in the Mediterranean.

81. Which of the following most logically completes the argument?

The attribution of the choral work *Lacrimae* to the composer Pescard (1400–1474) has been regarded as tentative, since it was based on a single treatise from the early 1500s that named Pescard as the composer. Recently, several musical treatises from the late 1500s have come to light, all of which name Pescard as the composer of *Lacrimae*. Unfortunately, these newly discovered treatises lend no support to the attribution of *Lacrimae* to Pescard, since _____.

- (A) the treatise from the early 1500s misidentifies the composers of some of the musical works it considers
- (B) the author of the treatise from the early 1500s had no very strong evidence on which to base the identification of Pescard as the composer of *Lacrimae*
- (C) there are works that can conclusively be attributed to Pescard that are not even mentioned in the treatise from the early 1500s
- (D) the later treatises probably had no source for their attribution other than the earlier treatise
- (E) no known treatises from the 1600s identify Pescard as the composer of *Lacrimae*

82. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

- (A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.
- (B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.
- (C) The number of physics journals was the same last year as in previous years.
- (D) Particle accelerators can be used for more than one group of experiments in any given year.
- (E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

83. Many people suffer an allergic reaction to certain sulfites, including those that are commonly added to wine as preservatives. However, since there are several winemakers who add sulfites to none of the wines they produce, people who would like to drink wine but are allergic to sulfites can drink wines produced by these winemakers without risking an allergic reaction to sulfites.

Which of the following is an assumption on which the argument depends?

- (A) These winemakers have been able to duplicate the preservative effect produced by adding sulfites by means that do not involve adding any potentially allergenic substances to their wine.
- (B) Not all forms of sulfite are equally likely to produce the allergic reaction.
- (C) Wine is the only beverage to which sulfites are commonly added.
- (D) Apart from sulfites, there are no substances commonly present in wine that give rise to an allergic reaction.
- (E) Sulfites are not naturally present in the wines produced by these winemakers in amounts large enough to produce an allergic reaction in someone who drinks these wines.

84. Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur *Sandactylus* had similar networks of blood vessels in the skin of its wings provides evidence for the hypothesis that *Sandactylus* flew by flapping its wings, not just by gliding.

In the passage, the author develops the argument by

- (A) forming the hypothesis that best explains several apparently conflicting pieces of evidence
 - (B) reinterpreting evidence that had been used to support an earlier theory
 - (C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon
 - (D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct
 - (E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures
85. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry \$25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy.

Laura: The \$25 billion spent by some businesses will be revenue for others. Jobs and profits will be gained as well as lost.

Laura responds to Keith by

- (A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand
- (B) challenging the plausibility of the evidence that serves as the basis for Keith's argument
- (C) suggesting that Keith's argument overlooks a mitigating consequence
- (D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites
- (E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism

86. When trying to identify new technologies that promise to transform the marketplace, market researchers survey the managers of those companies that are developing new technologies. Such managers have an enormous stake in succeeding, so they invariably overstate the potential of their new technologies. Surprisingly, however, market researchers typically do not survey a new technology's potential buyers, even though it is the buyers—not the producers—who will ultimately determine a technology's commercial success.

Which of the following, if true, best accounts for the typical survey practices among market researchers?

- (A) If a new technology succeeds, the commercial benefits accrue largely to the producers, not to the buyers, of that technology.
 - (B) People who promote the virtues of a new technology typically fail to consider that the old technology that is currently in use continues to be improved, often substantially.
 - (C) Investors are unlikely to invest substantial amounts of capital in a company whose own managers are skeptical about the commercial prospects of a new technology they are developing.
 - (D) The potential buyers for not-yet-available technologies can seldom be reliably identified.
 - (E) The developers of a new technology are generally no better positioned than its potential buyers to gauge how rapidly the new technology can be efficiently mass-produced.
87. In the United States, of the people who moved from one state to another when they retired, the percentage who retired to Florida has decreased by three percentage points over the past ten years. Since many local businesses in Florida cater to retirees, these declines are likely to have a noticeably negative economic effect on these businesses and therefore on the economy of Florida.

Which of the following, if true, most seriously weakens the argument given?

- (A) People who moved from one state to another when they retired moved a greater distance, on average, last year than such people did ten years ago.
- (B) People were more likely to retire to North Carolina from another state last year than people were ten years ago.
- (C) The number of people who moved from one state to another when they retired has increased significantly over the past ten years.
- (D) The number of people who left Florida when they retired to live in another state was greater last year than it was ten years ago.
- (E) Florida attracts more people who move from one state to another when they retire than does any other state.

88. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government's plan to increase the amount of money available for development loans for businesses?

- (A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.
- (B) The increased tax revenue the government would receive as a result of business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.
- (C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.
- (D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.
- (E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

89. Since it has become known that **several of a bank's top executives have been buying shares in their own bank**, the bank's depositors, who had been worried by rumors that the bank faced impending financial collapse, have been greatly relieved. They reason that, since top executives evidently have faith in the bank's financial soundness, those worrisome rumors must be false. Such reasoning might well be overoptimistic, however, since **corporate executives have been known to buy shares in their own company in a calculated attempt to dispel negative rumors about the company's health**.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first describes evidence that has been taken as supporting a conclusion; the second gives a reason for questioning that support.
- (B) The first describes evidence that has been taken as supporting a conclusion; the second states a contrary conclusion that is the main conclusion of the argument.
- (C) The first provides evidence in support of the main conclusion of the argument; the second states that conclusion.
- (D) The first describes the circumstance that the argument as a whole seeks to explain; the second gives the explanation that the argument seeks to establish.
- (E) The first describes the circumstance that the argument as a whole seeks to explain; the second provides evidence in support of the explanation that the argument seeks to establish.

90. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

- (A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.
- (B) Corporate sponsors of research in university facilities are entitled to tax credits under new federal tax-code guidelines.
- (C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.
- (D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profit-making corporations.
- (E) Logos University is unlikely to attract corporate sponsorship of its scientific research.

91. Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete resources.

The environmentalist's statements, if true, best support which of the following as a conclusion?

- (A) The use of technology is the reason for the increasing encroachment of people on nature.
- (B) It is possible to determine how many fish are in the sea in some way other than by catching fish.
- (C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.
- (D) Modern technologies waste resources by catching inedible fish.
- (E) Marine fish continue to be an endangered resource.

92. In the country of Veltria, the past two years' broad economic recession has included a business downturn in the clothing trade, where sales are down by about 7 percent as compared to two years ago. Clothing wholesalers have found, however, that the proportion of credit extended to retailers that was paid off on time fell sharply in the first year of the recession but returned to its prerecession level in the second year.

Which of the following, if true, most helps to explain the change between the first and the second year of the recession in the proportion of credit not paid off on time?

- (A) The total amount of credit extended to retailers by clothing wholesalers increased between the first year of the recession and the second year.
- (B) Between the first and second years of the recession, clothing retailers in Veltria saw many of their costs, rent and utilities in particular, increase.
- (C) Of the considerable number of clothing retailers in Veltria who were having financial difficulties before the start of the recession, virtually all were forced to go out of business during its first year.
- (D) Clothing retailers in Veltria attempted to stimulate sales in the second year of the recession by discounting merchandise.
- (E) Relatively recession-proof segments of the clothing trade, such as work clothes, did not suffer any decrease in sales during the first year of the recession.

93. Commentator: The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

- (A) No country actually acts according to the theory of trade retaliation.
 - (B) No country should block any of its markets to foreign trade.
 - (C) Trade disputes should be settled by international tribunal.
 - (D) For any two countries, at least one has some market closed to the other.
 - (E) Countries close their markets to foreigners to protect domestic producers.
94. As a construction material, bamboo is as strong as steel and sturdier than concrete. Moreover, in tropical areas bamboo is a much less expensive construction material than either steel or concrete and is always readily available. In tropical areas, therefore, building with bamboo makes better economic sense than building with steel or concrete, except where land values are high.

Which of the following, if true, most helps to explain the exception noted above?

- (A) Buildings constructed of bamboo are less likely to suffer earthquake damage than are steel and concrete buildings.
- (B) Bamboo is unsuitable as a building material for multistory buildings.
- (C) In order to protect it from being damaged by termites and beetles, bamboo must be soaked, at some expense, in a preservative.
- (D) In some tropical areas, bamboo is used to make the scaffolding that is used during large construction projects.
- (E) Bamboo growing in an area where land values are increasing is often cleared to make way for construction.

95. Studies in restaurants show that the tips left by customers who pay their bill in cash tend to be larger when the bill is presented on a tray that bears a credit-card logo. Consumer psychologists hypothesize that simply seeing a credit-card logo makes many credit-card holders willing to spend more because it reminds them that their spending power exceeds the cash they have immediately available.

Which of the following, if true, most strongly supports the psychologists' interpretation of the studies?

- (A) The effect noted in the studies is not limited to patrons who have credit cards.
- (B) Patrons who are under financial pressure from their credit-card obligations tend to tip less when presented with a restaurant bill on a tray with a credit-card logo than when the tray has no logo.
- (C) In virtually all of the cases in the studies, the patrons who paid bills in cash did not possess credit cards.
- (D) In general, restaurant patrons who pay their bills in cash leave larger tips than do those who pay by credit card.
- (E) The percentage of restaurant bills paid with a given brand of credit card increases when that credit card's logo is displayed on the tray with which the bill is presented.

96. Although parapsychology is often considered a pseudoscience, it is in fact a genuine scientific enterprise, for it uses scientific methods such as controlled experiments and statistical tests of clearly stated hypotheses to examine the questions it raises.

The conclusion above is properly drawn if which of the following is assumed?

- (A) If a field of study can conclusively answer the questions it raises, then it is a genuine science.
- (B) Since parapsychology uses scientific methods, it will produce credible results.
- (C) Any enterprise that does not use controlled experiments and statistical tests is not genuine science.
- (D) Any field of study that employs scientific methods is a genuine scientific enterprise.
- (E) Since parapsychology raises clearly statable questions, they can be tested in controlled experiments.

97. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

- (A) Another manufacturer's introduction to the market of a similarly efficient burner
 - (B) The Clifton Asphalt plant's need for more than one new burner
 - (C) Very poor efficiency in the Clifton Asphalt plant's old burner
 - (D) A decrease in the demand for asphalt
 - (E) A steady increase in the price of oil beginning soon after the new burner is installed
98. **Delta Products Inc. has recently switched at least partly from older technologies using fossil fuels to new technologies powered by electricity.** The question has been raised whether it can be concluded that **for a given level of output Delta's operation now causes less fossil fuel to be consumed than it did formerly.** The answer, clearly, is yes, since the amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount needed to power the older technologies, provided level of output is held constant.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first identifies the content of the conclusion of the argument; the second provides support for that conclusion.
- (B) The first provides support for the conclusion of the argument; the second identifies the content of that conclusion.
- (C) The first states the conclusion of the argument; the second calls that conclusion into question.
- (D) The first provides support for the conclusion of the argument; the second calls that conclusion into question.
- (E) Each provides support for the conclusion of the argument.

99. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

- (A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.
 - (B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.
 - (C) People who are better at abstract pattern recognition have more energy-efficient neural connections.
 - (D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.
 - (E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.
100. Debater: The average amount of overtime per month worked by an employee in the manufacturing division of the Haglut Corporation is 14 hours. Most employees of the Haglut Corporation work in the manufacturing division. Furthermore, the average amount of overtime per month worked by any employee in the company generally does not fluctuate much from month to month. Therefore, each month, most employees of the Haglut Corporation almost certainly work at least some overtime.

The debater's argument is most vulnerable to criticism on which of these grounds?

- (A) It takes for granted that the manufacturing division is a typical division of the corporation with regard to the average amount of overtime its employees work each month.
- (B) It takes for granted that if a certain average amount of overtime is worked each month by each employee of the Haglut Corporation, then approximately the same amount of overtime must be worked each month by each employee of the manufacturing division.

- (C) It confuses a claim from which the argument's conclusion about the Haglut Corporation would necessarily follow with a claim that would follow from the argument's conclusion only with a high degree of probability.
- (D) It overlooks the possibility that even if, on average, a certain amount of overtime is worked by the members of some group, many members of that group may work no overtime at all.
- (E) It overlooks the possibility that even if most employees of the corporation work some overtime each month, any one corporate employee may, in some months, work no overtime.

101. Which of the following most logically completes the argument?

The irradiation of food kills bacteria and thus retards spoilage. However, it also lowers the nutritional value of many foods. For example, irradiation destroys a significant percentage of whatever vitamin B1 a food may contain. Proponents of irradiation point out that irradiation is no worse in this respect than cooking. However, this fact is either beside the point, since much irradiated food is eaten raw, or else misleading, since _____.

- (A) many of the proponents of irradiation are food distributors who gain from foods' having a longer shelf life
- (B) it is clear that killing bacteria that may be present on food is not the only effect that irradiation has
- (C) cooking is usually the final step in preparing food for consumption, whereas irradiation serves to ensure a longer shelf life for perishable foods
- (D) certain kinds of cooking are, in fact, even more destructive of vitamin B1 than carefully controlled irradiation is
- (E) for food that is both irradiated and cooked, the reduction of vitamin B1 associated with either process individually is compounded

102. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called "benchmarking," permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

- (A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.
- (B) Getting "inside" information about the unique practices of competitors is particularly difficult.
- (C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.
- (D) Managers are generally more receptive to new ideas that they find outside their own industry.
- (E) Much of the success of good companies is due to their adoption of practices that take advantage of the special circumstances of their products or markets.

103. For a trade embargo against a particular country to succeed, a high degree of both international accord and ability to prevent goods from entering or leaving that country must be sustained. A total blockade of Patria's ports is necessary to an embargo, but such an action would be likely to cause international discord over the embargo.

The claims above, if true, most strongly support which of the following conclusions?

- (A) The balance of opinion is likely to favor Patria in the event of a blockade.
- (B) As long as international opinion is unanimously against Patria, a trade embargo is likely to succeed.
- (C) A naval blockade of Patria's ports would ensure that no goods enter or leave Patria.
- (D) Any trade embargo against Patria would be likely to fail at some time.
- (E) For a blockade of Patria's ports to be successful, international opinion must be unanimous.

104. Theater Critic: The play *La Finestrina*, now at Central Theater, was written in Italy in the eighteenth century. The director claims that this production is as similar to the original production as is possible in a modern theater. Although the actor who plays Harlequin the clown gives a performance very reminiscent of the twentieth-century American comedian Groucho Marx, Marx's comic style was very much within the comic acting tradition that had begun in sixteenth-century Italy.

The considerations given best serve as part of an argument that

- (A) modern audiences would find it hard to tolerate certain characteristics of a historically accurate performance of an eighteenth-century play
 - (B) Groucho Marx once performed the part of the character Harlequin in *La Finestrina*
 - (C) in the United States the training of actors in the twentieth century is based on principles that do not differ radically from those that underlay the training of actors in eighteenth-century Italy
 - (D) the performance of the actor who plays Harlequin in *La Finestrina* does not serve as evidence against the director's claim
 - (E) the director of *La Finestrina* must have advised the actor who plays Harlequin to model his performance on comic performances of Groucho Marx
105. The cost of producing radios in Country Q is 10 percent less than the cost of producing radios in Country Y. Even after transportation fees and tariff charges are added, it is still cheaper for a company to import radios from Country Q to Country Y than to produce radios in Country Y.

The statements above, if true, best support which of the following assertions?

- (A) Labor costs in Country Q are 10 percent below those in Country Y.
- (B) Importing radios from Country Q to Country Y will eliminate 10 percent of the manufacturing jobs in Country Y.
- (C) The tariff on a radio imported from Country Q to Country Y is less than 10 percent of the cost of manufacturing the radio in Country Y.

- (D) The fee for transporting a radio from Country Q to Country Y is more than 10 percent of the cost of manufacturing the radio in Country Q.
- (E) It takes 10 percent less time to manufacture a radio in Country Q than it does in Country Y.

106. Exposure to certain chemicals commonly used in elementary schools as cleaners or pesticides causes allergic reactions in some children. Elementary school nurses in Renston report that the proportion of schoolchildren sent to them for treatment of allergic reactions to those chemicals has increased significantly over the past ten years. Therefore, either Renston's schoolchildren have been exposed to greater quantities of the chemicals, or they are more sensitive to them than schoolchildren were ten years ago.

Which of the following is an assumption on which the argument depends?

- (A) The number of school nurses employed by Renston's elementary schools has not decreased over the past ten years.
 - (B) Children who are allergic to the chemicals are no more likely than other children to have allergies to other substances.
 - (C) Children who have allergic reactions to the chemicals are not more likely to be sent to a school nurse now than they were ten years ago.
 - (D) The chemicals are not commonly used as cleaners or pesticides in houses and apartment buildings in Renston.
 - (E) Children attending elementary school do not make up a larger proportion of Renston's population now than they did ten years ago.
107. Although the discount stores in Goreville's central shopping district are expected to close within five years as a result of competition from a SpendLess discount department store that just opened, those locations will not stay vacant for long. In the five years since the opening of Colson's, a nondiscount department store, a new store has opened at the location of every store in the shopping district that closed because it could not compete with Colson's.

Which of the following, if true, most seriously weakens the argument?

- (A) Many customers of Colson's are expected to do less shopping there than they did before the SpendLess store opened.
- (B) Increasingly, the stores that have opened in the central shopping district since Colson's opened have been discount stores.
- (C) At present, the central shopping district has as many stores operating in it as it ever had.
- (D) Over the course of the next five years, it is expected that Goreville's population will grow at a faster rate than it has for the past several decades.
- (E) Many stores in the central shopping district sell types of merchandise that are not available at either SpendLess or Colson's.

108. Kale has more nutritional value than spinach. But since collard greens have more nutritional value than lettuce, it follows that kale has more nutritional value than lettuce.

Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:

- (A) Collard greens have more nutritional value than kale.
- (B) Spinach has more nutritional value than lettuce.
- (C) Spinach has more nutritional value than collard greens.
- (D) Spinach and collard greens have the same nutritional value.
- (E) Kale and collard greens have the same nutritional value.

109. Last year all refuse collected by Shelbyville city services was incinerated. This incineration generated a large quantity of residual ash. In order to reduce the amount of residual ash Shelbyville generates this year to half of last year's total, the city has revamped its collection program. This year city services will separate for recycling enough refuse to reduce the number of truckloads of refuse to be incinerated to half of last year's number.

Which of the following is required for the revamped collection program to achieve its aim?

- (A) This year, no materials that city services could separate for recycling will be incinerated.
- (B) Separating recyclable materials from materials to be incinerated will cost Shelbyville less than half what it cost last year to dispose of the residual ash.
- (C) Refuse collected by city services will contain a larger proportion of recyclable materials this year than it did last year.
- (D) The refuse incinerated this year will generate no more residual ash per truckload incinerated than did the refuse incinerated last year.
- (E) The total quantity of refuse collected by Shelbyville city services this year will be no greater than that collected last year.

110. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

- (A) The amount of time a patient spends in surgery versus the amount of time spent recovering from surgery
- (B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them
- (C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements
- (D) The degree to which custom replacements produced with the new technique are more carefully manufactured than are ordinary replacements
- (E) The amount by which custom replacements produced with the new technique will drop in cost as the production procedures become standardized and applicable on a larger scale

111. Springfield Fire Commissioner: The vast majority of false fire alarms are prank calls made anonymously from fire alarm boxes on street corners. Since virtually everyone has access to a private telephone, these alarm boxes have outlived their usefulness. Therefore, we propose to remove the boxes. Removing the boxes will reduce the number of prank calls without hampering people's ability to report a fire.

Which of the following, if true, most strongly supports the claim that the proposal, if carried out, will have the announced effect?

- (A) The fire department traces all alarm calls made from private telephones and records where they came from.
 - (B) Maintaining the fire alarm boxes costs Springfield approximately \$5 million annually.
 - (C) A telephone call can provide the fire department with more information about the nature and size of a fire than can an alarm placed from an alarm box.
 - (D) Responding to false alarms significantly reduces the fire department's capacity for responding to fires.
 - (E) On any given day, a significant percentage of the public telephones in Springfield are out of service.
112. The difficulty with the proposed high-speed train line is that a used plane can be bought for one-third the price of the train line, and the plane, which is just as fast, can fly anywhere. The train would be a fixed linear system, and we live in a world that is spreading out in all directions and in which consumers choose the free-wheel systems (cars, buses, aircraft), which do not have fixed routes. Thus a sufficient market for the train will not exist.

Which of the following, if true, most severely weakens the argument presented above?

- (A) Cars, buses, and planes require the efforts of drivers and pilots to guide them, whereas the train will be guided mechanically.
- (B) Cars and buses are not nearly as fast as the high-speed train will be.
- (C) Planes are not a free-wheel system because they can fly only between airports, which are less convenient for consumers than the high-speed train's stations would be.

- (D) The high-speed train line cannot use currently underutilized train stations in large cities.
- (E) For long trips, most people prefer to fly rather than to take ground-level transportation.

113. The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- (A) The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
 - (B) Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
 - (C) The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
 - (D) The number of televisions assembled annually in Vernland has increased significantly during the past three years.
 - (E) The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.
114. Normally, the pineal gland governs a person's sleep-wake cycle by secreting melatonin in response to the daily cycle of light and darkness as detected by the eye. Nonetheless, many people who are totally blind due to lesions in the visual cortex of the brain easily maintain a 24-hour sleep-wake cycle. So the neural pathway by which the pineal gland receives information from the eye probably does not pass through the visual cortex.

For purposes of evaluating the argument it would be most useful to establish which of the following?

- (A) Whether melatonin supplements help people who have difficulty maintaining a 24-hour sleep cycle to establish such a pattern
- (B) Whether the melatonin levels of most totally blind people who successfully maintain a 24-hour sleep-wake cycle change in response to changes in exposure to light and darkness
- (C) Whether melatonin is the only substance secreted by the pineal gland
- (D) Whether most people who do not have a 24-hour sleep-wake cycle nevertheless have a cycle of consistent duration
- (E) Whether there are any people with normal vision whose melatonin levels respond abnormally to periods of light and darkness

115. Guidebook writer: I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

Which of the following, if true, most seriously weakens the guidebook writer's argument?

- (A) The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.
- (B) Hotels built since 1930 can generally accommodate more guests than those built before 1930.
- (C) The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.
- (D) The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.
- (E) The average length of apprenticeship for carpenters has declined significantly since 1930.

116. Scientists typically do their most creative work before the age of forty. It is commonly thought that this happens because aging by itself brings about a loss of creative capacity. However, studies show that **of scientists who produce highly creative work beyond the age of forty, a disproportionately large number entered their field at an older age than is usual**. Since by the age of forty the large majority of scientists have been working in their field for at least fifteen years, the studies' finding strongly suggests that the real reason why scientists over forty rarely produce highly creative work is not that they have aged but rather that **scientists over forty have generally spent too long in their field**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a claim, the accuracy of which is at issue in the argument; the second is a conclusion drawn on the basis of that claim.
- (B) The first is an objection that has been raised against a position defended in the argument; the second is that position.
- (C) The first is evidence that has been used to support an explanation that the argument challenges; the second is that explanation.
- (D) The first is evidence that has been used to support an explanation that the argument challenges; the second is a competing explanation that the argument favors.
- (E) The first provides evidence to support an explanation that the argument favors; the second is that explanation.

117. Northern Air has dozens of flights daily into and out of Belleville Airport, which is highly congested. Northern Air depends for its success on economy and quick turnaround and consequently is planning to replace its large planes with Skybuses, whose novel aerodynamic design is extremely fuel efficient. The Skybus's fuel efficiency results in both lower fuel costs and reduced time spent refueling.

Which of the following, if true, could present the most serious disadvantage for Northern Air in replacing their large planes with Skybuses?

- (A) The Skybus would enable Northern Air to schedule direct flights to destinations that currently require stops for refueling.
- (B) Aviation fuel is projected to decline in price over the next several years.
- (C) The fuel efficiency of the Skybus would enable Northern Air to eliminate refueling at some of its destinations, but several mechanics would lose their jobs.
- (D) None of Northern Air's competitors that use Belleville Airport are considering buying Skybuses.
- (E) The aerodynamic design of the Skybus causes turbulence behind it when taking off that forces other planes on the runway to delay their takeoffs.

118. It is true of both men and women that those who marry as young adults live longer than those who never marry. This does not show that marriage causes people to live longer, since, as compared with other people of the same age, young adults who are about to get married have fewer of the unhealthy habits that can cause a person to have a shorter life, most notably smoking and immoderate drinking of alcohol.

Which of the following, if true, most strengthens the argument above?

- (A) Marriage tends to cause people to engage less regularly in sports that involve risk of bodily harm.
- (B) A married person who has an unhealthy habit is more likely to give up that habit than a person with the same habit who is unmarried.

- (C) A person who smokes is much more likely than a nonsmoker to marry a person who smokes at the time of marriage, and the same is true for people who drink alcohol immoderately.
- (D) Among people who marry as young adults, most of those who give up an unhealthy habit after marriage do not resume the habit later in life.
- (E) Among people who as young adults neither drink alcohol immoderately nor smoke, those who never marry live as long as those who marry.

119. The earliest Mayan pottery found at Colha, in Belize, is about 3,000 years old. Recently, however, 4,500-year-old stone agricultural implements were unearthed at Colha. These implements resemble Mayan stone implements of a much later period, also found at Colha. Moreover, the implements' designs are strikingly different from the designs of stone implements produced by other cultures known to have inhabited the area in prehistoric times. Therefore, there were surely Mayan settlements in Colha 4,500 years ago.

Which of the following, if true, most seriously weakens the argument?

- (A) Ceramic ware is not known to have been used by the Mayan people to make agricultural implements.
- (B) Carbon-dating of corn pollen in Colha indicates that agriculture began there around 4,500 years ago.
- (C) Archaeological evidence indicates that some of the oldest stone implements found at Colha were used to cut away vegetation after controlled burning of trees to open areas of swampland for cultivation.
- (D) Successor cultures at a given site often adopt the style of agricultural implements used by earlier inhabitants of the same site.
- (E) Many religious and social institutions of the Mayan people who inhabited Colha 3,000 years ago relied on a highly developed system of agricultural symbols.

120. Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated but contains clues to when it was produced. Its first 80 pages are by a single copyist, but the remaining 20 pages are by three different copyists, which indicates some significant disruption. Since a letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148, Codex Berinensis was probably produced in that year.

Which of the following, if true, most strongly supports the hypothesis that Codex Berinensis was produced in 1148?

- (A) Other than Codex Berinensis, there are no known samples of the handwriting of the first three copyists.
 - (B) According to the account by the fourth copyist, the plague went on for 10 months.
 - (C) A scribe would be able to copy a page of text the size and style of Codex Berinensis in a day.
 - (D) There was only one outbreak of plague in Florence in the 1100s.
 - (E) The number of pages of Codex Berinensis produced by a single scribe becomes smaller with each successive change of copyist.
121. The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale—the seven-note musical scale used in much of Western music since the Renaissance. Musicologists therefore hypothesize that the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians.

Which of the following, if true, most strongly supports the hypothesis?

- (A) Bone flutes were probably the only musical instrument made by Neanderthals.
- (B) No musical instrument that is known to have used a diatonic scale is of an earlier date than the flute found at the Neanderthal campsite.
- (C) The flute was made from a cave-bear bone and the campsite at which the flute fragment was excavated was in a cave that also contained skeletal remains of cave bears.

- (D) Flutes are the simplest wind instrument that can be constructed to allow playing a diatonic scale.
- (E) The cave-bear leg bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

122. Outsourcing is the practice of obtaining from an independent supplier a product or service that a company has previously provided for itself. Since a company's chief objective is to realize the highest possible year-end profits, any product or service that can be obtained from an independent supplier for less than it would cost the company to provide the product or service on its own should be outsourced.

Which of the following, if true, most seriously weakens the argument?

- (A) If a company decides to use independent suppliers for a product, it can generally exploit the vigorous competition arising among several firms that are interested in supplying that product.
- (B) Successful outsourcing requires a company to provide its suppliers with information about its products and plans that can fall into the hands of its competitors and give them a business advantage.
- (C) Certain tasks, such as processing a company's payroll, are commonly outsourced, whereas others, such as handling the company's core business, are not.
- (D) For a company to provide a product or service for itself as efficiently as an independent supplier can provide it, the managers involved need to be as expert in the area of that product or service as the people in charge of that product or service at an independent supplier are.
- (E) When a company decides to use an independent supplier for a product or service, the independent supplier sometimes hires members of the company's staff who formerly made the product or provided the service that the independent supplier now supplies.

123. Museums that house Renaissance oil paintings typically store them in environments that are carefully kept within narrow margins of temperature and humidity to inhibit any deterioration. Laboratory tests have shown that the kind of oil paint used in these paintings actually adjusts to climatic changes quite well. If, as some museum directors believe, **paint is the most sensitive substance in these works**, then by relaxing the standards for temperature and humidity control, **museums can reduce energy costs without risking damage to these paintings**. Museums would be rash to relax those standards, however, since results of preliminary tests indicate that gesso, a compound routinely used by Renaissance artists to help paint adhere to the canvas, is unable to withstand significant variations in humidity.

In the argument above, the two portions in boldface play which of the following roles?

- (A) The first is an objection that has been raised against the position taken by the argument; the second is the position taken by the argument.
- (B) The first is the position taken by the argument; the second is the position that the argument calls into question.
- (C) The first is a judgment that has been offered in support of the position that the argument calls into question; the second is a circumstance on which that judgment is, in part, based.
- (D) The first is a judgment that has been offered in support of the position that the argument calls into question; the second is that position.
- (E) The first is a claim that the argument calls into question; the second is the position taken by the argument.

124. Vargonia has just introduced a legal requirement that student-teacher ratios in government-funded schools not exceed a certain limit. All Vargonian children are entitled to education, free of charge, in these schools. When a recession occurs and average incomes fall, the number of children enrolled in government-funded schools tends to increase. Therefore, though most employment opportunities contract in economic recessions, getting a teaching job in Vargonia's government-funded schools will not be made more difficult by a recession.

Which of the following would be most important to determine in order to evaluate the argument?

- (A) Whether in Vargonia there are any schools not funded by the government that offer children an education free of charge
- (B) Whether the number of qualified applicants for teaching positions in government-funded schools increases significantly during economic recessions
- (C) What the current student-teacher ratio in Vargonia's government-funded schools is
- (D) What proportion of Vargonia's workers currently hold jobs as teachers in government-funded schools
- (E) Whether in the past a number of government-funded schools in Vargonia have had student-teacher ratios well in excess of the new limit

8.5 Answer Key

1. C	32. B	63. C	94. B
2. A	33. E	64. B	95. B
3. E	34. D	65. A	96. D
4. D	35. B	66. A	97. E
5. D	36. E	67. E	98. B
6. C	37. E	68. D	99. C
7. E	38. C	69. A	100. D
8. C	39. C	70. C	101. E
9. D	40. D	71. D	102. E
10. A	41. D	72. D	103. D
11. D	42. C	73. D	104. D
12. D	43. A	74. C	105. C
13. B	44. A	75. D	106. C
14. E	45. A	76. D	107. B
15. A	46. C	77. B	108. A
16. A	47. C	78. D	109. D
17. B	48. C	79. B	110. C
18. E	49. C	80. D	111. A
19. A	50. B	81. D	112. C
20. E	51. D	82. E	113. C
21. D	52. B	83. E	114. B
22. E	53. A	84. C	115. D
23. B	54. C	85. C	116. E
24. C	55. D	86. D	117. E
25. D	56. E	87. C	118. E
26. C	57. E	88. A	119. D
27. B	58. D	89. A	120. D
28. A	59. E	90. D	121. E
29. D	60. A	91. E	122. B
30. C	61. D	92. C	123. D
31. D	62. A	93. D	124. B

8.6 Answer Explanations

The following discussion is intended to familiarize you with the most efficient and effective approaches to critical reasoning questions. The particular questions in this chapter are generally representative of the kinds of critical reasoning questions you will encounter on the GMAT exam. Remember that it is the problem solving strategy that is important, not the specific details of a particular question.

1. Snowmaking machines work by spraying a mist that freezes immediately on contact with cold air. Because the sudden freezing kills bacteria, QuickFreeze is planning to market a wastewater purification system that works on the same principle. The process works only when temperatures are cold, however, so municipalities using it will still need to maintain a conventional system.

Which of the following, if true, provides the strongest grounds for a prediction that municipalities will buy QuickFreeze's purification system despite the need to maintain a conventional purification system as well?

- (A) Bacteria are not the only impurities that must be removed from wastewater.
- (B) Many municipalities have old wastewater purification systems that need to be replaced.
- (C) Conventional wastewater purification systems have not been fully successful in killing bacteria at cold temperatures.
- (D) During times of warm weather, when it is not in use, QuickFreeze's purification system requires relatively little maintenance.
- (E) Places where the winters are cold rarely have a problem of water shortage.

Evaluation of a Plan

Situation QuickFreeze is planning to market wastewater purification systems that work by spraying a mist that freezes on contact with cold air. The sudden freezing kills bacteria. Because the system works only at cold temperatures, municipalities using it will still need to maintain a conventional system.

Reasoning *Which statement provides the strongest grounds for thinking that at least some municipalities will buy the purification system despite the need to maintain a conventional purification system as well?* The passage tells us why a municipality using a QuickFreeze wastewater purification system would still need a conventional system. But why would a municipality want the QuickFreeze system *in addition to* a conventional system? If conventional systems are not fully effective at cold temperatures, the QuickFreeze system would allow municipalities that sometimes experience cold temperatures to purify their wastewater more effectively.

- A There is no basis in the passage for determining whether the QuickFreeze system will help remove impurities other than bacteria from wastewater. If it does not, this answer choice implies that the QuickFreeze system would not be sufficient for purifying wastewater. This would actually undermine the prediction.
- B The passage states that municipalities using the QuickFreeze system would still need a conventional system. Thus, the old conventional wastewater systems would still need to be replaced with new conventional systems. This answer choice provides no reason to think municipalities would buy the QuickFreeze system.

- C Correct.** This statement, if true, would strengthen the prediction, because it provides a valid reason why the QuickFreeze system could be needed alongside conventional ones: it is more effective in cold weather.
- D** Although this claim does undercut one reason for thinking municipalities might *not* be likely to purchase the QuickFreeze system, it provides little reason to think that they will purchase such a system. Perhaps in times of cold weather, the QuickFreeze system is very expensive to maintain.
- E** The issue of whether or not there are water shortages in places where winters are cold is not directly relevant. If conventional wastewater systems are sufficient to purify water in such places, municipalities would not need the QuickFreeze system (as they would still need to maintain a conventional purification system).

The correct answer is C.

2. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author

- (A) fails to distinguish between purchasing and consuming
- (B) does not supply information about homeowners in age groups other than 40 to 50
- (C) depends on popular belief rather than on documented research findings
- (D) does not specify the precise amount of ice cream purchased by any demographic group
- (E) discusses ice cream rather than more nutritious and healthful foods

Argument Evaluation

Situation Adults aged 40 to 50 buy more ice cream than does any other demographic group (for example, teenagers). Does this mean that adults consume more ice cream than teenagers do?

Reasoning *A flawed assumption underlies the reasoning: the assumption that the buyers of the ice cream are also the eaters of the ice cream.* Although the demographic group homeowners aged 40 to 50 purchases more ice cream than does any other demographic group, it is quite likely that much of the ice cream purchased by those homeowners is for consumption by family members rather than for exclusive consumption by the purchaser. This leaves open the possibility that teenagers may indeed be the largest consumers of ice cream.

- A Correct.** The failure to make this distinction led to the making of the flawed assumption.
- B** This is false: The argument tells us (indirectly) that homeowners aged 40 to 50 buy more ice cream than does any other group—which allows us to infer that they buy more than do homeowners aged 30 to 40, for example. But even if the argument had stated such information explicitly, it would not have offered any better support for its conclusion.
- C** There is nothing in the argument to suggest that the information given is based on popular belief.
- D** Providing precise information about the quantity of ice cream purchased by homeowners aged 40 to 50 would not improve the argument at all.
- E** The subject is ice cream, not nutrition, so this point is irrelevant.

The correct answer is A.

3. Suncorp, a new corporation with limited funds, has been clearing large sections of the tropical Amazon forest for cattle ranching. This practice continues even though greater profits can be made from rubber tapping, which does not destroy the forest, than from cattle ranching, which does destroy the forest.

Which of the following, if true, most helps to explain why Suncorp has been pursuing the less profitable of the two economic activities mentioned above?

- (A) The soil of the Amazon forest is very rich in nutrients that are important in the development of grazing lands.
- (B) Cattle-ranching operations that are located in tropical climates are more profitable than cattle-ranching operations that are located in cold-weather climates.
- (C) In certain districts, profits made from cattle ranching are more heavily taxed than profits made from any other industry.
- (D) Some of the cattle that are raised on land cleared in the Amazon are killed by wildcats.
- (E) The amount of money required to begin a rubber-tapping operation is twice as high as the amount needed to begin a cattle ranch.

Argument Construction

Situation Suncorp is a new corporation with limited funds. It has been clearing large sections of the tropical Amazon forest for ranching, even though rubber-tapping would be more profitable.

Reasoning *What would explain why Suncorp is clearing sections of the rain forest for ranching, even though rubber tapping would be more profitable?* Because Suncorp has limited funds, if rubber tapping has much higher start-up costs, Suncorp might not have enough money to start rubber-tapping operations. If cattle ranching has much lower start-up costs than rubber tapping, Suncorp might be able to afford such an operation.

- A This statement gives a reason why cattle ranching in the Amazon might be more profitable than one might otherwise think it would be. However, we already know from the passage that rubber tapping would be more profitable than cattle ranching. So, this answer choice does not help explain why cattle ranching might be preferable to rubber tapping.
- B The comparison between the profitableness of cattle ranching in tropical climates and in cold-weather climates is irrelevant. The passage only covers cattle ranching in the tropical Amazon forest. This answer choice would at most explain why Suncorp is undertaking cattle ranching in the Amazon rather than in some cold-weather location.
- C This statement makes what needs to be explained *harder* to understand, for it indicates that cattle ranching in the Amazon might be less profitable than one would otherwise think.
- D Like answer choice (C), this statement indicates a disadvantage of cattle ranching in the Amazon. So, it does not explain why cattle ranching would be preferred to some other economic activity.
- E **Correct.** Because it costs less to begin cattle ranching than it does to begin rubber tapping, Suncorp—which has limited funds—would have a reason to pursue cattle ranching over a potentially more profitable activity.

The correct answer is E.

4. According to a prediction of the not-so-distant future published in 1940, electricity would revolutionize agriculture. Electrodes would be inserted into the soil, and the current between them would kill bugs and weeds and make crop plants stronger.

Which of the following, if true, most strongly indicates that the logic of the prediction above is flawed?

- (A) In order for farmers to avoid electric shock while working in the fields, the current could be turned off at such times without diminishing the intended effects.
- (B) If the proposed plan for using electricity were put into practice, farmers would save on chemicals now being added to the soil.
- (C) It cannot be taken for granted that the use of electricity is always beneficial.
- (D) Since weeds are plants, electricity would affect weeds in the same way as it would affect crop plants.
- (E) Because a planting machine would need to avoid coming into contact with the electrodes, new parts for planting machines would need to be designed.

Evaluation of a Plan

Situation In 1940, electricity was predicted to revolutionize agriculture. This prediction suggested that electric current running between electrodes inserted into the soil would kill bugs and weeds while encouraging the growth of crop plants.

Reasoning *Which point most suggests that the logic used in formulating the prediction is flawed?* Electricity will revolutionize agriculture, it is said, because current can be run through electrodes placed in the soil. This current will kill bugs and weeds while strengthening plants. But how will the current accomplish this feat? More specifically, how will it kill one kind of plant (weeds) while strengthening another (crop plants)?

- A The logic of the prediction has nothing to do with whether the current can be turned on and off; rather, it is concerned with the current itself and its effects.
- B Rather than suggesting that the logic of the prediction is flawed, this serves to support the prediction: Farmers' saving on chemicals would be part of the predicted agricultural revolution.
- C The argument does not take for granted that the use of electricity is always beneficial; it merely suggests that it would be of great benefit to agriculture.
- D **Correct.** This statement properly identifies a problem with the prediction: It provides no reason to believe that the electricity would affect crop plants and weeds differently.
- E Rather than suggesting that the logic of the prediction is flawed, this serves to support the prediction: Changes in planting machines would be part of the predicted agricultural revolution.

The correct answer is D.

5. A company is considering changing its policy concerning daily working hours. Currently, this company requires all employees to arrive at work at 8 a.m. The proposed policy would permit each employee to decide when to arrive—from as early as 6 a.m. to as late as 11 a.m.

The adoption of this policy would be most likely to decrease employees' productivity if the employees' job functions required them to

- (A) work without interruption from other employees
- (B) consult at least once a day with employees from other companies
- (C) submit their work for a supervisor's eventual approval
- (D) interact frequently with each other throughout the entire workday
- (E) undertake projects that take several days to complete

Evaluation of a Plan

Situation A company considers changing all employees' starting time from 8 a.m. to individually flexible arrival hours, anytime from 6 to 11 a.m.

Reasoning *Under what conditions could this plan cause employees' productivity to decline?* Consider the job functions defined in the answer choices and determine which entails requirements that would most likely be in conflict with the proposed plan. A plan that allows a five-hour range of start times would make it far more difficult for employees to coordinate their schedules. This would make it difficult, if not impossible, for employees to collaborate with each other throughout the workday and could well decrease productivity.

- A Working without interruption would likely mean improved productivity.
- B Assuming that all employees are in the same time zone (we are not told otherwise), the flexible hours would still leave plenty of time for at least one daily consultation during the regular business hours of the workday.
- C *Eventual approval* indicates that the flexibility exists to permit employees' submissions at any time.
- D **Correct.** The wide range of flexibility in regards to working hours would make frequent interaction difficult, if not impossible, and would be likely to decrease employees' productivity.
- E We are not told that the projects involve significant interaction; so such projects would be accomplished just as easily on the proposed flexible schedule.

The correct answer is D.

6. Parland's alligator population has been declining in recent years, primarily because of hunting. Alligators prey heavily on a species of freshwater fish that is highly valued as food by Parlanders, who had hoped that the decline in the alligator population would lead to an increase in the numbers of these fish available for human consumption. Yet the population of this fish species has also declined, even though the annual number caught for human consumption has not increased.

Which of the following, if true, most helps to explain the decline in the population of the fish species?

- (A) The decline in the alligator population has meant that fishers can work in some parts of lakes and rivers that were formerly too dangerous.
- (B) Over the last few years, Parland's commercial fishing enterprises have increased the number of fishing boats they use.
- (C) The main predator of these fish is another species of fish on which alligators also prey.
- (D) Many Parlanders who hunt alligators do so because of the high market price of alligator skins, not because of the threat alligators pose to the fish population.
- (E) In several neighboring countries through which Parland's rivers also flow, alligators are at risk of extinction as a result of extensive hunting.

Argument Construction

Situation Due to hunting, Parland's alligator population has been declining. Parlanders had hoped that the population of a certain prized species of freshwater fish that alligators prey on would have increased as a result, but the population of this freshwater fish has actually declined.

Reasoning *What would explain why the population of the freshwater species has declined?* Suppose alligators prey not only on the prized freshwater fish but also on another species of fish that is the main predator of those fish. If there are fewer alligators to prey on the predator fish, there may well be more of the predator fish. An increase in the population of the predator fish could help explain why the population of the prized freshwater fish has declined: there are now more of the predator fish around to prey on them.

- A Though this statement suggests that the population of the prized fish species may have declined due to their being caught in greater numbers by fishers, the passage tells us that the number of these fish caught for human consumption has not increased. Therefore this statement cannot explain the species' decline in population.
- B The passage tells us that the number of fish caught for human consumption has not increased. This answer choice does not provide any explanation for why the population of these fish has declined.
- C **Correct.** Since alligators prey on the predator fish, a decline in the alligator population could result in an increase in the population of the predator fish, which could lead to an increase in nonhuman consumption of the prized freshwater fish.
- D We already know from the passage that hunting has led to a decline in the population of alligators. It is irrelevant what motivated the hunting of alligators.
- E The fact that alligators are at risk of extinction due to hunting in neighboring countries does not help explain why the prized freshwater fish species is declining in population. If it is puzzling why the fish population is declining despite the reduction in Parland's alligator population, it would be just as puzzling if the alligator population elsewhere was declining.

The correct answer is C.

7. The amount of time it takes for most of a worker's occupational knowledge and skills to become obsolete has been declining because of the introduction of advanced manufacturing technology (AMT). Given the rate at which AMT is currently being introduced in manufacturing, the average worker's old skills become obsolete and new skills are required within as little as five years.

Which of the following plans, if feasible, would allow a company to prepare most effectively for the rapid obsolescence of skills described above?

- (A) The company will develop a program to offer selected employees the opportunity to receive training six years after they were originally hired.
- (B) The company will increase its investment in AMT every year for a period of at least five years.
- (C) The company will periodically survey its employees to determine how the introduction of AMT has affected them.
- (D) Before the introduction of AMT, the company will institute an educational program to inform its employees of the probable consequences of the introduction of AMT.
- (E) The company will ensure that it can offer its employees any training necessary for meeting their job requirements.

Evaluation of a Plan

Situation The introduction of AMT is making workers' occupational skills obsolete within as little as five years.

Reasoning *Which plan will be most effective in helping the company prepare for the expected rapid obsolescence in occupational knowledge and skills?* It should be clear that some type of training or retraining will be involved, since (at least in certain types of industry) it is unlikely that any company in that industry can afford to avoid introducing AMT if its market competitors are doing so.

- A Providing training only to *selected* employees and only after their skills have already become obsolete is not likely to be an effective response.
- B This plan only accelerates the problem and does not address the employees' skills.
- C Periodic surveys may provide information to employers but will not be enough to prevent employees' skills from becoming obsolete.
- D Having knowledge of the consequences does not prevent those consequences; employees' skills will still become obsolete.
- E **Correct.** This would ensure that all employees have the most current occupational knowledge and skills needed for their jobs

The correct answer is E.

8. In virtually any industry, technological improvements increase labor productivity, which is the output of goods and services per person-hour worked. In Parland's industries, labor productivity is significantly higher than it is in Vergia's industries. Clearly, therefore, Parland's industries must, on the whole, be further advanced technologically than Vergia's are.

The argument is most vulnerable to which of the following criticisms?

- (A) It offers a conclusion that is no more than a paraphrase of one of the pieces of information provided in its support.
- (B) It presents as evidence in support of a claim information that is inconsistent with other evidence presented in support of the same claim.
- (C) It takes one possible cause of a condition to be the actual cause of that condition without considering any other possible causes.
- (D) It takes a condition to be the effect of something that happened only after the condition already existed.
- (E) It makes a distinction that presupposes the truth of the conclusion that is to be established.

Argument Evaluation

Situation Technological improvements in nearly every industry increase labor productivity, which is the output of goods and services per person-hour worked. Because labor productivity is significantly higher in Parland than Vergia, Parland's industries are, in general, more technologically advanced than Vergia's.

Reasoning *To which criticism is the argument most vulnerable?* Though one factor, such as technological advancements, may lead to greater labor productivity, it may not be the only such factor, or even a necessary factor, leading to great labor productivity. Therefore, the mere fact that one region's labor is more productive than another's is not sufficient to establish that the former region is more technologically advanced than the latter region is.

- A The conclusion is not merely a paraphrase of the pieces of information provided in its support. Indeed, the problem with the argument is that the conclusion goes too far beyond what the premises merit.
- B The premises of the argument are not inconsistent with one another.
- C **Correct.** This accurately describes the flaw in the argument because the reasons given in the argument for its conclusion would be good reasons *only if* there were no other plausible explanations for Parland's greater labor productivity.
- D The argument does not mention how long Parland has had more productive labor, or when technological improvements would have occurred.
- E Neither of the premises contains anything that presupposes the conclusion to be true.

The correct answer is C.

9. While many people think of genetic manipulation of food crops as being aimed at developing larger and larger plant varieties, some plant breeders have in fact concentrated on discovering or producing dwarf varieties, which are roughly half as tall as normal varieties.

Which of the following would, if true, most help to explain the strategy of the plant breeders referred to above?

- (A) Plant varieties used as food by some are used as ornamentals by others.
- (B) The wholesale prices of a given crop decrease as the supply of it increases.
- (C) Crops once produced exclusively for human consumption are often now used for animal feed.
- (D) Short plants are less vulnerable to strong wind and heavy rains.
- (E) Nations with large industrial sectors tend to consume more processed grains.

Evaluation of a Plan

Situation Some plant breeders have concentrated on discovering or producing certain species of food crop plants to be roughly half as tall as normal varieties.

Reasoning *Why would some plant breeders concentrate on discovering or producing smaller varieties of certain food crops?* Presumably these breeders would not seek smaller varieties of plant crops unless the smaller size conveyed some benefit. If short plants were less vulnerable to strong wind and heavy rains, they would be apt to be more productive, other things being equal. Plant breeders would have reason to try to discover or produce such hardier varieties.

- A This statement doesn't indicate whether those who use the plants as ornamentals desire shorter varieties.
- B At most this suggests that higher productivity is not as much of an advantage as it otherwise would be. But there is nothing in the passage that indicates that smaller varieties would be more productive than normal-sized plants.
- C No reason is given for thinking that smaller varieties of plants are more conducive to use for animal feed than are larger varieties.
- D **Correct.** This answer choice is correct because—unlike the other choices—it helps explain why smaller plant varieties could sometimes be preferable to larger varieties. A plant that is less vulnerable to wind and rain is apt to suffer less damage. This is a clear advantage that would motivate plant breeders to try to discover or produce smaller varieties.
- E This has no direct bearing on the question posed. Processed grains are not even mentioned in the passage, let alone linked to smaller plant varieties.

The correct answer is D.

10. Traverton's city council wants to minimize the city's average yearly expenditures on its traffic signal lights and so is considering replacing the incandescent bulbs currently in use with arrays of light-emitting diodes (LEDs) as the incandescent bulbs burn out. Compared to incandescent bulbs, LED arrays consume significantly less energy and cost no more to purchase. Moreover, the costs associated with the conversion of existing fixtures so as to accept LED arrays would be minimal.

Which of the following would it be most useful to know in determining whether switching to LED arrays would be likely to help minimize Traverton's yearly maintenance costs?

- (A) Whether the expected service life of LED arrays is at least as long as that of the currently used incandescent bulbs
- (B) Whether any cities have switched from incandescent lights in their traffic signals to lighting elements other than LED arrays
- (C) Whether the company from which Traverton currently buys incandescent bulbs for traffic signals also sells LED arrays
- (D) Whether Traverton's city council plans to increase the number of traffic signal lights in Traverton
- (E) Whether the crews that currently replace incandescent bulbs in Traverton's traffic signals know how to convert the existing fixtures so as to accept LED arrays

Evaluation of a Plan

Situation The city council of Traverton is considering replacing burned-out incandescent traffic signal lights with LED arrays. The LED arrays consume less energy than incandescent bulbs do while costing no more than those bulbs. Further, the cost of converting existing fixtures to accept LED arrays would be minimal.

Reasoning *What would it be most important to know in determining whether the switch to LEDs would minimize the city's yearly maintenance costs?* LEDs cost no more than incandescent bulbs, and they consume less energy. This suggests that the overall cost of LEDs is lower than that of incandescent bulbs. Is there any circumstance under which the costs associated with LEDs might be higher? They might be higher if more LEDs than incandescent bulbs had to be purchased every year—and that would be necessary if LEDs burn out more quickly than incandescent bulbs do.

- A Correct.** Unless the answer to this question were yes rather than no, the switch to LED arrays would not help minimize Traverton's yearly maintenance costs. So it is essential to know the answer to this question in order to determine whether switching to LEDs would help.
- B** The existence of another possible alternative to incandescent lights does not have any bearing on the question of whether switching from incandescent lights to LEDs would help.
- C** The source from which Traverton acquires its lights, be they incandescent or LEDs, is unimportant.
- D** Increasing the number of traffic signal lights in Traverton would probably increase the city's yearly maintenance costs, but it would do so regardless of whether those lights use LEDs or incandescent bulbs.
- E** Since the goal of switching to LED arrays is to help minimize yearly expenditures on maintenance, a potential one-time cost—that of training workers to convert the existing fixtures—is not relevant. Further, it is not necessarily the case that the crews that currently replace the incandescent bulbs would be the ones converting the existing fixtures—and even if they were, the account of the plan states that conversion costs would be minimal.

The correct answer is A.

11. The Maxilux car company's design for its new luxury model, the Max 100, included a special design for the tires that was intended to complement the model's image. The winning bid for supplying these tires was submitted by Rubco. Analysts concluded that the bid would only just cover Rubco's costs on the tires, but Rubco executives claim that winning the bid will actually make a profit for the company.

Which of the following, if true, most strongly justifies the claim made by Rubco's executives?

- (A) In any Maxilux model, the spare tire is exactly the same make and model as the tires that are mounted on the wheels.
- (B) Rubco holds exclusive contracts to supply Maxilux with the tires for a number of other models made by Maxilux.
- (C) The production facilities for the Max 100 and those for the tires to be supplied by Rubco are located very near each other.
- (D) When people who have purchased a carefully designed luxury automobile need to replace a worn part of it, they almost invariably replace it with a part of exactly the same make and type.
- (E) When Maxilux awarded the tire contract to Rubco, the only criterion on which Rubco's bid was clearly ahead of its competitors' bids was price.

Argument Construction

Situation Rubco won a bid for supplying tires for the Max 100, a new luxury model by Maxilux. The bid would barely cover the cost of the tires, but Rubco executives claim that winning the bid will be profitable.

Reasoning *What would support the executives' claim?* Rubco is not expected to make a profit from supplying the tires for the new cars, so we must look for some other way that Rubco could derive a profit as a result of winning the bid. If by winning the bid Rubco created an inevitable market for itself in replacement tires—on which Rubco could earn a profit—then the executives' claim may be justified.

- A We have already been told that the bid is expected to barely cover the costs of supplying the tires on the new cars, so the analysts mentioned in the passage have presumably already taken into account that there is a spare tire supplied for the Max 100.
- B If winning the bid led Rubco to win more exclusive contracts with the Maxilux, that might help support the executives' claim. But this statement indicates only that Rubco *already* has several exclusive contracts to supply Maxilux with tires, not that winning the bid has led to, or will lead to, more such contracts, which is what would be needed.
- C As in answer choice (A), this is relevant to the costs of supplying the tires for the Max 100, but presumably this was taken into account by the analysts when they concluded that the bid would barely cover Rubco's costs on the tires.
- D **Correct.** This indicates that by winning the bid Rubco has created a way to profit from the contract with Maxilux, specifically, by creating a market for replacement tires.
- E This is likely one of the reasons that Rubco's bid only just covers the Rubco's costs on the tires; it does nothing to justify the executives' claims that the bid will lead to a profit for Rubco.

The correct answer is D.

12. Which of the following most logically completes the passage?

Most bicycle helmets provide good protection for the top and back of the head, but little or no protection for the temple regions on the sides of the head. A study of head injuries resulting from bicycle accidents showed that a large proportion were caused by blows to the temple area. Therefore, if bicycle helmets protected this area, the risk of serious head injury in bicycle accidents would be greatly reduced, especially since _____.

- (A) among the bicyclists included in the study's sample of head injuries, only a very small proportion had been wearing a helmet at the time of their accident
- (B) even those bicyclists who regularly wear helmets have a poor understanding of the degree and kind of protection that helmets afford
- (C) a helmet that included protection for the temples would have to be somewhat larger and heavier than current helmets
- (D) the bone in the temple area is relatively thin and impacts in that area are thus very likely to cause brain injury
- (E) bicyclists generally land on their arm or shoulder when they fall to the side, which reduces the likelihood of severe impacts on the side of the head

Argument Construction

Situation Bicycle helmets protect the top and back of the head, but not the sides or temples. A study found that a large proportion of head injuries caused by biking accidents were caused by blows to the temple area.

Reasoning *Why would the risk of serious head injury in bicycle accidents be greatly reduced if bicycle helmets protected the temple regions?* If for some reason a serious head injury is particularly likely when there is impact to the temple area, then bicycle helmets that protect that area would be apt to reduce the number of serious head injuries from bicycle accidents. One such reason is that the bone in the temple area is relatively thin.

- A This point is irrelevant because it gives us no information about the seriousness or the likelihood of injuries due to impact to the temple area.
- B Whether bicyclists who regularly wear helmets have a good understanding of what protection their helmets afford is not relevant as to whether serious head injuries are particularly likely to occur from impact to the temple area.
- C This point is relevant only to what a helmet that protected the temple area would be like, not to the seriousness of injuries resulting from impact to that area. If anything, this point counts as a reason *against* the conclusion, not *for* it. If such helmets are heavier and larger, they may be used less than they otherwise would be. If fewer helmets are used, then improvements to helmet design will have less of an effect in reducing serious head injuries.
- D **Correct.** This statement provides a reason why the temple area of the rider's head needs protection: impacts to this area are very likely to cause brain injuries.
- E This is largely irrelevant. Even if it suggests that head injuries do not generally result from bicyclists falling to the side, it does not indicate that such injuries are rare or that there is not great risk of serious injury in those cases in which there is impact to the temple area.

The correct answer is D.

13. In order to reduce the number of items damaged while in transit to customers, packaging consultants recommended that the TrueSave mail-order company increase the amount of packing material so as to fill any empty spaces in its cartons. Accordingly, TrueSave officials instructed the company's packers to use more packing material than before, and the packers zealously acted on these instructions and used as much as they could. Nevertheless, customer reports of damaged items rose somewhat.

Which of the following, if true, most helps to explain why acting on the consultants' recommendation failed to achieve its goal?

- (A) The change in packing policy led to an increase in expenditure on packing material and labor.
- (B) When packing material is compressed too densely, it loses some of its capacity to absorb shock.
- (C) The amount of packing material used in a carton does not significantly influence the ease with which a customer can unpack the package.
- (D) Most of the goods that TrueSave ships are electronic products that are highly vulnerable to being damaged in transit.
- (E) TrueSave has lost some of its regular customers as a result of the high number of damaged items they received.

Evaluation of a Plan

Situation Mail-order company TrueSave wants to reduce the number of items damaged while in transit to customers. Packaging consultants recommended that to achieve this goal, the company should use more packing material to fill empty spaces in its cartons. The company's packers began using as much packing material as they could, yet reports of damaged items rose rather than fell.

Reasoning *What would help explain why the company's acting on the recommendation did not achieve its goal?* The recommendation involved increasing the amount of packing material, so there must have been something about that increase that led to more damage. More damage would be likely to result if stuffing more packing material into shipping boxes made the packaging less effective.

- A An increase in expenditure on packing material and labor might affect the company's profitability, but it would have no effect on whether items were damaged in transit.
- B Correct.** This statement adequately explains why more items, rather than fewer, were damaged in transit.
- C If customers were able to remove their items just as easily from boxes filled with more packing material as from boxes using less packing material, the items would be unaffected by an increase in the amount of packing material used.
- D The kind of goods TrueSave ships most frequently is not relevant to the question of why increasing the amount of packing material failed to reduce the number of items damaged in transit, since they most likely shipped this same kind of goods both before and after making the recommended change.
- E The loss of regular customers helps explain why TrueSave turned to the packaging consultants for help, but it does not help explain why those consultants' recommendation failed to reduce the number of items damaged in transit.

The correct answer is B.

14. Wood smoke contains dangerous toxins that cause changes in human cells. Because wood smoke presents such a high health risk, legislation is needed to regulate the use of open-air fires and wood-burning stoves.

Which of the following, if true, provides the most support for the argument above?

- (A) The amount of dangerous toxins contained in wood smoke is much less than the amount contained in an equal volume of automobile exhaust.
- (B) Within the jurisdiction covered by the proposed legislation, most heating and cooking is done with oil or natural gas.
- (C) Smoke produced by coal-burning stoves is significantly more toxic than smoke from wood-burning stoves.
- (D) No significant beneficial effect on air quality would result if open-air fires were banned within the jurisdiction covered by the proposed legislation.
- (E) In valleys where wood is used as the primary heating fuel, the concentration of smoke results in poor air quality.

Argument Construction

Situation Wood smoke is hazardous, so restrictive legislation is needed.

Reasoning *Which point supports the need for legislation?* The argument for legislation is based on the position that wood smoke is hazardous to people's health. Any evidence of physical harm resulting from wood smoke supports the argument that legislation is needed. Undoubtedly, poor air quality caused by a high concentration of wood smoke presents just such a health risk.

- A If wood smoke were as dangerous as car exhaust, this might support the idea of regulating it just as exhaust emissions are regulated; but this statement tells us it is less dangerous.
- B This point suggests less of a need for legislation.
- C This information provides no support for the idea that the use of wood-burning stoves should be regulated.
- D The lack of benefit from banning open-air fires is a point against the legislation.
- E **Correct.** This supports the argument in favor of legislation.

The correct answer is E.

15. A certain automaker aims to increase its market share by deeply discounting its vehicles' prices for the next several months. The discounts will cut into profits, but because they will be heavily advertised the manufacturer hopes that they will attract buyers away from rival manufacturers' cars. In the longer term, the automaker envisions that customers initially attracted by the discounts may become loyal customers.

In assessing the plan's chances of achieving its aim, it would be most useful to know which of the following?

- (A) Whether the automaker's competitors are likely to respond by offering deep discounts on their own products
- (B) Whether the advertisements will be created by the manufacturer's current advertising agency
- (C) Whether some of the automaker's models will be more deeply discounted than others
- (D) Whether the automaker will be able to cut costs sufficiently to maintain profit margins even when the discounts are in effect
- (E) Whether an alternative strategy might enable the automaker to enhance its profitability while holding a constant or diminishing share of the market

Evaluation of a Plan

Situation An automaker is planning to offer deep discounts on its vehicles' prices in order to increase its market share. The automaker's profit margins will be reduced by this action. By advertising the discounts, the automaker hopes to attract customers who might otherwise be inclined to buy rival manufacturers' cars. These customers would ideally then develop loyalty to the automaker's cars.

Reasoning *What would it be most useful to know in assessing whether offering deep discounts will enable the automaker to increase its market share?* To achieve an increase in market share, the automaker would have to take customers away from other automakers. Under what circumstances would other automakers be able to retain their customers, if those customers are more likely to purchase cars from automakers that offer deep discounts (and then remain loyal to those automakers)? The other automakers might try to retain their customers by matching the discounts. Thus it would be useful to know whether the other automakers would indeed offer such discounts.

- A Correct.** If the answer to this question were yes, the plan would probably not achieve its aim of increasing market share. If the answer were no, the plan would have a good chance of succeeding.
- B** Since there is no information about the effectiveness of the automaker's current advertising, it would not be useful to know whether the same advertising agency will produce the ads publicizing the discount.
- C** Knowing whether some models will be more deeply discounted than others might help in assessing which of the automaker's models will sell best, but it would not help in assessing the overall chance of the automaker increasing its market share.
- D** The discounts the automaker plans to offer will cut into profits, according to the information given, so the question of whether the automaker can maintain profit margins while the discounts are in effect has already been answered.
- E** While it might be useful to the automaker to know about alternative strategies, such knowledge does not help in assessing the likelihood that the plan under discussion will achieve its aim.

The correct answer is A.

16. In Washington County, attendance at the movies is just large enough for the cinema operators to make modest profits. The size of the county's population is stable and is not expected to increase much. Yet there are investors ready to double the number of movie screens in the county within five years, and they are predicting solid profits both for themselves and for the established cinema operators.

Which of the following, if true about Washington County, most helps to provide a justification for the investors' prediction?

- (A) Over the next ten years, people in their teenage years, the prime moviegoing age, will be a rapidly growing proportion of the county's population.
- (B) As distinct from the existing cinemas, most of the cinemas being planned would be located in downtown areas, in hopes of stimulating an economic revitalization of those areas.
- (C) Spending on video purchases, as well as spending on video rentals, has been increasing modestly each year for the past ten years.
- (D) The average number of screens per cinema is lower among existing cinemas than it is among cinemas still in the planning stages.
- (E) The sale of snacks and drinks in cinemas accounts for a steadily growing share of most cinema operators' profits.

Evaluation of a Plan

Situation Movie attendance in Washington County is large enough (though barely so) to allow the cinemas to make a modest profit. The county's population is expected to remain approximately the same. Despite this, investors wish to double the number of movie screens in the county. They expect both that the new screens will be profitable and that the established cinema operators will continue to maintain their profits.

Reasoning *What piece of information would most help justify the investors' expectation?* To make twice the number of movie screens profitable, movie attendance in Washington County would have to increase. But how could this happen, given that the county's population is not expected to change? Clearly, some people in Washington County will need to go to the movies more often than they do now. This might happen if some of the population of Washington County were to age into a demographic that is likely to go to the movies more frequently.

- A Correct.** This statement tells us that over the next ten years, a larger proportion of the population will probably be moviegoers and this could significantly increase movie attendance in Washington County.
- B** While stimulating downtown revitalization is a worthy goal, this does not help explain why more people would be likely to go to the movies in Washington County. Further, it raises the question of whether theaters in a revitalized downtown would draw business away from theaters in other locations, thus reducing the established cinema operators' profits.
- C** This provides a reason to doubt the investors' prediction, because if spending on videos is increasing, people are probably less likely to see movies in movie theaters.
- D** Regardless of how many screens each new cinema has relative to the established cinemas, none of them will be profitable if they cannot attract sufficient numbers of cinemagoers.
- E** Cinemas' profitability depending on their sales of snacks and drinks does not explain why more people would go to the cinema in the first place.

The correct answer is A.

17. Hollywood restaurant is replacing some of its standard tables with tall tables and stools. The restaurant already fills every available seat during its operating hours, and the change in seating arrangements will not result in an increase in the restaurant's seating capacity. Nonetheless, the restaurant's management expects revenue to increase as a result of the seating change without any concurrent change in menu, prices, or operating hours.

Which of the following, if true, provides the best reason for the expectation?

- (A) One of the taller tables takes up less floor space than one of the standard tables.
- (B) Diners seated on stools typically do not linger over dinner as long as diners seated at standard tables.
- (C) Since the restaurant will replace only some of its standard tables, it can continue to accommodate customers who do not care for the taller tables.
- (D) Few diners are likely to avoid the restaurant because of the new seating arrangement.
- (E) The standard tables being replaced by tall tables would otherwise have to be replaced with new standard tables at a greater expense.

Argument Construction

Situation Hollywood restaurant is replacing some of its tables with taller tables and stools, and the management expects this will increase revenue, despite the fact that the restaurant already fills all of its available seats and that this change will not increase seating capacity. Furthermore, there will not be any change in menu, prices, or operating hours.

Reasoning *What would strongly support the management's expectation?* Since the new seating will not increase the restaurant's seating capacity, the management's expectations must be based on a belief that the change to taller tables and stools will somehow change diners' behavior, perhaps by leading them to order more food, or to stay at their tables for a shorter time, thereby allowing the restaurant to serve more diners during its operating hours without increasing seating capacity. If diners seated at tall tables and on tall stools spend less time lingering over their dinners, then they will leave sooner, opening up the tables for more diners. Because the restaurant, before the change, already fills every available seat during its operating hours, it is reasonable to think that it will be able to serve more diners than it currently does, thereby selling more food and thus increasing revenue.

- A This would be relevant if we could infer from it that seating capacity will increase. However, the passage indicates that the new seating arrangement will not result in greater capacity.
- B Correct.** Because the restaurant will be able to serve more meals during its operating hours, the restaurant's revenue can be expected to increase.
- C This may indicate that the restaurant is less likely to alienate customers who do not care for tall tables and stools, but that only supports the claim that the restaurant will not lose customers and therefore lose revenue; it does not indicate that the restaurant will see revenue increase.
- D Again, this merely indicates that there will not be a loss—or much loss—of revenue, not that there will be an increase in revenue.
- E Less expensive tables will decrease the restaurant's costs, but it will not increase the restaurant's revenue.

The correct answer is B.

18. Hunter: **Many people blame hunters alone for the decline in Greenrock National Forest's deer population over the past ten years.** Yet clearly, black bears have also played an important role in this decline. In the past ten years, the forest's protected black bear population has risen sharply, and examination of black bears found dead in the forest during the deer hunting season showed that a number of them had recently fed on deer.

In the hunter's argument, the portion in boldface plays which of the following roles?

- (A) It is the main conclusion of the argument.
- (B) It is a finding that the argument seeks to explain.
- (C) It is an explanation that the argument concludes is correct.
- (D) It provides evidence in support of the main conclusion of the argument.
- (E) It introduces a judgment that the argument opposes.

Argument Construction

Situation The hunter claims that hunters have been identified by many people as the sole cause of the decline in Greenrock National Forest's deer population. But the hunter argues that black bears have also contributed to the deer population decline. Black bears are protected and have increased in number, and they have been found to have fed recently on deer.

Reasoning *What role in the argument is played by the hunter's statement that many people blame hunters alone for the decline in the national forest's deer population?* In this statement, the hunter claims that many people have judged hunters responsible for the decline. The hunter then goes on to offer evidence supporting a different judgment: that hunters are *not* solely responsible, but that black bears are also to blame.

- A The hunter's main conclusion is that black bears have also contributed to the decline in the deer population.
- B The argument seeks to offer a reason for the finding that the deer population has declined, not the finding that people blame hunters for that decline.
- C The hunter does not conclude that blaming hunters for the decline in the deer population is correct; rather, the hunter suggests that black bears should also be blamed.
- D The hunter believes that hunters are *not* solely responsible for the decline in the deer population, so people's suggestion that they *are* responsible does not support the hunter's main conclusion.
- E **Correct.** The boldfaced statement cites a judgment that the hunter attributes to many people, and that the hunter argues is incorrect. The hunter opposes the judgment that hunters alone are responsible for the decline in the deer population.

The correct answer is E.

19. A major network news organization experienced a drop in viewership in the week following the airing of a controversial report on the economy. The network also received a very large number of complaints regarding the report. The network, however, maintains that negative reactions to the report had nothing to do with its loss of viewers.

Which of the following, if true, most strongly supports the network's position?

- (A) The other major network news organizations reported similar reductions in viewership during the same week.
- (B) The viewers who registered complaints with the network were regular viewers of the news organization's programs.
- (C) Major network news organizations publicly attribute drops in viewership to their own reports only when they receive complaints about those reports.
- (D) This was not the first time that this network news organization has aired a controversial report on the economy that has inspired viewers to complain to the network.
- (E) Most network news viewers rely on network news broadcasts as their primary source of information regarding the economy.

Argument Construction

Situation A major network news organization aired a controversial report on the economy, and the following week the network's viewership declined. The network claims that the loss of viewers was not connected with negative reactions to the report.

Reasoning *Which statement most strongly supports the network's position?* If other major news network organizations had similar drops in viewership, it is implausible to think that the controversial report accounted for the other organizations' drops in viewership. On the other hand, it is not implausible to suppose that whatever did cause the drop in the viewership experienced by other network news organizations—e.g., holidays, weather, popular non-news programming—also had that effect on the organization that ran the controversial report. This would give some reason to believe that it was not the report that accounts for the organization's drop in viewership.

- A **Correct.** This statement indicates that something other than the airing of the report could account for the subsequent drop in the organization's viewership.
- B If anything, this statement tends to undermine the network's claim, because it suggests that the report offended people who otherwise might have continued to watch the organization's programming.
- C Since the network did in fact receive complaints about the report, this statement is irrelevant.
- D The fact that the network has received complaints before about controversial reports on the economy that the network's news organization has aired tells us nothing about whether this recent report caused a subsequent drop in viewership.
- E The fact that viewers turn to network news broadcasts as their primary source of information about the economy tells us nothing about whether viewers might stop watching a particular network news organization's programs as a result of its airing a controversial report on the economy.

The correct answer is A.

20. Physician: The hormone melatonin has shown promise as a medication for sleep disorders when taken in synthesized form. Because the long-term side effects of synthetic melatonin are unknown, however, I cannot recommend its use at this time.

Patient: Your position is inconsistent with your usual practice. You prescribe many medications that you know have serious side effects, so concern about side effects cannot be the real reason you will not prescribe melatonin.

The patient's argument is flawed because it fails to consider that

- (A) the side effects of synthetic melatonin might be different from those of naturally produced melatonin
- (B) it is possible that the physician does not believe that melatonin has been conclusively shown to be effective
- (C) sleep disorders, if left untreated, might lead to serious medical complications
- (D) the side effects of a medication can take some time to manifest themselves
- (E) known risks can be weighed against known benefits, but unknown risks cannot

Argument Evaluation

Situation The physician refuses to prescribe synthetic melatonin to treat sleep disorders despite this medication's promise. The reason the physician offers for this refusal is that the long-term side effects of synthetic melatonin are unknown. The patient responds that because the physician prescribes other medications that are known to have serious side effects, it cannot be a concern for synthetic melatonin's side effects that is prompting the physician's refusal to prescribe that medication.

Reasoning *What does the patient's argument fail to consider?* The patient says that the inconsistency in the physician's position lies in the physician's unwillingness to prescribe synthetic melatonin coupled with a willingness to prescribe other medications that are known to have serious side effects. But notice that the physician does not say that synthetic melatonin has *serious* side effects; rather, the physician points out that the long-term side effects of synthetic melatonin are unknown. The physician most likely prescribes medications that have serious side effects because the medications' benefits outweigh the risks posed by their side effects. In the case of synthetic melatonin, however, this kind of decision cannot be made.

- A The patient's argument has to do with whether the physician's refusal to prescribe synthetic melatonin is consistent with the physician's usual prescription practices. The question of whether naturally produced melatonin has different side effects than synthetic melatonin has no bearing on that argument.
- B It is quite reasonable for the patient's argument not to mention this possibility, especially since the physician expresses a belief that synthetic melatonin may be effective—but expresses no belief about whether or not it has been conclusively shown to be effective.
- C Awareness that sleep disorders can lead to serious medical complications most likely prompts the patient's desire for treatment—but the patient's not mentioning this possible consequence of sleep disorders does not indicate a flaw in the argument.
- D The patient makes clear that the physician prescribes medications that have serious side effects; the time those side effects take to manifest themselves is not relevant to the argument.
- E **Correct.** The patient's argument is flawed in failing to consider this key difference between known risks and unknown risks. If the patient had considered this key difference, the patient would have realized that the physician's position is not at all inconsistent, and that the physician's refusal to prescribe is genuinely based on a concern about an unknown risk.

The correct answer is E.

21. In recent years, many cabinetmakers have been winning acclaim as artists. But since furniture must be useful, cabinetmakers must exercise their craft with an eye to the practical utility of their product. For this reason, cabinetmaking is not art.

Which of the following is an assumption that supports drawing the conclusion above from the reason given for that conclusion?

- (A) Some furniture is made to be placed in museums, where it will not be used by anyone.
- (B) Some cabinetmakers are more concerned than others with the practical utility of the products they produce.
- (C) Cabinetmakers should be more concerned with the practical utility of their products than they currently are.
- (D) An object is not an art object if its maker pays attention to the object's practical utility.
- (E) Artists are not concerned with the monetary value of their products.

Argument Construction

Situation Cabinetmaking is not art because furniture must be made with an eye to its usefulness.

Reasoning *What assumption is made in the argument?* The argument claims that cabinetmakers, when making furniture, must take usefulness into account. It concludes that cabinetmaking is not art. However, the reasoning has a gap: Some information that is not explicitly stated is needed to make the argument succeed. This need for additional information can be met, at least in part, by adding an assumption such as this: Nothing created with a view to its usefulness is a work of art.

- A The destination of the object after its creation is not the issue.
- B The extent to which some cabinetmakers *actually consider* utility is irrelevant, since the reasoning claims that utility must be considered in the successful manufacture of furniture.
- C The argument primarily concerns truly successful cabinetmaking, whether it is art or not, and the role utility plays in (successful) cabinetmaking. It does not address the issue of whether or not current cabinetmakers give adequate consideration to utility or whether or not today's cabinetmakers produce truly successful and useful furniture.
- D **Correct.** This option, unlike the other four, provides information that helps fill the gap in the argument.
- E The issue of monetary value is not raised at all in the argument.

The correct answer is D.

22. Only a reduction of 10 percent in the number of scheduled flights using Greentown's airport will allow the delays that are so common there to be avoided. Hevelia airstrip, 40 miles away, would, if upgraded and expanded, be an attractive alternative for fully 20 percent of the passengers using Greentown airport. Nevertheless, experts reject the claim that turning Hevelia into a full-service airport would end the chronic delays at Greentown.

Which of the following, if true, most helps to justify the experts' position?

- (A) Turning Hevelia into a full-service airport would require not only substantial construction at the airport itself, but also the construction of new access highways.
- (B) A second largely undeveloped airstrip close to Greentown airport would be a more attractive alternative than Hevelia for many passengers who now use Greentown.
- (C) Hevelia airstrip lies in a relatively undeveloped area but would, if it became a full-service airport, be a magnet for commercial and residential development.
- (D) If an airplane has to wait to land, the extra jet fuel required adds significantly to the airline's costs.
- (E) Several airlines use Greentown as a regional hub, so that most flights landing at Greentown have many passengers who then take different flights to reach their final destinations.

Evaluation of a Plan

Situation To avoid the delays now common at Greentown's airport, the number of scheduled flights there would need to be reduced by 10 percent. If the nearby Hevelia airstrip were expanded and upgraded, it would be an attractive alternative for 20 percent of Greentown airport's passengers. Still, experts do not believe that the delays at Greentown would end even if Hevelia were turned into a full-service airport.

Reasoning *Which statement most supports the experts' position?* If the number of flights at Greentown's airport did not drop by at least 10 percent, despite the fact that 20 percent of the passengers who currently use Greentown's airport would find nearby Hevelia airstrip an attractive alternative, then the delays would not be avoided. Airlines generally use certain airports as regional hubs—an airport through which an airline routes most of its traffic—so, even if many passengers would be willing to use Hevelia airstrip, the number of flights at Greentown may not decline significantly, or at all.

- A The experts' position concerns what would happen to the flight delays at Greentown airport *if* the Hevelia airstrip were converted into a full-service airport. So the fact that there are great costs involved in making such a conversion—possibly making such a conversion unlikely—has no bearing on the effects such a conversion would have on flight delays at Greentown *if* the conversion were to be carried out.
- B This statement indicates that the undeveloped airstrip near Greentown might be a better way to alleviate flight delays at Greentown, but it tells us nothing about the effects that converting the Hevelia airstrip to a full-service airport would have were it to be carried out.
- C This in no way explains why converting the Hevelia airstrip into a full-service airport would not alleviate the problem with flight delays at Greentown.
- D This provides a reason to think that reducing the number of flights at Greentown might make the airport more efficient. But that has no bearing on the effect that converting the Hevelia airstrip to a full-service airport might have on flight delays at Greentown.
- E **Correct.** This statement provides support for the experts' position because it gives a reason for thinking that the number of scheduled flights at Greentown would not be reduced, even if Hevelia airstrip became an attractive alternative for some 20 percent of Greentown's passengers.

The correct answer is E.

23. Male bowerbirds construct elaborately decorated nests, or bowers. Basing their judgment on the fact that different local populations of bowerbirds of the same species build bowers that exhibit different building and decorative styles, researchers have concluded that the bowerbirds' building styles are a culturally acquired, rather than a genetically transmitted, trait.

Which of the following, if true, would most strengthen the conclusion drawn by the researchers?

- (A) There are more common characteristics than there are differences among the bower-building styles of the local bowerbird population that has been studied most extensively.
- (B) Young male bowerbirds are inept at bower-building and apparently spend years watching their elders before becoming accomplished in the local bower style.
- (C) The bowers of one species of bowerbird lack the towers and ornamentation characteristic of the bowers of most other species of bowerbird.
- (D) Bowerbirds are found only in New Guinea and Australia, where local populations of the birds apparently seldom have contact with one another.
- (E) It is well known that the song dialects of some songbirds are learned rather than transmitted genetically.

Argument Evaluation

Situation Male bowerbirds of the same species but living in different habitats build nests of widely varying styles. Researchers conclude that this nest-building behavior is culturally acquired rather than genetically transmitted.

Reasoning *What evidence supports the researchers' conclusion?* The researchers base their conclusion upon the different styles of nests and probably the assumption that the nests would all be similar if the bower-building behavior was only transmitted through the genes of the species. What would lend support to this reasoning? If young male bowerbirds have no inherent aptitude for nest building and must learn it over a period of years by watching older male bowerbirds, then the argument that bowerbirds acquire their nest-building preferences culturally rather than genetically is strengthened.

- A The greater number of similarities than differences in style in one population could be attributed to either cultural acquisition or genetic transmission, so the conclusion is not strengthened.
- B Correct.** Compared with the other options, this information provides the most additional support for the researchers' conclusion.
- C The cited differences are among populations of the same species; differences between species are outside the scope of the conclusion.
- D Since no information is given about the nest-building styles of these populations (whether or not they are of the same species), the fact that they have little contact neither strengthens nor weakens the conclusion.
- E This statement provides an example of learned bird behavior, and so provides a little additional support for the conclusion, but not as much additional support as does answer choice (B).

The correct answer is B.

24. Plan: Concerned about the welfare of its senior citizens, the government of Runagia decided two years ago to increase by 20 percent the government-provided pension paid to all Runagians age sixty-five and older.

Result: Many Runagian senior citizens are no better off financially now than they were before the increase.

Further information: The annual rate of inflation since the pension increase has been below 5 percent, and the increased pension has been duly received by all eligible Runagians.

In light of the further information, which of the following, if true, does most to explain the result that followed implementation of the plan?

- (A) The majority of senior citizens whose financial position has not improved rely entirely on the government pension for their income.
- (B) The Runagian banking system is so inefficient that cashing a pension check can take as much as three weeks.
- (C) The prices of goods and services that meet the special needs of many senior citizens have increased at a rate much higher than the rate of inflation.
- (D) The pension increase occurred at a time when the number of Runagians age sixty-five and older who were living below the poverty level was at an all-time high.
- (E) The most recent pension increase was only the second such increase in the last ten years.

Evaluation of a Plan

Situation Two years ago, Runagia's government attempted to improve senior citizens' welfare by increasing senior citizens' pensions by 20 percent. Unfortunately, many of those senior citizens' welfare did not improve. This result occurred despite inflation being relatively low—below 5 percent—and all appropriate people receiving their increased pensions.

Reasoning *What would do most to explain why many of Runagia's senior citizens are no better off than they were before their pensions increased?* Many of Runagia's senior citizens were not helped by receiving more money. Clearly, these senior citizens used nearly 20 percent more money than they did before to maintain the same standard of living. Usually, this could be explained by high inflation—but the further information informs us that the annual rate of inflation was well below the percentage of the pension increase. The annual rate of inflation is, however, an average calculated over a large number of goods and services. The prices of some goods and services rise more than the prices of other goods and services. It could be the case that the goods and services senior citizens need are those that have risen most in price. If this were the case, their pension increase could have been insufficient to raise their standard of living.

- A Regardless of what someone relies on for their income, a 20 percent increase in that income would be expected to raise that person's standard of living.
- B The 20 percent increase in pensions occurred two years ago. Whatever problems a three-week delay in the cashing of pension checks caused would be unlikely to persist over two years.
- C **Correct.** This statement properly identifies a reason why the plan's result was that many Runagian senior citizens were no better off than they were before the increase.
- D Even if it were true that an all-time high number of Runagians over sixty-five were living below the poverty line at the time of the pension increase, it would still be expected that such an increase would leave them better off financially than they were before the increase.
- E Regardless of how many pension increases there were in the past, the current 20 percent increase could reasonably be expected to leave its recipients better off financially than they were before the increase.

The correct answer is C.

25. A drug that is highly effective in treating many types of infection can, at present, be obtained only from the bark of the ibora, a tree that is quite rare in the wild. It takes the bark of 5,000 trees to make one kilogram of the drug. It follows, therefore, that continued production of the drug must inevitably lead to the ibora's extinction.

Which of the following, if true, most seriously weakens the argument above?

- (A) The drug made from ibora bark is dispensed to doctors from a central authority.
- (B) The drug made from ibora bark is expensive to produce.
- (C) The leaves of the ibora are used in a number of medical products.
- (D) The ibora can be propagated from cuttings and grown under cultivation.
- (E) The ibora generally grows in largely inaccessible places.

Argument Evaluation

Situation The extinction of the rare ibora tree is inevitable if production of an effective infection-fighting drug continues.

Reasoning *Which point most weakens the argument?* The production of the drug requires such an enormous amount of bark that, the argument concludes, the continuing existence of the rare tree is in jeopardy. But the argument assumes that killing the trees in the wild is the only way to obtain the needed bark. Can the tree be cultivated? If so, the majority of the trees in the wild could be left to flourish.

- A The method of the drug's distribution is irrelevant, unless the central authority can limit the drug's production from the bark of wild ibora trees. But this information is not provided.
- B The cost of producing the drug does not affect the outcome for the tree unless it deters production.
- C The existence of uses for other parts of the tree opens the possibility that the ibora-bark drug would cause no increase in destruction of trees other than what exists already. If this information were provided, it would weaken support for the conclusion. Since it is not provided, this option does not significantly weaken the argument.
- D Correct.** This information most weakens the argument.
- E Difficulty of access to the trees could provide a disincentive to their harvesting—but we are not told that it would prevent their harvesting.

The correct answer is D.

26. When a polygraph test is judged inconclusive, this is no reflection on the examinee. Rather, such a judgment means that the test has failed to show whether the examinee was truthful or untruthful. Nevertheless, employers will sometimes refuse to hire a job applicant because of an inconclusive polygraph test result.

Which of the following conclusions can most properly be drawn from the information above?

- (A) Most examinees with inconclusive polygraph test results are in fact untruthful.
- (B) Polygraph tests should not be used by employers in the consideration of job applicants.
- (C) An inconclusive polygraph test result is sometimes unfairly held against the examinee.
- (D) A polygraph test indicating that an examinee is untruthful can sometimes be mistaken.
- (E) Some employers have refused to consider the results of polygraph tests when evaluating job applicants.

Argument Construction

Situation Employers sometimes refuse to hire job applicants because of inconclusive polygraph tests, even though inconclusive tests reveal only the failure of the test itself to determine the truthfulness or untruthfulness of the person tested.

Reasoning *What conclusion can be drawn from this information?* Inconclusive polygraph results do not reveal anything about the person tested; they reveal only the failure of the polygraph test. Nevertheless, employers may choose not to hire an applicant whose polygraph test has had an inconclusive result. It is reasonable to conclude that these employers unfairly treat the lack of firm polygraph results as counting against the candidate—not against the polygraph test.

- A This statement makes a judgment that is explicitly contradicted in the passage, which states that an inconclusive polygraph result *is no reflection on the examinee*.
- B This sweeping conclusion is not as well supported by the passage as is answer choice (C). The passage discusses only inconclusive polygraph results.
- C **Correct.** Given the information in the passage, one can infer that inconclusive polygraph tests are sometimes used unfairly against job applicants—if one makes the reasonable assumption that judging a job applicant unsuitable is unfair if the judgment is based merely on the failure of a particular technique to provide reliable evidence.
- D The passage is concerned only with inconclusive tests, not cases when the polygraph test is mistaken.
- E Information about employers who do not consider polygraph tests is irrelevant to the discussion.

The correct answer is C.

27. For similar cars and comparable drivers, automobile insurance for collision damage has always cost more in Greatport than in Fairmont. Police studies, however, show that cars owned by Greatport residents are, on average, slightly less likely to be involved in a collision than cars in Fairmont. Clearly, therefore, insurance companies are making a greater profit on collision-damage insurance in Greatport than in Fairmont.

In evaluating the argument, it would be most useful to compare

- (A) the level of traffic congestion in Greatport with the level of traffic congestion in Fairmont
- (B) the cost of repairing collision damage in Greatport with the cost of repairing collision damage in Fairmont
- (C) the rates Greatport residents pay for other forms of insurance with the rates paid for similar insurance by residents of Fairmont
- (D) the condition of Greatport's roads and streets with the condition of Fairmont's roads and streets
- (E) the cost of collision-damage insurance in Greatport and Fairmont with that in other cities

Argument Evaluation

Situation A particular kind of insurance, that for collision damage, costs more in Greatport than in Fairmont. The cars of Greatport residents are, however, less likely to be involved in collisions than are cars of Fairmont residents. So insurance companies must be making a greater profit on collision-damage insurance in Greatport than in Fairmont.

Reasoning *What would it help to consider in evaluating the argument?* Insurance companies would make greater profits on collision-damage insurance in Greatport than they make in Fairmont if they pay out less money in response to Greatport residents' claims than they do in response to Fairmont's residents' claims. That Greatport residents' cars are involved in fewer collisions than are Fairmont's residents' cars supports this—if there are fewer collisions overall, then the insurance companies might pay out less money overall. But the number of collisions is only one factor contributing to how much money an insurance company pays out in response to claims; another factor is the amount of damage inflicted on the cars involved in collisions and how much it costs to repair that damage. These costs would need to be considered before concluding that insurance companies' profits on collision-damage insurance are greater in Greatport than in Fairmont.

- A The level of traffic congestion probably contributes to the frequency of collisions in each town. The information given, however, includes the statement that Greatport cars are less likely to be involved in collisions than are Fairmont cars. Why this occurs—whether, for example, traffic congestion is a contributory factor—is not relevant.
- B **Correct.** This is clearly a factor that would affect the profitability of insurance in the two towns—and is therefore highly relevant to evaluating the argument, especially its conclusion.
- C The argument's conclusion is about insurance companies' profits on collision-damage insurance alone, so other types of insurance, and the rates paid for them, are not relevant.
- D The condition of the roads and streets in each town probably contributes to the frequency of collisions in each town. The information given, however, includes the statement that Greatport cars are less likely to be involved in collisions than are Fairmont cars. Why this is so—whether, for example, the condition of the roads is a contributory cause—is not relevant.
- E Since the argument is concerned solely with collision-insurance costs and profits in Greatport and Fairmont, comparing the cost of insurance in those towns with the cost of insurance elsewhere would provide no useful insight.

The correct answer is B.

28. Last year a record number of new manufacturing jobs were created. Will this year bring another record? Well, a new manufacturing job is created either within an existing company or by the start-up of a new company. Within existing firms, new jobs have been created this year at well below last year's record pace. At the same time, there is considerable evidence that the number of new companies starting up will be no higher this year than it was last year, and surely **the new companies starting up this year will create no more jobs per company than did last year's start-ups**. Clearly, it can be concluded that **the number of new jobs created this year will fall short of last year's record**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is that main conclusion.
- (B) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is a conclusion drawn in order to support that main conclusion.
- (C) The first is an objection that the argument rejects; the second is the main conclusion of the argument.
- (D) The first is an objection that the argument rejects; the second presents a conclusion that could be drawn if that objection were allowed to stand.
- (E) The first is a claim that has been advanced in support of a position that the argument opposes; the second is a claim advanced in support of the main conclusion of the argument.

Argument Construction

Situation The question posed is whether this year will, like last year, see a record number of new manufacturing jobs. Among the evidence presented is the assertion that any new manufacturing job is created by an existing company or as part of the start-up of a new company. New jobs have been created by existing firms at a slower pace than last year. It is unlikely that more new companies will be started up this year than were started last year; further, the argument suggests that this year's new companies are unlikely to create more jobs per company than did last year's new companies. For all these reasons, the argument concludes, this year's job creation will not equal that of last year.

Reasoning *What roles do the two portions in boldface play in the argument?* The first boldfaced portion states that this year's new companies will create no more jobs per company than did last year's new companies. The speaker does not know this for a fact, since it has not yet happened; it is thus a prediction. If it turns out to be the case, it would support the idea that job creation this year will fall short of last year's—which is, in turn, the conclusion that the argument reaches.

- A Correct.** This statement properly identifies the roles played in the argument by the two portions in boldface.
- B** This properly identifies the role played in the argument by the first portion in boldface. The second is, of course, a conclusion, but it is not drawn in order to support the main conclusion; rather, it is the main conclusion.
- C** This properly identifies the role played by the second portion in boldface. The first portion in boldface, however, states that companies starting up this year will create no more jobs than last year's start-ups. The argument does not reject this idea; rather, it relies on it.
- D** The first portion in boldface states that companies starting up this year will create no more jobs than last year's start-ups. The argument does not reject this idea; rather, it relies on it. The second portion in boldface does present a conclusion, but since the first portion is not an objection, any description that relies on that mischaracterization is in error.
- E** The second portion in boldface is not merely a claim; it is, rather, the main conclusion of the argument. The first portion in boldface is a claim, but it is not advanced in support of a position that the argument opposes; rather, it supports the argument's main conclusion.

The correct answer is A.

29. The tulu, a popular ornamental plant, does not reproduce naturally, and is only bred and sold by specialized horticultural companies. Unfortunately, the tulu is easily devastated by a contagious fungal rot. The government ministry plans to reassure worried gardeners by requiring all tulu plants to be tested for fungal rot before being sold. However, infected plants less than 30 weeks old have generally not built up enough fungal rot in their systems to be detected reliably. And many tulu plants are sold before they are 24 weeks old.

Which of the following, if performed by the government ministry, could logically be expected to overcome the problem with their plan to test for the fungal rot?

- (A) Releasing a general announcement that tulu plants less than 30 weeks old cannot be effectively tested for fungal rot
- (B) Requiring all tulu plants less than 30 weeks old to be labeled as such
- (C) Researching possible ways to test tulu plants less than 24 weeks old for fungal rot
- (D) Ensuring that tulu plants not be sold before they are 30 weeks old
- (E) Quarantining all tulu plants from horticultural companies at which any case of fungal rot has been detected until those tulu plants can be tested for fungal rot

Evaluation of a Plan

Situation There is a contagious fungal rot that devastates the tulu, a popular ornamental plant. To reassure worried gardeners, the government ministry plans to require that tulu plants be tested for the rot before being sold. However, many tulu plants are sold before they are 24 weeks old, yet fungal rot in plants less than 30 weeks old generally cannot be detected reliably.

Reasoning *What could the government ministry do to overcome the problem?* The problem arises from the fact that tulu plants are frequently sold before they are 24 weeks old, which is too soon for any fungal rot that is present to have built up enough in their root systems to be detected. Since the goal of the testing is to ensure that infected tulu plants not be sold, an obvious solution would be to make sure that no plants are sold before they are old enough for fungal rot to have built up to a detectable level. Thus, tulu plants should not be sold before they are 30 weeks old.

- A Releasing such an announcement would help overcome the problem if it guaranteed that no one would buy or sell tulu plants before the plants were 30 weeks old, but it is far from certain that such an announcement would guarantee this.
- B Since some people may not be aware of the significance of such labeling, such labeling might have very little effect.
- C There is no guarantee that such research will be successful at reducing the age at which tulu plants can be reliably tested.
- D Correct.** If the government *ensures* that no tulu plants less than 30 weeks of age are sold, then the specific problem mentioned in the passage would be overcome.
- E This will not help overcome the problem. Such a quarantine program might lead horticultural companies to start selling tulu plants *only* if they are less than 24 weeks old, thereby minimizing the chance of quarantine by minimizing the chance of detection.

The correct answer is D.

30. The Eurasian ruffe, a fish species inadvertently introduced into North America's Great Lakes in recent years, feeds on the eggs of lake whitefish, a native species, thus threatening the lakes' natural ecosystem. To help track the ruffe's spread, government agencies have produced wallet-sized cards about the ruffe. The cards contain pictures of the ruffe and explain the danger they pose; the cards also request anglers to report any ruffe they catch.

Which of the following, if true, would provide most support for the prediction that the agencies' action will have its intended effect?

- (A) The ruffe has spiny fins that make it unattractive as prey.
- (B) Ruffe generally feed at night, but most recreational fishing on the Great Lakes is done during daytime hours.
- (C) Most people who fish recreationally on the Great Lakes are interested in the preservation of the lake whitefish because it is a highly prized game fish.
- (D) The ruffe is one of several nonnative species in the Great Lakes whose existence threatens the survival of lake whitefish populations there.
- (E) The bait that most people use when fishing for whitefish on the Great Lakes is not attractive to ruffe.

Evaluation of a Plan

Situation The Eurasian ruffe, a species not native to the Great Lakes, is threatening the native lake whitefish. Government agencies hope that wallet-sized cards identifying the ruffe, explaining the danger they pose, and asking anglers to report their ruffe catches will help them track the ruffe's spread.

Reasoning *What point would support the idea that the agencies' action will have its intended effect?* The cards are intended to help government agencies track the ruffe's spread. They will be useful for this purpose only if anglers actually report the ruffe they catch. Thus anything that increases the odds of anglers' doing such reporting would make it more likely that the cards will have their intended effect.

- A If ruffe are unattractive as prey, they will probably spread more quickly in the Great Lakes. This will most likely have little effect on whether the wallet-sized cards will help government agencies track the ruffe.
- B If ruffe feed at night, while fishing is done in the daytime, it is unlikely that anglers would catch ruffe. Thus few catches would be reported to government agencies, making it more difficult for those agencies to track the spread of ruffe.
- C **Correct.** This statement properly identifies a point that supports the prediction that the agencies' action will have its intended effect—that is, those who are interested in preserving the lake whitefish will be likely to report catches of ruffe, which threaten whitefish, thus enabling the agencies' tracking of the spread of ruffe.
- D That the ruffe is one of several nonnative species threatening the Great Lakes lessens the odds that the whitefish will survive, but this has no effect on the question of whether the wallet-sized cards will help government agencies track the ruffe's spread.
- E This would make it likely that anglers would catch few ruffe. If anglers do not catch many ruffe, there will not be many to report to government agencies, which would in turn make it more difficult for those agencies to track the ruffe's spread.

The correct answer is C.

31. Which of the following most logically completes the argument?

Ferber's syndrome, a viral disease that frequently affects cattle, is transmitted to these animals through infected feed. Even though chickens commercially raised for meat are often fed the type of feed identified as the source of infection in cattle, Ferber's syndrome is only rarely observed in chickens. This fact, however, does not indicate that most chickens are immune to the virus that causes Ferber's syndrome, since _____.

- (A) chickens and cattle are not the only kinds of farm animal that are typically fed the type of feed liable to be contaminated with the virus that causes Ferber's syndrome
- (B) Ferber's syndrome has been found in animals that have not been fed the type of feed liable to be contaminated with the virus that can cause the disease
- (C) resistance to some infectious organisms such as the virus that causes Ferber's syndrome can be acquired by exposure to a closely related infectious organism
- (D) chickens and cattle take more than a year to show symptoms of Ferber's syndrome, and chickens commercially raised for meat, unlike cattle, are generally brought to market during the first year of life
- (E) the type of feed liable to be infected with the virus that causes Ferber's syndrome generally constitutes a larger proportion of the diet of commercially raised chickens than of commercially raised cattle

Argument Construction

Situation Certain feed given to cows and to chickens commercially raised for meat is infected with the virus that causes Ferber's syndrome. Cows are frequently affected by this disease, while it is rarely observed in chickens. But (for a reason the argument omits) this does not suggest that chickens are immune to the virus.

Reasoning *What point would most logically complete the argument?* How could it be the case that chickens are infected, yet Ferber's syndrome is only rarely observed in them? The important point here is that Ferber's syndrome is not *observed* in chickens. A disease is usually observed to be present on the basis of its symptoms. Those symptoms might not be present, or might not *yet* be present, in chickens that are infected with the virus. If the chickens were used for meat before they began showing symptoms, then they would not be observed to have Ferber's syndrome, but this would not indicate that they were immune to the virus.

- A That other animals are fed the potentially contaminated feed is not relevant to the question of whether chickens are immune to the virus.
- B The idea that there could be a source of the virus other than contaminated feed does not have any bearing on whether chickens are immune to the virus.
- C The idea that there is a way for animals to acquire a resistance to the virus that causes Ferber's syndrome suggests that some animals, possibly chickens, might be immune to the virus. This is the opposite of what the argument is trying to establish.
- D **Correct.** This statement properly identifies a point that logically completes the argument: It provides a reason why infected chickens would fail to show symptoms of Ferber's syndrome.
- E If chickens' diets contain proportionally more of the potentially infected feed than cattle's diets do, it is even more surprising that Ferber's syndrome is not observed in chickens—far from providing a reason not to conclude that chickens are immune to the virus; this makes it seem even more likely that they are immune.

The correct answer is D.

32. Last year the rate of inflation was 1.2 percent, but for the current year it has been 4 percent. We can conclude that inflation is on an upward trend and the rate will be still higher next year.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The inflation figures were computed on the basis of a representative sample of economic data rather than all of the available data.
- (B) Last year a dip in oil prices brought inflation temporarily below its recent stable annual level of 4 percent.
- (C) Increases in the pay of some workers are tied to the level of inflation, and at an inflation rate of 4 percent or above, these pay raises constitute a force causing further inflation.
- (D) The 1.2 percent rate of inflation last year represented a 10-year low.
- (E) Government intervention cannot affect the rate of inflation to any significant degree.

Argument Evaluation

Situation The rate of inflation was 1.2 percent last year but is 4 percent in the current year. It is therefore expected to rise above 4 percent next year.

Reasoning *What point most weakens this conclusion?* The conclusion is based on an *upward trend* that is derived from data for two years. Data from only two years provide rather weak evidence of a *trend*. Additional evidence that provides a context for the annual inflation rates during the most recent two-year period will promote a more solid evaluation of this prediction of next year's inflation rate. If inflation has recently been *stable* at 4 percent, and the temporary drop the previous year is accounted for by lower oil prices, then the basis for the prediction seems quite weak.

- A As long as the sample was representative, the figures should be accurate. This point does not weaken the conclusion.
- B **Correct.** This statement suggests that the 1.2 percent inflation rate is an unusual occurrence in recent years. Especially because the dip below the stable 4 percent rate was *temporary*, this unusual occurrence cannot be used as the basis for predicting a trend.
- C This statement explains one process by which inflation increases and tends to support the conclusion that inflation will continue to rise.
- D This information implies, for example, that two years ago, the inflation rate was higher than 1.2 percent. This raises the possibility (without stating it) that last year and the year preceding mark a trend of declining inflation (and that the current year's 4 percent is an aberration). However, if the inflation rate two years ago was only slightly higher than 1.2 percent (for example, 1.25 percent), then it would be difficult to regard these two numbers as signaling a trend of declining inflation. We do not have enough information here to regard this as a significant weakener. The information is sufficient to justify a little doubt about the argument's conclusion—but not at all specific enough to undermine the argument's conclusion as much as does answer choice (B).
- E The failure of government intervention to affect the rate of inflation could be seen to support, not weaken, the conclusion.

The correct answer is B.

33. Which of the following most logically completes the argument below?

Although the number of large artificial satellites orbiting the Earth is small compared to the number of small pieces of debris in orbit, the large satellites interfere more seriously with telescope observations because of the strong reflections they produce. Because many of those large satellites have ceased to function, the proposal has recently been made to eliminate interference from nonfunctioning satellites by exploding them in space. This proposal, however, is ill conceived, since _____.

- (A) many nonfunctioning satellites remain in orbit for years
- (B) for satellites that have ceased to function, repairing them while they are in orbit would be prohibitively expensive
- (C) there are no known previous instances of satellites' having been exploded on purpose
- (D) the only way to make telescope observations without any interference from debris in orbit is to use telescopes launched into extremely high orbits around the Earth
- (E) a greatly increased number of small particles in Earth's orbit would result in a blanket of reflections that would make certain valuable telescope observations impossible

Evaluation of a Plan

Situation Many large artificial satellites orbiting earth no longer function. Reflections from these satellites interfere with telescope observations. A proposal has been made to eliminate this interference by exploding these satellites in space.

Reasoning *Why is the proposal ill conceived?* If exploding the large artificial satellites—thereby creating a large amount of debris—would result in an increase in interference with telescope observation, the proposal would be self-defeating, and therefore would be ill conceived.

- A The fact that many nonfunctioning satellites remain in orbit for years would seem to make the proposal *more* attractive. If large nonfunctioning artificial satellites generally do not remain in orbit for years—e.g., if they fall out of orbit—then there might be no need to explode the satellites. Therefore this statement is not correct.
- B This statement, too, makes the proposal more attractive—the opposite of what is called for. If nonfunctioning satellites cannot be repaired, then that eliminates one possible reason for not blowing them up.
- C The fact that there are no known instances of intentional explosions of satellites does not show that the plan is ill conceived. At most this might suggest that the consequences of such an explosion are not well understood, but even that is not very strongly suggested. For instance, if large artificial satellites have accidentally blown up, scientists may have studied the results and have good reason to believe that no ill-effects will result from exploding the satellites.
- D This is not a cogent reason for thinking the proposal to be ill conceived. Even if the proposal would not eliminate *all interference* with ground based telescopes, it might still greatly reduce interference.
- E **Correct.** If exploding large nonfunctioning satellites would lead to more interference, then we have a reason to think that the proposal is ill conceived.

The correct answer is E.

34. Thyrian lawmaker: Thyria's Cheese Importation Board inspects all cheese shipments to Thyria and rejects shipments not meeting specified standards. Yet only 1 percent is ever rejected. Therefore, since the health consequences and associated economic costs of not rejecting that 1 percent are negligible, whereas the board's operating costs are considerable, for economic reasons alone the board should be disbanded.

Consultant: I disagree. The threat of having their shipments rejected deters many cheese exporters from shipping substandard product.

The consultant responds to the lawmaker's argument by

- (A) rejecting the lawmaker's argument while proposing that the standards according to which the board inspects imported cheese should be raised
- (B) providing evidence that the lawmaker's argument has significantly overestimated the cost of maintaining the board
- (C) objecting to the lawmaker's introducing into the discussion factors that are not strictly economic
- (D) pointing out a benefit of maintaining the board, which the lawmaker's argument has failed to consider
- (E) shifting the discussion from the argument at hand to an attack on the integrity of the cheese inspectors

Argument Construction

Situation The Thyrian lawmaker argues that the Cheese Importation Board should be disbanded, because its operating costs are high and it rejects only a small percentage of the cheese it inspects. The consultant disagrees, pointing out that the board's inspections deter those who export cheese to Thyria from shipping substandard cheese.

Reasoning *What strategy does the consultant use in the counterargument?* The consultant indicates to the lawmaker that there is a reason to retain the board that the lawmaker has not considered. The benefit the board provides is not that it identifies a great deal of substandard cheese and rejects it (thus keeping the public healthy), but that the possibility that their cheese could be found substandard is what keeps exporters from attempting to export low-quality cheese to Thyria.

- A The consultant does reject the lawmaker's argument, but the consultant does not propose higher standards. Indeed, in suggesting that the board should be retained, the consultant implies that the board's standards are appropriate.
- B The consultant does not provide any evidence related to the board's cost.
- C The only point the lawmaker raises that is not strictly economic is about the health consequences of disbanding the board, but the consultant does not address this point at all.
- D **Correct.** This statement properly identifies the strategy the consultant employs in his or her counterargument. The consultant points out that the board provides a significant benefit that the lawmaker did not consider.
- E The consultant does not attack the integrity of the cheese inspectors; to the contrary, the consultant says that their inspections deter the cheese exporters from shipping substandard cheese.

The correct answer is D.

35. Which of the following best completes the passage below?

The computer industry's estimate that it loses millions of dollars when users illegally copy programs without paying for them is greatly exaggerated. Most of the illegal copying is done by people with no serious interest in the programs. Thus, the loss to the industry is quite small, because _____.

- (A) many users who illegally copy programs never find any use for them
- (B) most people who illegally copy programs would not purchase them even if purchasing them were the only way to obtain them
- (C) even if the computer industry received all the revenue it claims to be losing, it would still be experiencing financial difficulties
- (D) the total market value of all illegal copies is low in comparison to the total revenue of the computer industry
- (E) the number of programs that are frequently copied illegally is low in comparison to the number of programs available for sale

Argument Construction

Situation The computer industry's estimate of its losses due to illegally copied programs is exaggerated—and actually quite small—because most of the illegal copying is done by people who are not greatly interested in the programs.

Reasoning *Why would the loss to the industry be said to be small?* The industry's loss due to illegal copying of programs must be evaluated in terms of the sales lost; the actual loss to the industry is directly related to the legitimate sales opportunities that have been lost. Would the people illegally copying the programs buy them if they could not otherwise obtain them? If it were true that most of them have *no serious interest in the programs*, they would be unlikely to purchase them. In this case, few sales would be lost and the loss to the industry could be considered small.

- A What users do (or do not do) with programs once they have them does not help to show that the loss to the industry is small.
- B Correct.** This information provides a reason supporting the claim that the industry has not lost potential sales.
- C The greater financial difficulties of the industry do not help to show that the loss incurred because of the illegally copied programs is small.
- D This comparison is faulty: The loss is not being considered in the context of total industry revenues but in the context of total sales of programs.
- E This information does not provide a good reason for the claim that the loss to the industry is small. Even if the number of programs frequently copied is low, the number of copies made from each program might be huge (for the most popular programs).

The correct answer is B.

36. The growing popularity of computer-based activities was widely expected to result in a decline in television viewing, since it had been assumed that people lack sufficient free time to maintain current television-viewing levels while spending increasing amounts of free time on the computer. That assumption, however, is evidently false: In a recent mail survey concerning media use, a very large majority of respondents who report increasing time spent per week using computers report no change in time spent watching television.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether a large majority of the survey respondents reported watching television regularly
- (B) Whether the amount of time spent watching television is declining among people who report that they rarely or never use computers
- (C) Whether the type of television programs a person watches tends to change as the amount of time spent per week using computers increases
- (D) Whether a large majority of the computer owners in the survey reported spending increasing amounts of time per week using computers
- (E) Whether the survey respondents' reports of time spent using computers included time spent using computers at work

Argument Evaluation

Situation The argument is intended to debunk the assumption that people lack sufficient free time to maintain television-viewing levels while spending increasing amounts of free time on the computer. To do so, it cites a survey of media use in which a large majority of respondents who spend increasing amounts of time using computers also claim to have not altered the amount of time they spend watching television.

Reasoning *What would it be most useful to know in order to evaluate the argument?* The argument uses the survey results to claim that people have enough free time to both maintain their television viewing levels and spend increasing amounts of free time on the computer. But the survey, as reported here, did not address whether people are spending their *free time* on the computer; the respondents reported increasing *time* spent per week using computers. Since the argument is about free time, it is important to know whether this is actually what the respondents were reporting.

- A The argument is concerned with the *change* in the amount of television watched by those whose computer use increased, so whether the survey's respondents reported watching television regularly is irrelevant.
- B The argument is concerned with the change in the amount of television watched by those whose computer use has increased, so it does not matter whether the amount of time spent watching television among people who do not use computers is declining, remaining the same, or increasing.
- C The argument is concerned with the *amount* of television watched by those whose computer use has increased, not the type of television programs such a person does or does not watch.
- D The argument here is concerned with people who report spending increasing amounts of time on the computer; what computer owners do is a separate question.
- E **Correct.** This statement properly identifies something that would be useful to know in evaluating the argument: whether the survey data included time spent using computers at work—if it did, this would make the data misleading as evidence for the argument's conclusion.

The correct answer is E.

37. In the last decade there has been a significant decrease in coffee consumption. During this same time, there has been increasing publicity about the adverse long-term effects on health of the caffeine in coffee. Therefore, the decrease in coffee consumption must have been caused by consumers' awareness of the harmful effects of caffeine.

Which of the following, if true, most seriously calls into question the explanation above?

- (A) On average, people consume 30 percent less coffee today than they did 10 years ago.
- (B) Heavy coffee drinkers may have mild withdrawal symptoms, such as headaches, for a day or so after significantly decreasing their coffee consumption.
- (C) Sales of specialty types of coffee have held steady as sales of regular brands have declined.
- (D) The consumption of fruit juices and caffeine-free herbal teas has increased over the past decade.
- (E) Coffee prices increased steadily in the past decade because of unusually severe frosts in coffee-growing nations.

Argument Evaluation

Situation The decrease in coffee consumption in the last decade can be explained by consumers' increased awareness of the detrimental effects of the caffeine in coffee.

Reasoning *What point weakens this explanation?* A conclusion offering an explanation for some occurrence may be weakened when another explanation at least as compelling as the original is offered. Coffee consumption may have decreased over the decade for some reason other than consumers' awareness of the adverse health effects of caffeine. If the price of coffee has increased in the same period that consumption has decreased, then the decrease may well be the result of consumers' attention to price rather than their attention to health. Higher prices would offer a good alternative explanation that would weaken the original explanation.

- A This point merely tells us how much coffee consumption has decreased; it does not make the explanation offered in the conclusion any less likely to be correct.
- B Withdrawal symptoms would occur only after decreased consumption has occurred and so cannot explain why the decrease occurred.
- C Suppose that the specialty coffees that had their sales hold steady were all caffeine-free coffees; note that nothing rules this out. If this were the case, the explanation would remain plausible.
- D An increase in the consumption of these drinks could plausibly be the result of some coffee drinkers switching to these drinks to avoid the negative effects of caffeine.
- E **Correct.** This statement properly identifies a plausible alternative explanation and therefore undermines the given explanation.

The correct answer is E.

38. Which of the following best completes the passage below?

When the products of several competing suppliers are perceived by consumers to be essentially the same, classical economics predicts that price competition will reduce prices to the same minimal levels and all suppliers' profits to the same minimal levels. Therefore, if classical economics is true, and given suppliers' desire to make as much profit as possible, it should be expected that _____.

- (A) in a crowded market widely differing prices will be charged for products that are essentially the same as each other
- (B) as a market becomes less crowded as suppliers leave, the profits of the remaining suppliers will tend to decrease
- (C) each supplier in a crowded market will try to convince consumers that its product differs significantly from its competitors' products.
- (D) when consumers are unable to distinguish the products in a crowded market, consumers will judge that the higher-priced products are of higher quality
- (E) suppliers in crowded markets will have more incentive to reduce prices and thus increase sales than to introduce innovations that would distinguish their product from their competitors' products

Argument Construction

Situation Classical economics holds that prices and profits are minimal when consumers perceive the products of competing suppliers to be the same.

Reasoning *According to classical economics, what strategy are suppliers most likely to use to maximize profits in such a situation?* The given information states that the force driving prices and profits down in this case is the consumers' perception that the competing products are *essentially the same*. It is reasonable to assume that, with prices already at *minimal levels*, it is not possible to lower them any more. What can be done? The suppliers' most likely strategy would then be to change the consumers' perception of their products. It can be expected that an individual supplier would try to convince consumers that its product greatly differs from (and is certainly preferable to) the products of its competitors.

- A According to classical economics, *prices* will be reduced by competition *to the same minimal levels* as long as the products *are perceived by consumers to be essentially the same*, and nothing indicates that they will not be; therefore there is no reason to believe that prices will differ widely.
- B The passage discusses the conditions of a crowded market, not a market that is becoming less crowded.
- C **Correct.** This statement properly suggests that the most likely strategy for any one supplier in a crowded market is convincing consumers that its product is very different from those of its competitors.
- D According to classical economics, *prices* will be reduced *to the same minimal levels* when consumers are unable to distinguish among the products; therefore none of the products will be priced higher than any others.
- E The passage gives no indication of what classical economics says about the attractiveness to suppliers of reducing prices versus introducing innovations.

The correct answer is C.

39. Which of the following most logically completes the argument?

Sviatovin is a medieval Moringian text whose author and exact date of composition are unknown. However, the events in the life of Prince Sviatov that the text describes occurred in 1165, and in the diagram of Sviatov's family that accompanies the text his father, who died in 1167, is identified as still living. Thus *Sviatovin* must have been written between 1165 and 1167, assuming that _____.

- (A) the life of Prince Sviatov is not the subject of any other medieval Moringian texts
- (B) the author of *Sviatovin* intended it to provide as accurate a report about Prince Sviatov's exploits as possible
- (C) the diagram accurately represents the composition of Sviatov's family at the time *Sviatovin* was written
- (D) *Sviatovin* is the earliest Moringian text whose composition can be dated to within a few years
- (E) *Sviatovin* was not written by Sviatov's father himself

Argument Construction

Situation A medieval Moringian text was written about Prince Sviatov. It is not known exactly when the text was written, but the events described in it occurred in 1165 and a diagram in the text indicates that Sviatov's father—who died in 1167—was alive at the time it was composed.

Reasoning *What completion of the blank would provide the best reason for believing the argument's conclusion?* The argument's conclusion is that the book *Sviatovin* was written between 1165 and 1167. The reasoning given is this: It could not have been written before 1165 because it includes events that took place in that year. It could not have been written after 1167 because Sviatov's father died in that year. A diagram in the book suggests he was alive when the book was written. Was the diagram correct in that suggestion? The argument depends on assuming that it was.

- A The argument focuses on one text and its date of composition. The argument does not need to make any assumptions about other texts.
- B The argument does not assume this. Issues about the accurate reporting of Sviatov's exploits (or about the author's intention to report them accurately) are irrelevant to the argument, which hinges on the accuracy of the diagram that accompanies the text. The diagram does not report Sviatov's exploits.
- C **Correct.** The reasoning in the argument assumes that the diagram was correct in representing the Prince's father as still living when the text was composed. If his father was not living when the text was written, then the information that his father actually died in 1167 is no guarantee that the text was composed by then.
- D See the explanation for answer choice (A) above. The degree of precision with which scholars have succeeded in dating other Moringian texts is entirely irrelevant.
- E The conclusion concerns when *Sviatovin* was written and not by whom it was written. If, contrary to answer choice (E), it were known that the author was Sviatov's father, this would actually provide strong support for the argument's conclusion. Thus answer choice (E) does not provide a good reason for the argument's conclusion.

The correct answer is C.

40. Crowding on Mooreville's subway frequently leads to delays, because it is difficult for passengers to exit from the trains. Subway ridership is projected to increase by 20 percent over the next 10 years. The Mooreville Transit Authority plans to increase the number of daily train trips by only 5 percent over the same period. Officials predict that this increase is sufficient to ensure that the incidence of delays due to crowding does not increase.

Which of the following, if true, provides the strongest grounds for the officials' prediction?

- (A) By changing maintenance schedules, the Transit Authority can achieve the 5 percent increase in train trips without purchasing any new subway cars.
- (B) The Transit Authority also plans a 5 percent increase in the number of bus trips on routes that connect to subways.
- (C) For most commuters who use the subway system, there is no practical alternative public transportation available.
- (D) Most of the projected increase in ridership is expected to occur in off-peak hours when trains are now sparsely used.
- (E) The 5 percent increase in the number of train trips can be achieved without an equal increase in Transit Authority operational costs.

Argument Construction

Situation Ridership on the Mooreville subway, which often experiences delays due to crowding, is expected to increase 20 percent over the next 10 years. Despite plans to increase the number of daily trains only 5 percent during those 10 years, officials predict that delays due to crowding will not increase.

Reasoning *What would provide the strongest grounds for the officials' prediction that delays due to crowding will not increase?* Delays due to crowding probably would increase if the extra 20 percent total ridership occurred at typically busy times, even if the total 5 percent increase in the number of daily trains were to occur at those typically busy times. The increases in daily trains would clearly not be enough to absorb the extra ridership. If the increase in ridership were to occur at other times of day, however, perhaps when the subway trains were less crowded overall, the system would be able to absorb the extra passengers without an increase in delays due to crowding.

- A While this supports the idea that the Transit Authority can economically increase the number of train trips, it provides no information about whether the trains will be crowded.
- B Increasing the number of bus trips on routes that connect to subways would be likely to lead to more people to ride the subways. This makes it less likely that the officials' prediction—that delays due to overcrowding will not increase—will turn out to have been accurate.
- C This suggests that subway ridership will remain high, and thus that delays caused by overcrowding will continue.
- D **Correct.** This statement properly identifies a situation in which the officials' prediction is likely to turn out to have been accurate. The ridership will be increasing during times when more passengers will not create delays, since they will merely fill empty seats on existing trains.
- E While this supports the idea that the Transit Authority can economically increase the number of train trips, it provides no information about whether the trains will be crowded.

The correct answer is D.

41. Installing scrubbers in smokestacks and switching to cleaner-burning fuel are the two methods available to Northern Power for reducing harmful emissions from its plants. Scrubbers will reduce harmful emissions more than cleaner-burning fuels will. Therefore, by installing scrubbers, Northern Power will be doing the most that can be done to reduce harmful emissions from its plants.

Which of the following is an assumption on which the argument depends?

- (A) Switching to cleaner-burning fuel will not be more expensive than installing scrubbers.
- (B) Northern Power can choose from among various kinds of scrubbers, some of which are more effective than others.
- (C) Northern Power is not necessarily committed to reducing harmful emissions from its plants.
- (D) Harmful emissions from Northern Power's plants cannot be reduced more by using both methods together than by the installation of scrubbers alone.
- (E) Aside from harmful emissions from the smokestacks of its plants, the activities of Northern Power do not cause significant air pollution.

Argument Construction

Situation A power plant can reduce emissions by installing scrubbers and also by switching to cleaner-burning fuel; installing scrubbers reduces emissions more than switching fuels. By installing scrubbers, the company is doing the most that it can do.

Reasoning *What assumption does the argument depend on?* The assumption will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. Here, the conclusion that the company is doing the most that it can do is based on believing that choosing one or the other of the two options will be more effective than choosing both options together. This argument assumes, then, that installing the scrubbers alone is just as effective as both installing scrubbers *and* switching to cleaner-burning fuel.

- A The relative costs of the two options indicate nothing about whether by installing scrubbers the company will have done the most that it can to reduce harmful emissions.
- B Even if the company installs the most efficient scrubbers, it may be that there is more that Northern Power could do to reduce harmful emissions.
- C Even if the company is fully committed to reducing harmful emissions, it could be that installing scrubbers is the most it can do to reduce harmful emissions.
- D Correct.** If harmful emissions could be reduced even more by using both methods, then installing scrubbers alone will not be the most that the company can do to reduce harmful emissions.
- E Even if this were not assumed and the company's other activities did cause significant air pollution, it could still be that installing scrubbers is the most that the company can do to reduce harmful emissions *from its plants*; perhaps any of its other activities that do cause significant air pollution have nothing to do with its plants—for example, pollution coming from trucks the company uses.

The correct answer is D.

42. Trancorp currently transports all its goods to Burland Island by truck. The only bridge over the channel separating Burland from the mainland is congested, and trucks typically spend hours in traffic. Trains can reach the channel more quickly than trucks, and freight cars can be transported to Burland by barges that typically cross the channel in an hour. Therefore, to reduce shipping time, Trancorp plans to switch to trains and barges to transport goods to Burland.

Which of the following would be most important to know in determining whether Trancorp's plan, if implemented, is likely to achieve its goal?

- (A) Whether transportation by train and barge would be substantially less expensive than transportation by truck
- (B) Whether there are boats that can make the trip between the mainland and Burland faster than barges can
- (C) Whether loading the freight cars onto barges is very time consuming
- (D) Whether the average number of vehicles traveling over the bridge into Burland has been relatively constant in recent years
- (E) Whether most trucks transporting goods into Burland return to the mainland empty

Evaluation of a Plan

Situation Transporting goods to Burland Island by truck takes many hours, because the trucks must take the congested single bridge that reaches the island. Trains can get goods to the channel separating Burland from the mainland more quickly than trucks can, and the freight cars can then be loaded onto barges that can cross the channel in an hour. Trancorp plans to reduce shipping time by switching from trucks to trains and barges.

Reasoning *What would it be most important to know in determining whether Trancorp will achieve its goal of reducing shipping time?* Trancorp's plan could fail to reduce shipping time if there were some aspect of the new shipping process, involving the trains and the barges, that took more time than anticipated.

- A The goal of Trancorp's plan is to reduce shipping time. This might lower costs—but whether or not it does so is not directly relevant to whether or not the plan's goal is achieved.
- B Trancorp's plan involves the use of barges. If some boats can make the trip between the mainland and Burland faster than barges can, that might be something to consider for the future, but it has nothing to do with whether the current plan will reduce shipping time.
- C **Correct.** This statement properly identifies something that would be important in determining whether Trancorp's plan for reducing shipping time will achieve its goal—that is, whether loading the freight cars onto the barges will use up all the time saved by not using trucks.
- D Regardless of variation in traffic, the bridge, according to the information provided in the passage, is congested and typically causes trucking delays. Given this information, the degree of variation is not helpful in evaluating Trancorp's plan.
- E The state of the trucks returning to the mainland has nothing to do with whether Trancorp's plan for reducing shipping time will achieve its goal.

The correct answer is C.

43. Some anthropologists study modern-day societies of foragers in an effort to learn about our ancient ancestors who were also foragers. A flaw in this strategy is that forager societies are extremely varied. Indeed, any forager society with which anthropologists are familiar has had considerable contact with modern, non-forager societies.

Which of the following, if true, would most weaken the criticism made above of the anthropologists' strategy?

- (A) All forager societies throughout history have had a number of important features in common that are absent from other types of societies.
- (B) Most ancient forager societies either dissolved or made a transition to another way of life.
- (C) All anthropologists study one kind or another of modern-day society.
- (D) Many anthropologists who study modern-day forager societies do not draw inferences about ancient societies on the basis of their studies.
- (E) Even those modern-day forager societies that have not had significant contact with modern societies are importantly different from ancient forager societies.

Argument Evaluation

Situation Studying contemporary foraging societies in order to understand ancient foragers is flawed because forager societies are so widely varied and also because the contemporary foragers have had so much contact with modern societies.

Reasoning *Which point weakens this argument?* The argument rejects the comparison of modern-day foraging societies to ancient ones because of the variety of existing forager societies and because the modern-day foragers have been in contact with other modern cultures. What situation would support making this comparison? What if modern-day foragers remain similar to ancient foragers because of nonchanging features of foraging societies throughout history? If these are features that are not shared with other cultures, then the argument that anthropologists cannot learn about ancient foragers by studying their modern counterparts is weakened.

- A **Correct.** This statement properly identifies the factor that weakens the argument: A comparison could well be a valuable source of understanding if all foraging societies are shown to share certain features not found in other societies.
- B This point slightly strengthens, rather than weakens, the argument.
- C This point does not address the issue of comparing a modern society to an ancient society.
- D The reason for this could be that these anthropologists know that such a comparison is not useful; thus this point does not weaken the argument.
- E This point strengthens, rather than weakens, the argument.

The correct answer is A.

44. Contrary to earlier predictions, demand for sugarcane has not increased in recent years. Yet, even though prices and production amounts have also been stable during the last three years, sugarcane growers last year increased their profits by more than 10 percent over the previous year's level.

Any of the following statements, if true about last year, helps to explain the rise in profits EXCEPT:

- (A) Many countries that are large consumers of sugarcane increased their production of sugarcane-based ethanol, yet their overall consumption of sugarcane decreased.
- (B) Sugarcane growers have saved money on wages by switching from paying laborers an hourly wage to paying them by the amount harvested.
- (C) The price of oil, the major energy source used by sugarcane growers in harvesting their crops, dropped by over 20 percent.
- (D) Many small sugarcane growers joined together to form an association of sugarcane producers and began to buy supplies at low group rates.
- (E) Rainfall in sugarcane-growing regions was higher than it had been during the previous year, allowing the growers to save money on expensive artificial irrigation.

Argument Construction

Situation Even though demand for sugar cane has not increased, and although prices and production amounts have been stable, sugarcane growers experienced a 10 percent rise in profits last year.

Reasoning *Which piece of information does NOT help to explain the rise in profits?* All the answer choices will show a reason that profits rose except one. Consider each one to determine which situation would NOT be likely to contribute to increased profits. Any changes that lowered costs for the sugarcane growers WOULD be able to contribute to a rise in their profits. On the other hand, if it is true that many historically large consumers of sugarcane reduced their overall consumption last year, then the lower demand for sugarcane would be unlikely to drive increases in profits. Such a decrease in total consumption would be more likely to drive prices and profits down than up.

- A Correct.** This statement properly identifies a factor that does not explain a rise in profits; it indicates a drop in consumption among certain countries without indicating a corresponding increase in consumption elsewhere or any decreases in costs for growers.
- B** Saving money on wages would lower costs and thus contribute to a rise in profits.
- C** Saving money on oil would lower costs and thus contribute to a rise in profits.
- D** Saving money on supplies bought at a lower rate would lower costs and thus contribute to a rise in profits.
- E** Saving money on irrigation would lower costs and thus contribute to a rise in profits.

The correct answer is A.

45. Which of the following most logically completes the argument below?

Davison River farmers are currently deciding between planting winter wheat this fall or spring wheat next spring. Winter wheat and spring wheat are usually about equally profitable. Because of new government restrictions on the use of Davison River water for irrigation, per acre yields for winter wheat, though not for spring wheat, would be much lower than average. Therefore, planting spring wheat will be more profitable than planting winter wheat, since _____.

- (A) the smaller-than-average size of a winter wheat harvest this year would not be compensated for by higher winter wheat prices
- (B) new crops of spring wheat must be planted earlier than the time at which standing crops of winter wheat are ready to be harvested
- (C) the spring wheat that farmers in the Davison River region plant is well adapted to the soil of the region
- (D) spring wheat has uses that are different from those of winter wheat
- (E) planting spring wheat is more profitable than planting certain other crops, such as rye

Argument Construction

Situation Farmers in the Davison River region must choose between planting winter wheat in the fall and planting spring wheat next spring. The crops tend to be equally profitable. This year's winter wheat crop yield is likely to be lower than average. The spring wheat yield should not be lower than average. Thus, for these reasons (plus one that the argument omits), spring wheat will be more profitable than winter wheat.

Reasoning *Which point would logically complete the argument?* What would ensure spring wheat's profitability over winter wheat? Since the yield per acre of winter wheat is likely to be lower than usual, there will most likely be less winter wheat to sell. Winter wheat could match its usual profitability if the price farmers receive for it were to rise. If its price does not rise, however, it is unlikely to match its usual profitability. It would thus be unlikely to match spring wheat's profitability.

- A Correct.** If this is true, it would mean that smaller-than-average winter wheat yields would translate into lower-than-usual profits on winter wheat (while spring wheat would be as profitable as winter wheat would normally be). This would justify the conclusion that spring wheat will be more profitable than winter wheat.
- B** This provides support for the idea that farmers must choose between planting winter wheat and planting spring wheat, but it does not help determine which would be more profitable to plant.
- C** This does not help explain why spring wheat is likely to be more profitable than winter wheat, because it gives no information about how well winter wheat is adapted to the soil of the region.
- D** That spring wheat and winter wheat have different uses is not helpful in supporting a conclusion about which kind of wheat will be more profitable. It might help to know which of their uses are more profitable than others.
- E** Since the question is whether it will be more profitable to plant winter wheat or to plant spring wheat, the fact that spring wheat is more profitable than nonwheat crops is not relevant.

The correct answer is A.

46. If the county continues to collect residential trash at current levels, landfills will soon be overflowing and parkland will need to be used in order to create more space. Charging each household a fee for each pound of trash it puts out for collection will induce residents to reduce the amount of trash they create; this charge will therefore protect the remaining county parkland.

Which of the following is an assumption made in drawing the conclusion above?

- (A) Residents will reduce the amount of trash they put out for collection by reducing the number of products they buy.
- (B) The collection fee will not significantly affect the purchasing power of most residents, even if their households do not reduce the amount of trash they put out.
- (C) The collection fee will not induce residents to dump their trash in the parklands illegally.
- (D) The beauty of county parkland is an important issue for most of the county's residents.
- (E) Landfills outside the county's borders could be used as dumping sites for the county's trash.

Argument Construction

Situation Landfills will overflow and parkland will have to be used instead if current trash collection levels continue. Charging fees per pound of trash collected will inhibit trash growth and protect parkland.

Reasoning *What assumption underlies the conclusion?* The assumption will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. To reach the conclusion that the plan will protect the parkland, the argument must assume that county residents will comply with the new fee, reducing both the trash they generate and the need to convert parkland to landfills. It is assumed that residents will not resort to some illegal means of avoiding the new fee, and it is certainly assumed that they will not contribute to the destruction of parklands by dumping trash in them illegally.

- A Even though the fee may indirectly have this effect, the argument need not assume that it will; perhaps residents will continue to buy as much, but will make longer use of the product, or recycle it.
- B The argument would be stronger if this were assumed NOT to be true.
- C **Correct.** This statement properly identifies the fact that the argument rests on the assumption that the fee will not create illegal dumping.
- D The argument need not assume this, and nothing in the argument indicates that it does. Financial incentives could be enough to make the desired outcome happen even if residents are indifferent to the parkland's beauty.
- E The argument assumes that residents will reduce the amount of trash that they create, not that they will find other places to dispose of it.

The correct answer is C.

47. Certain genetically modified strains of maize produce a powerful natural insecticide. The insecticide occurs throughout the plant, including its pollen. Maize pollen is dispersed by the wind and frequently blows onto milkweed plants that grow near maize fields. Caterpillars of monarch butterflies feed exclusively on milkweed leaves. When these caterpillars are fed milkweed leaves dusted with pollen from modified maize plants, they die. Therefore, by using genetically modified maize, farmers put monarch butterflies at risk.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether the natural insecticide is as effective against maize-eating insects as commercial insecticides typically used on maize are
- (B) Whether the pollen of genetically modified maize contains as much insecticide as other parts of these plants
- (C) Whether monarch butterfly caterpillars are actively feeding during the part of the growing season when maize is releasing pollen
- (D) Whether insects that feed on genetically modified maize plants are likely to be killed by insecticide from the plant's pollen
- (E) Whether any maize-eating insects compete with monarch caterpillars for the leaves of milkweed plants growing near maize fields

Argument Evaluation

Situation Monarch butterfly caterpillars die when fed milkweed leaves dusted with the pollen of certain genetically modified strains of maize. A natural insecticide occurs throughout the maize plant and in its pollen, which blows onto milkweed growing near maize fields. Caterpillars of monarch butterflies eat only milkweed leaves, so farmers who use this genetically modified maize are endangering monarch butterflies.

Reasoning *What would it be most useful to know in evaluating the argument?* We know that the caterpillars eat only milkweed leaves, but we do not know when, in the course of their development, they do so. Monarch butterflies would be at risk only if the caterpillars were to eat the milkweed leaves when those leaves had maize pollen on them. So it would be useful to know if the caterpillars eat milkweed leaves when maize pollen is likely to be present.

- A The argument addresses whether farmers put monarch butterflies at risk by using genetically modified maize. The effectiveness of the natural insecticide that maize produces, relative to other insecticides, is not relevant to determining whether monarch butterflies are being endangered.
- B The amount of insecticide in the rest of the plant, as opposed to in its pollen, has nothing to do with whether the use of the maize puts monarch butterflies at risk. All that matters is the amount of insecticide in the pollen, and we know that this is sufficient to kill the caterpillars.
- C **Correct.** This question properly identifies something that it would be useful to know in evaluating whether monarch butterflies are actually at risk—that is, whether caterpillars will be eating milkweed leaves when those leaves are likely to have pollen on them.
- D Since the issue at hand is whether farmers are endangering monarch butterflies, the question of the maize pollen's impact on other insects—that is, those that feed on maize—is irrelevant.
- E Competition from maize-eating insects attracted to the area by the planting of maize might affect the monarch butterfly population, but simply knowing that such insects might compete with the caterpillars for milkweed leaves does not give any information on whether they would be able to compete *successfully* for those leaves.

The correct answer is C.

48. Although computers can enhance people's ability to communicate, computer games are a cause of underdeveloped communication skills in children. After-school hours spent playing computer games are hours not spent talking with people. Therefore, children who spend all their spare time playing these games have less experience in interpersonal communication than other children have.

The argument depends on which of the following assumptions?

- (A) Passive activities such as watching television and listening to music do not hinder the development of communication skills in children.
- (B) Most children have other opportunities, in addition to after-school hours, in which they can choose whether to play computer games or to interact with other people.
- (C) Children who do not spend all of their after-school hours playing computer games spend at least some of that time talking with other people.
- (D) Formal instruction contributes little or nothing to children's acquisition of communication skills.
- (E) The mental skills developed through playing computer games do not contribute significantly to children's intellectual development.

Argument Construction

Situation Spending after-school hours playing computer games does not enhance communication skills because children are not talking with other people during this time. Children who spend all their spare time playing computer games do not have as much interpersonal communication as other children do.

Reasoning *What assumption does this argument depend on?* The unstated assumption in an argument will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. Here, playing computer games is said to replace talking with people. Thus the argument assumes that children who do not spend all their spare time playing computer games instead spend at least some of that time talking with people.

- A This need not be assumed. The argument is not committed to any claim about the effects that watching television or listening to music may have on the development of communication skills in children.
- B The argument is limited to after-school hours or spare time.
- C **Correct.** This statement properly identifies the assumption on which the argument is based.
- D This could be false and the argument could still be sound; perhaps children who spend all their spare time playing computer games receive no formal instruction.
- E This could be false and the argument could still be sound as long as the intellectual development the games contribute to does not contribute to the development of communication skills.

The correct answer is C.

49. Maize contains the vitamin niacin, but not in a form the body can absorb. Pellagra is a disease that results from niacin deficiency. When maize was introduced into southern Europe from the Americas in the eighteenth century, it quickly became a dietary staple, and many Europeans who came to subsist primarily on maize developed pellagra. Pellagra was virtually unknown at that time in the Americas, however, even among people who subsisted primarily on maize.

Which of the following, if true, most helps to explain the contrasting incidence of pellagra described above?

- (A) Once introduced into southern Europe, maize became popular with landowners because of its high yields relative to other cereal crops.
- (B) Maize grown in the Americas contained more niacin than maize grown in Europe did.
- (C) Traditional ways of preparing maize in the Americas convert maize's niacin into a nutritionally useful form.
- (D) In southern Europe many of the people who consumed maize also ate niacin-rich foods.
- (E) Before the discovery of pellagra's link with niacin, it was widely believed that the disease was an infection that could be transmitted from person to person.

Argument Construction

Situation Maize was introduced into southern Europe from the Americas in the eighteenth century and quickly became a dietary staple. Maize contains niacin but not in a form that the body can absorb. Many Europeans who came to subsist primarily on maize developed pellagra, a disease that results in niacin deficiency. However, the disease rarely occurred among people in the Americas who subsisted primarily on maize.

Reasoning *Which statement most helps to explain why Europeans who subsisted primarily on maize developed pellagra but people in the Americas who subsisted on maize did not?* The apparent cause of the disease in the Europeans who subsisted primarily on maize was that they did not get sufficient niacin in their diets. Maize contains niacin but not in a form that the human body can absorb without further processing. The way people in the Americas prepared maize converted the niacin into a “nutritionally useful form” and that explains why they were getting enough niacin to prevent pellagra. Although the passage does not say so, the information it gives somewhat suggests that the Europeans may have lacked the appropriate traditional preparation methods (e.g., the passage says that maize *quickly* became a dietary staple).

- A The fact that maize became popular in Europe does not explain why Europeans subsisting on it developed pellagra and people in the Americas did not.
- B If the niacin in maize cannot be readily absorbed by the body, then the fact that there was more niacin in the American-consumed maize does little to explain why people in the Americas did not get pellagra.
- C **Correct.** This helps explain the contrast between maize consumers in the Americas and those in Europe. The people of the Americas who subsisted primarily on maize did not suffer from pellagra; because of the way they prepared maize, subsisting on it did not lead to a niacin deficiency. For a *complete* explanation, we would also need the information that the European maize consumers had no preparation methods that could make niacin in maize nutritionally available.
- D This answer choice, far from explaining why southern maize-eating Europeans got pellagra, actually makes it even more puzzling why they got it, given that pellagra results from niacin deficiency.
- E The question concerns what actually caused pellagra to occur in one population and not in another. Answer choice (E) concerns only the beliefs that people had at one time concerning the causes of pellagra. So it has no bearing on the explanation that is being sought.

The correct answer is C.

50. One variety of partially biodegradable plastic beverage container is manufactured from small bits of plastic bound together by a degradable bonding agent such as cornstarch. Since only the bonding agent degrades, leaving the small bits of plastic, no less plastic refuse per container is produced when such containers are discarded than when comparable nonbiodegradable containers are discarded.

Which of the following, if true, most strengthens the argument above?

- (A) Both partially biodegradable and nonbiodegradable plastic beverage containers can be crushed completely flat by refuse compactors.
- (B) The partially biodegradable plastic beverage containers are made with more plastic than comparable nonbiodegradable ones in order to compensate for the weakening effect of the bonding agents.
- (C) Many consumers are ecology-minded and prefer to buy a product sold in the partially biodegradable plastic beverage containers rather than in nonbiodegradable containers, even if the price is higher.
- (D) The manufacturing process for the partially biodegradable plastic beverage containers results in less plastic waste than the manufacturing process for nonbiodegradable plastic beverage containers.
- (E) Technological problems with recycling currently prevent the reuse as food or beverage containers of the plastic from either type of plastic beverage container.

Argument Evaluation

Situation One kind of partially biodegradable beverage container produces as much plastic refuse per container as a nonbiodegradable container does because only the bonding agent, not the plastic, degrades once the container is discarded.

Reasoning *Which point strengthens the argument?* The information that strengthens the argument will help rule out a possible objection to the argument. In this case, one possible objection would be that the partially biodegradable containers might contain less plastic given that the container is made up in part of the degradable bonding agent. So, discovering that the partially biodegradable containers actually use more plastic than comparable nonbiodegradable ones in order to compensate for the weakness of the biodegradable bonding agent would strengthen the argument.

- A Nonbiodegradable plastic containers can be crushed completely flat. To say that biodegradable ones can be completely crushed also is perfectly compatible with saying that they contain less plastic.
- B Correct.** This statement properly identifies a point that strengthens the argument by saying that the container actually produces more plastic refuse.
- C Consumers' preferences are not relevant to the argument about residual plastic.
- D The argument is not concerned with waste from manufacturing processes, but only with the product itself.
- E No reason is given to indicate that the inability to reuse the plastic from either type of container is related to the amount of plastic in either container.

The correct answer is B.

51. Rye sown in the fall and plowed into the soil in early spring leaves a residue that is highly effective at controlling broad-leaved weeds, but unfortunately for only about forty-five days. No major agricultural crop matures from seed in as little as forty-five days. Synthetic herbicides, on the other hand, although not any longer-lasting, can be reapplied as the crop grows. Clearly, therefore, for major agricultural crops, plowing rye into the soil can play no part in effective weed control.

The argument is most vulnerable to the objection that it fails to

- (A) consider that there might be minor, quick-growing crops that do mature in forty-five days or less
- (B) identify any alternative method of weed control that could be used instead of the method it rejects
- (C) distinguish among the various kinds of synthetic herbicides
- (D) allow for the possibility of combining the two weed-control methods it mentions
- (E) allow for the possibility that plants other than rye, handled the same way, might have the same effect

Argument Evaluation

Situation Broad-leaved weeds can be controlled in the spring for forty-five days by plowing fall-sown rye into the soil. But major agricultural crops take more than forty-five days to mature, and the rye-sowing process cannot be repeated. Synthetic herbicides last no longer than forty-five days, but they can be reapplied as necessary. Based on these facts, it is concluded that plowing rye into the soil cannot be part of effective weed control for major crops.

Reasoning *To what objection is the argument vulnerable?* Note that the conclusion of the argument is emphatic: Plowing rye into the soil can play *no* part in effective weed control. Does the argument support this strong a conclusion? The argument fails to address whether it would be feasible to use plowed-in rye to control weeds for the first forty-five days of crop growth, and use applications of herbicide for the rest of the growing season. This might not be the case, but it should be addressed before it is concluded that plowing rye into the soil *cannot* be part of effective weed control.

- A The argument is concerned with whether plowing rye into the soil can be used in weed control for major crops, so the existence of minor crops for which rye could be used, because its weed-controlling qualities would last throughout their maturation, is irrelevant.
- B The argument *does* identify a method of weed control that can be used instead of rye: synthetic herbicides.
- C That there are many types of synthetic herbicides is not important to the argument; what is important is that at least some of them can be reapplied as crops grow.
- D **Correct.** This statement properly identifies a possibility that the argument fails to consider.
- E The argument is concerned with whether rye can be used to control weeds. That there might be other plants that could have the same effect is not relevant.

The correct answer is D.

52. Most employees in the computer industry move from company to company, changing jobs several times in their careers. However, Summit Computers is known throughout the industry for retaining its employees. Summit credits its success in retaining employees to its informal, nonhierarchical work environment.

Which of the following, if true, most strongly supports Summit's explanation of its success in retaining employees?

- (A) Some people employed in the computer industry change jobs if they become bored with their current projects.
- (B) A hierarchical work environment hinders the cooperative exchange of ideas that computer industry employees consider necessary for their work.
- (C) Many of Summit's senior employees had previously worked at only one other computer company.
- (D) In a nonhierarchical work environment, people avoid behavior that might threaten group harmony and thus avoid discussing with their colleagues any dissatisfaction they might have with their jobs.
- (E) The cost of living near Summit is relatively low compared to areas in which some other computer companies are located.

Argument Evaluation

Situation A computer company attributes its success in retaining employees to its informal, nonhierarchical work environment.

Reasoning *Which point most supports the company's explanation?* The company says that employees stay at the company for one reason: its work environment. The explanation can therefore be supported only by a point that relates to the specific work environment. If employees feel that a more formal, hierarchical structure would interfere with their ability to do their jobs, the argument is strengthened.

- A Neither this point nor the passage indicates that an informal, nonhierarchical work environment would be less boring than others.
- B Correct.** This statement properly identifies a point that strengthens the company's argument, relating the work environment to job satisfaction and therefore to employees' remaining at the company.
- C The previous work experience of senior employees is irrelevant.
- D While this point shows how the work environment might reduce discussion of job dissatisfaction, it does not indicate that there will be less dissatisfaction.
- E This point presents an alternate explanation—employees stay due to low cost of living—and so tends to weaken the company's argument.

The correct answer is B.

53. Insurance Company X is considering issuing a new policy to cover services required by elderly people who suffer from diseases that afflict the elderly. Premiums for the policy must be low enough to attract customers. Therefore, Company X is concerned that the income from the policies would not be sufficient to pay for the claims that would be made.

Which of the following strategies would be most likely to minimize Company X's losses on the policies?

- (A) Attracting middle-aged customers unlikely to submit claims for benefits for many years
- (B) Insuring only those individuals who did not suffer any serious diseases as children
- (C) Including a greater number of services in the policy than are included in other policies of lower cost
- (D) Insuring only those individuals who were rejected by other companies for similar policies
- (E) Insuring only those individuals who are wealthy enough to pay for the medical services

Evaluation of a Plan

Situation An insurance company considers an affordable policy for the elderly, but the company's income from the policies must exceed expenditures on claims.

Reasoning *What strategy will minimize the company's losses?* The insurance company's proposed plan would include a high-risk group, the elderly, who are likely to submit claims immediately. By expanding the customer base to include those who are less likely to submit claims for many years, the company will increase its income and thus minimize its losses.

- A Correct.** This statement properly identifies a strategy that minimizes policy losses.
- B** No connection is made between childhood diseases and geriatric diseases, so this point is irrelevant.
- C** Offering more services would tend to increase costs, and thus losses.
- D** Individuals rejected by other companies are more likely to make claims that would increase losses.
- E** People who are wealthy enough to pay for the services themselves would buy insurance only if the policies were reasonably priced and they planned to make claims on the policies; this point is irrelevant.

The correct answer is A.

54. The fewer restrictions there are on the advertising of legal services, the more lawyers there are who advertise their services, and the lawyers who advertise a specific service usually charge less for that service than the lawyers who do not advertise. Therefore, if the state removes any of its current restrictions, such as the one against advertisements that do not specify fee arrangements, overall consumer legal costs will be lower than if the state retains its current restrictions.

If the statements above are true, which of the following must be true?

- (A) Some lawyers who now advertise will charge more for specific services if they do not have to specify fee arrangements in the advertisements.
- (B) More consumers will use legal services if there are fewer restrictions on the advertising of legal services.
- (C) If the restriction against advertisements that do not specify fee arrangements is removed, more lawyers will advertise their services.
- (D) If more lawyers advertise lower prices for specific services, some lawyers who do not advertise will also charge less than they currently charge for those services.
- (E) If the only restrictions on the advertising of legal services were those that apply to every type of advertising, most lawyers would advertise their services.

Argument Construction

Situation Consumer legal costs will be reduced if the state removes even one restriction on lawyers' advertisements because the fewer the restrictions, the greater the number of lawyers who advertise, and lawyers who advertise charge less than lawyers who do not advertise.

Reasoning *What conclusion can logically be drawn?* The argument sets up an inverse proportion: the fewer the number of restrictions on ads, the greater the number of lawyers who advertise. This is true of all restrictions and all lawyers. Therefore, removing any one restriction necessarily increases the number of lawyers who advertise.

- A The lawyers may charge more, but nothing in the passage rules out the possibility that no lawyer will charge more.
- B No evidence in the passage indicates that there will be an increased use of legal services.
- C **Correct.** This statement properly identifies a conclusion that logically follows, because reducing any restriction will increase the number of lawyers who advertise.
- D Nothing in the passage indicates that lawyers who continue not to advertise will be compelled to lower their fees.
- E The argument concerns numbers of advertisers rather than types; it remains possible that few lawyers would advertise.

The correct answer is C.

55. Which of the following most logically completes the argument given below?

People in isolated rain-forest communities tend to live on a largely vegetarian diet, and they eat little salt. Few of them suffer from high blood pressure, and their blood pressure does not tend to increase with age, as is common in industrialized countries. Such people often do develop high blood pressure when they move to cities and adopt high-salt diets. Though suggestive, these facts do not establish salt as the culprit in high blood pressure, however, because _____.

- (A) genetic factors could account for the lack of increase of blood pressure with age among such people
- (B) people eating high-salt diets and living from birth in cities in industrialized societies generally have a tendency to have high blood pressure
- (C) it is possible to have a low-salt diet while living in a city in an industrialized country
- (D) there are changes in other aspects of diet when such people move to the city
- (E) salt is a necessity for human life, and death can occur when the body loses too much salt

Argument Construction

Situation People in isolated communities who eat low-salt diets tend not to have high blood pressure or to experience age-related increases in blood pressure. When these people move to industrialized areas and adopt high-salt diets, many do develop high blood pressure. Nevertheless, (for a reason the argument omits) one cannot conclude that salt causes high blood pressure.

Reasoning *What idea would logically complete the argument?* It may seem reasonable to say that salt causes high blood pressure when it is observed that when people who eat little salt begin eating salt, they develop high blood pressure. But look more closely at the circumstances under which these people began eating more salt: They moved from isolated rain-forest communities, where they ate vegetarian diets, to cities. It is most likely the case that such a move would entail dietary changes other than just an increase in salt consumption, and so it is possible that those changes contribute to their developing high blood pressure.

- A If genetic factors accounted for such people's lack of increase of blood pressure with age, then their blood pressure would not increase when they moved to cities and adopted high-salt diets.
- B If people who eat high-salt diets tend to have high blood pressure, it would support the idea that salt is indeed the culprit in high blood pressure.
- C The argument is concerned with what happens when people from rain-forest communities move to cities *and adopt high-salt diets*, so the fact that it is possible to have a low-salt diet in a city is not relevant.
- D Correct.** This statement properly identifies a reason why salt might not be responsible for high blood pressure: There could be some other dietary factor that, when adopted, causes high blood pressure.
- E The argument is concerned with the effects of high-salt diets. The fact that consuming too little salt can cause death says nothing about whether consuming too much salt is harmful.

The correct answer is D.

56. Even though most universities retain the royalties from faculty members' inventions, the faculty members retain the royalties from books and articles they write. Therefore, faculty members should retain the royalties from the educational computer software they develop.

The conclusion above would be more reasonably drawn if which of the following were inserted into the argument as an additional premise?

- (A) Royalties from inventions are higher than royalties from educational software programs.
- (B) Faculty members are more likely to produce educational software programs than inventions.
- (C) Inventions bring more prestige to universities than do books and articles.
- (D) In the experience of most universities, educational software programs are more marketable than are books and articles.
- (E) In terms of the criteria used to award royalties, educational software programs are more nearly comparable to books and articles than to inventions.

Argument Construction

Situation Faculty members get the royalties from their books, but universities get the royalties from faculty inventions. Faculty members should get the royalties from their educational computer software.

Reasoning *What premise should be added to the argument?* This argument does not support its conclusion very well without an underlying assumption regarding the nature of computer programs. If, in terms of the criteria used to award royalties, educational computer programs are more like books and articles than like inventions, faculty members should retain the royalties. On the other hand, if they are more like inventions, then universities should retain the royalties. The conclusion states that faculty members should receive royalties for educational software without stating that software is more comparable to books and articles than to inventions. The missing premise must show the relationship between educational software and either inventions or books and articles.

- A The same may be true of books and articles.
- B This point does not indicate whether educational software is more comparable to inventions or to books and articles.
- C This point could be true even if, with regard to the relevant criteria, educational software is more comparable to inventions than to books and articles.
- D This point does not indicate whether educational software is more comparable to inventions or to books and articles.
- E **Correct.** This statement properly identifies a premise that establishes the relationship required to complete the argument.

The correct answer is E.

57. In order to withstand tidal currents, juvenile horseshoe crabs frequently burrow in the sand. Such burrowing discourages barnacles from clinging to their shells. When fully grown, however, the crabs can readily withstand tidal currents without burrowing, and thus they acquire substantial populations of barnacles. Surprisingly, in areas where tidal currents are very weak, juvenile horseshoe crabs are found not to have significant barnacle populations, even though they seldom burrow.

Which of the following, if true, most helps to explain the surprising finding?

- (A) Tidal currents do not themselves dislodge barnacles from the shells of horseshoe crabs.
- (B) Barnacles most readily attach themselves to horseshoe crabs in areas where tidal currents are weakest.
- (C) The strength of the tidal currents in a given location varies widely over the course of a day.
- (D) A very large barnacle population can significantly decrease the ability of a horseshoe crab to find food.
- (E) Until they are fully grown, horseshoe crabs shed their shells and grow new ones several times a year.

Argument Construction

Situation Juvenile horseshoe crabs withstand tidal currents by burrowing in the sand. This action makes barnacles less likely to cling to their shells. Adult horseshoe crabs can withstand currents, so they do not burrow, and barnacles become more likely to cling to their shells. Surprisingly, however, juvenile horseshoe crabs that do not burrow, because tidal currents do not threaten them, do not have significant numbers of barnacles clinging to their shells.

Reasoning *What would most help explain the finding that nonburrowing juvenile horseshoe crabs do not have significant barnacle populations?* The finding suggests that there is some way in which nonburrowing juvenile horseshoe crabs either discourage barnacles from clinging to their shells, or get rid of the barnacles that do cling to their shells. Identifying how this is accomplished will explain the finding.

- A This gives a reason why juvenile horseshoe crabs that do not burrow *would* have significant barnacle populations.
- B If barnacles in areas of weak tidal currents readily attach themselves to horseshoe crabs, then it would be more likely for juvenile horseshoe crabs in such areas to have significant barnacle populations.
- C The areas under discussion are those where tidal currents are very weak. The strength of currents may vary widely there, but presumably they are still weak compared to other areas.
- D The surprising finding under discussion is why certain juvenile horseshoe crabs do not have significant barnacle populations, despite failing to engage in behavior that dislodges barnacles. That a very large barnacle population can hurt a horseshoe crab does not help explain such a finding.
- E **Correct.** This statement properly identifies something that helps explain the surprising finding: If juvenile horseshoe crabs regularly shed their shells, they also regularly shed the barnacles that cling to those shells. Thus juvenile horseshoe crabs would most likely be found not to have significant barnacle populations.

The correct answer is E.

58. Red blood cells in which the malarial-fever parasite resides are eliminated from a person's body after 120 days. Because the parasite cannot travel to a new generation of red blood cells, any fever that develops in a person more than 120 days after that person has moved to a malaria-free region is not due to the malarial parasite.

Which of the following, if true, most seriously weakens the conclusion above?

- (A) The fever caused by the malarial parasite may resemble the fever caused by flu viruses.
- (B) The anopheles mosquito, which is the principal insect carrier of the malarial parasite, has been eradicated in many parts of the world.
- (C) Many malarial symptoms other than the fever, which can be suppressed with antimalarial medication, can reappear within 120 days after the medication is discontinued.
- (D) In some cases, the parasite that causes malarial fever travels to cells of the spleen, which are less frequently eliminated from a person's body than are red blood cells.
- (E) In any region infested with malaria-carrying mosquitoes, there are individuals who appear to be immune to malaria.

Argument Evaluation

Situation The malarial-fever parasite lives in red blood cells, but these cells are eliminated after 120 days. If the infected person moves to a malaria-free region, any new fever that occurs after 120 days cannot be due to the malarial-fever parasite.

Reasoning *What weakens the conclusion?* The passage says that the malarial parasites that reside in red blood cells are eliminated after 120 days. What if malarial parasites can also reside in other places in a person's body? If for instance the parasites can reside in the spleen, from which they are not eliminated as frequently, as well as in red blood cells, they may not be eliminated within 120 days. Therefore, they could cause malarial fever after the 120-day period. In that case, the conclusion ruling out a new generation of malarial parasites as the cause of new fever is unfounded.

- A The issue is not about a similarity of symptoms but about where the parasites reside.
- B The existence of malaria-free regions is not in question.
- C The argument gives no reason to postulate any significant connection between the discontinuation of medication and the issue of whether symptoms can persist after a patient has been in a malaria-free region for 120 days.
- D Correct.** This statement properly identifies a point that weakens the conclusion.
- E This tells us only that some individuals are immune; it does not help us determine whether those who are not can have symptoms occur more than 120 days after moving into a malaria-free area.

The correct answer is D.

59. Which of the following most logically completes the passage?

A recent government study links the high rates of respiratory ailments in Groverston to airborne pollutants released by the Woodco plywood manufacturing plant there. To address the problem, the government imposed strict regulations on emissions which will go into effect in four years. Although Woodco plans to cut its emissions in half two years ahead of schedule, it is unlikely that the rate of respiratory ailments will decline before the regulations go into effect, since _____.

- (A) the number of facilities capable of treating respiratory ailments is not likely to increase
- (B) reducing emissions even further than planned would necessitate decreasing production at Woodco
- (C) it is difficult to make accurate, long-term predictions about emissions
- (D) not all respiratory ailments are caused by airborne pollutants
- (E) three new plywood manufacturing plants are about to go into production in Groverston

Argument Construction

Situation A government study linked high rates of respiratory illness in Groverston to air pollutants released by a plywood manufacturing plant. A government-imposed restriction on emissions will go into effect in four years. But the Woodco manufacturing plant plans to cut its emissions in half two years ahead of schedule.

Reasoning Which of the possible completions of the passage will provide the most support for the argument's conclusion? The argument's conclusion is that the rate of respiratory illness is unlikely to decline before the regulations go into effect four years from now. That is a surprising claim, given that the existing plywood factory is going to *halve* its emissions two years from now—so this claim requires additional support (to be provided by completing the blank). Such additional support is provided by the information that three new plywood manufacturing plants will soon be starting production in Groverston. This suggests that even if Groverston reduces its emissions by half over the next two years—and even if each of the three new plants have only, let's say, *one quarter* of the emissions of the existing plant as currently operated—the *total amount* of airborne pollutants from plywood manufacture in the Groverston area will not decline. Since the total airborne pollution from the plants will not decline, we should not expect that the rate of respiratory illnesses from such pollution would decline either.

- A The argument focuses on the incidence of respiratory ailments in Groverston, not on the availability of treatment facilities for such ailments once they occur. So this statement is largely irrelevant to the argument.
- B This information provides no support for the argument's conclusion. It merely indicates a practical difficulty Woodco would have in making more than a 50 percent reduction in its emissions. However, even with the 50 percent emissions reduction that Woodco plans to implement in two years, the rate of respiratory ailments should decline.
- C First, it is not clear that a prediction about levels of emissions in Groverston three or four years from now is a *long-term prediction*. More to the point, if it would be very difficult to predict the emissions even two years from now, that would not support a conclusion that rates of respiratory ailments are unlikely to decline. Rather, it would support the conclusion that we do not know whether rates will decline.
- D This information raises the possibility that within the next four years, an increase in the occurrence of factors *other than* airborne pollutants might make a decline in respiratory ailments unlikely. However, the passage provides no information whatsoever that implies an increase in the occurrence of such "other" factors.
- E **Correct.** This helps to support the conclusion that rates of respiratory ailments in Groverston are unlikely to decline before the new government regulations go into effect.

The correct answer is E.

60. Neither a rising standard of living nor balanced trade, by itself, establishes a country's ability to compete in the international marketplace. Both are required simultaneously since standards of living can rise because of growing trade deficits and trade can be balanced by means of a decline in a country's standard of living.

If the facts stated in the passage above are true, a proper test of a country's ability to be competitive is its ability to

- (A) balance its trade while its standard of living rises
- (B) balance its trade while its standard of living falls
- (C) increase trade deficits while its standard of living rises
- (D) decrease trade deficits while its standard of living falls
- (E) keep its standard of living constant while trade deficits rise

Argument Evaluation

Situation A country's ability to compete in the international marketplace depends on both a rising standard of living and balanced trade.

Reasoning *What must a country do to be considered competitive?* The passage states that there are two conditions that must be met simultaneously: The standard of living must rise, and trade must be balanced. While it is possible for the standard of living to rise when trade is not balanced and for trade to be balanced while the standard of living is falling, neither of these situations allows the country to be considered competitive internationally. The country must both balance trade and have a rising standard of living.

- A Correct.** This statement properly identifies the two requirements the country must meet at the same time.
- B** One of the two conditions is not met; the standard of living must be rising, not falling.
- C** One of the two conditions is not met; trade must be balanced.
- D** Neither of the conditions is met; trade must be balanced, and the standard of living must be rising.
- E** Neither of the conditions is met; the standard of living must be rising, not constant, and trade must be balanced.

The correct answer is A.

61. When there is less rainfall than normal, the water level of Australian rivers falls and the rivers flow more slowly. Because algae whose habitat is river water grow best in slow-moving water, the amount of algae per unit of water generally increases when there has been little rain. By contrast, however, following a period of extreme drought, algae levels are low even in very slow-moving river water.

Which of the following, if true, does most to explain the contrast described above?

- (A) During periods of extreme drought, the populations of some of the species that feed on algae tend to fall.
- (B) The more slowly water moves, the more conducive its temperature is to the growth of algae.
- (C) When algae populations reach very high levels, conditions within the river can become toxic for some of the other species that normally live there.
- (D) Australian rivers dry up completely for short intervals in periods of extreme drought.
- (E) Except during periods of extreme drought, algae levels tend to be higher in rivers in which the flow has been controlled by damming than in rivers that flow freely.

Argument Construction

Situation When Australian rivers flow slowly due to little rain, algae populations in those rivers increase. But after periods of extreme drought, algae levels are low even in water moving at speeds that would normally show population increases.

Reasoning *What would explain the contrast between algae levels in slow-moving water resulting from little rain and slow-moving water after a drought?* There must be some difference between what happens during periods in which there is simply less rainfall than normal and periods in which there is extreme drought, a difference that affects the algae population.

- A This indicates one of the consequences of drought, and slightly suggests that this might be due to a lower algae level. But it does nothing to explain why algae levels might be lower after a drought.
- B This could explain why some rivers that are slow-moving and have little water might have a high algae level—but not why the algae level is low in such rivers after a period of drought.
- C This explains why levels of other species might be low when algae populations are high, not why algae populations are high when there is little rain, but low following a period of extreme drought.
- D **Correct.** This statement properly identifies something that helps explain the contrast. According to the information given, the habitat of the algae under discussion is river water. If the river dries up, the algae will probably not survive. Then after the drought, algae population levels would likely take a while to rise again.
- E This emphasizes that there is a contrast between what happens to algae during periods of extreme drought and what happens to them at other times, but it does not help explain that contrast.

The correct answer is D.

62. When hypnotized subjects are told that they are deaf and are then asked whether they can hear the hypnotist, they reply, “No.” Some theorists try to explain this result by arguing that the selves of hypnotized subjects are dissociated into separate parts, and that the part that is deaf is dissociated from the part that replies.

Which of the following challenges indicates the most serious weakness in the attempted explanation described above?

- (A) Why does the part that replies not answer, “Yes”?
- (B) Why are the observed facts in need of any special explanation?
- (C) Why do the subjects appear to accept the hypnotist’s suggestion that they are deaf?
- (D) Why do hypnotized subjects all respond the same way in the situation described?
- (E) Why are the separate parts of the self the same for all subjects?

Argument Evaluation

Situation People under hypnosis are told they are deaf. When asked by the hypnotist if they can hear, they hear the question and respond, “No.” A theory explains this puzzling result by stating that the hypnotized subjects dissociate the part of themselves that is deaf from the part that replies to the question.

Reasoning *Which question points to a weakness in the theory?* According to the theory, hypnotized people dissociate themselves into separate parts: the hearing part and the deaf part. Then, they must be using the hearing part of themselves when they respond to the hypnotist’s question; obviously, if they were using the deaf part of themselves at that point, they would not hear or thus respond at all. So, if they are using the hearing part of themselves, as the theorists maintain, why would they respond “No” to the question, “Can you hear me?” The hearing part would more logically answer “Yes.”

- A Correct.** This statement properly identifies a challenge that demonstrates the weakness in the theory.
- B** This question does not address a weakness in the explanation; instead it asks why there needs to be an explanation at all.
- C** The theorists’ explanation, if true, can help answer this question, so this challenge does not indicate a weakness.
- D** The theorists’ explanation, if true, can help answer this question, so this challenge does not indicate a weakness.
- E** The theorists’ explanation does not address why the parts of the self are the same for all subjects, so this question does not get to a weakness of their argument.

The correct answer is A.

63. A prominent investor who holds a large stake in the Burton Tool Company has recently claimed that **the company is mismanaged**, citing as evidence the company's failure to slow production in response to a recent rise in its inventory of finished products. It is doubtful whether an investor's sniping at management can ever be anything other than counterproductive, **but in this case it is clearly not justified**. It is true that an increased inventory of finished products often indicates that production is outstripping demand, but in Burton's case it indicates no such thing. Rather, the increase in inventory is entirely attributable to products that have already been assigned to orders received from customers.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first states the position that the argument as a whole opposes; the second provides evidence to undermine the support for the position being opposed.
- (B) The first states the position that the argument as a whole opposes; the second is evidence that has been used to support the position being opposed.
- (C) The first states the position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.
- (D) The first is evidence that has been used to support a position that the argument as a whole opposes; the second provides information to undermine the force of that evidence.
- (E) The first is evidence that has been used to support a position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.

Argument Evaluation

Situation An investor states that Burton Tool must be mismanaged because it has failed to slow production in response to increasing inventory of finished products. This criticism is unjustified because the finished inventory has already been assigned to orders received.

Reasoning *Which option identifies the roles played by the boldfaced portions?* The first boldfaced portion expresses the investor's claim that the company is mismanaged. The argument asserts, in the second boldfaced portion, that this claim by the investor is unjustified. The passage then goes on to support this assertion.

- A The second boldfaced portion does not provide evidence to undermine the support for the position being opposed; instead, it states that this position is unjustified.
- B The second boldfaced portion is not said to have been used as evidence for the position being opposed; instead, it states that this position is unjustified.
- C **Correct.** This option correctly identifies the roles played in the argument by the boldfaced portions.
- D The first boldfaced portion is not *evidence for* the position being opposed; it *is* that position.
- E Again, first is not *evidence for* the position being opposed; it *is* that position.

The correct answer is C.

64. Excavation of the ancient city of Kourion on the island of Cyprus revealed a pattern of debris and collapsed buildings typical of towns devastated by earthquakes. Archaeologists have hypothesized that the destruction was due to a major earthquake known to have occurred near the island in A.D. 365.

Which of the following, if true, most strongly supports the archaeologists' hypothesis?

- (A) Bronze ceremonial drinking vessels that are often found in graves dating from years preceding and following A.D. 365 were also found in several graves near Kourion.
- (B) No coins minted after A.D. 365 were found in Kourion, but coins minted before that year were found in abundance.
- (C) Most modern histories of Cyprus mention that an earthquake occurred near the island in A.D. 365.
- (D) Several small statues carved in styles current in Cyprus in the century between A.D. 300 and A.D. 400 were found in Kourion.
- (E) Stone inscriptions in a form of the Greek alphabet that was definitely used in Cyprus after A.D. 365 were found in Kourion.

Argument Evaluation

Situation The excavation of Kourion reveals a pattern of destruction typical in towns destroyed by earthquakes. Archaeologists suggest Kourion was destroyed when an earthquake hit nearby in A.D. 365.

Reasoning *Which statement best supports the archaeologists' hypothesis?* An earthquake struck near Cyprus in A.D. 365; this fact is not disputed. If this earthquake is the one responsible for the devastation of Kourion, then there should be evidence of active occupation before A.D. 365, but no evidence of activity after that date. The dates on the coins found on the site suggest that life in Kourion was flourishing before A.D. 365; the total lack of coins after the year of the earthquake supports the idea that the city had been destroyed.

- A The existence of vessels made both before and after A.D. 365 suggests that Kourion was not destroyed by the earthquake.
- B Correct.** This statement properly identifies evidence that supports the archaeologists' hypothesis.
- C The occurrence of the earthquake is not in question; this statement simply confirms a fact already assumed in the argument.
- D The existence of statues carved in styles current after the date of the earthquake (A.D. 365–A.D. 400) argues against the town's destruction in A.D. 365.
- E The existence of inscriptions using an alphabet common only after the earthquake argues against the theory that the earthquake destroyed Kourion.

The correct answer is B.

65. Which of the following most logically completes the passage?

Pecan growers get a high price for their crop when pecans are comparatively scarce, but the price drops sharply when pecans are abundant. Thus, in high-yield years, growers often hold back part of their crop in refrigerated warehouses for one or two years, hoping for higher prices in the future. This year's pecan crop was the smallest in five years. It is nonetheless quite possible that a portion of this year's crop will be held back, since _____.

- (A) each of the last two years produced record-breaking pecan yields
- (B) the quality of this year's pecan crop is no worse than the quality of the pecan crops of the previous five years
- (C) pecan prices have not been subject to sharp fluctuations in recent years
- (D) for some pecan growers, this year's crop was no smaller than last year's
- (E) the practice of holding back part of one year's crop had not yet become widespread the last time the pecan crop was as small as it was this year

Argument Construction

Situation The price of pecans tends to drop sharply in years when pecans are abundant. So in high-yield years, growers often hold back part of the harvest in refrigerated warehouses. This year's harvest was the smallest in five years.

Reasoning *What would provide the best completion of the argument?* The argument's conclusion is that some of this year's crop might be held back. The blank to be completed should provide a reason in support of that conclusion. What would lead us to believe that some of this year's crop might go into cold storage even though the crop was unusually small? Only in high-yield years does this usually happen. But suppose there is *already* a large quantity of pecans in cold storage from previous harvests. Given this information, it would make perfect sense to expect that the pecans already in cold storage would be marketed first, while some of the latest crop would be stored. This would avoid the market oversupply and lower producer prices that might result if both all of this year's crop and all of the already stored pecans were marketed this year.

- A **Correct.** This answer choice provides information that makes it more probable that the conclusion is true.
- B The argument provides no information whatsoever that would suggest the decision to store or not to store pecans is based on evaluation of the crop's quality.
- C This information is of little or no relevance. It is reasonable to think that predictions about pecan prices this year would affect the decision to store or not to store. But the information in this answer choice sheds little or no light on what this year's pecan prices might be, given that, as the passage tells us, this year's crop is exceptionally small.
- D It is not surprising that some growers had crops this year that were as big as their crops the year before. But what matters, what affects the price of pecans, is the overall size of total pecan production and the abundance or scarcity of pecans at the time.
- E This piece of history about marketing and storage practices explains why pecans were not placed in storage in previous small-yield years, but it provides no reason to believe that some of the new pecan crop will be stored this year.

The correct answer is A.

66. To protect certain fledgling industries, the government of Country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

Which of the following conclusions about Country Z's adversely affected export-dependent industries is best supported by the passage?

- (A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.
- (B) Those industries had to contend with the fact that other countries banned imports from Country Z.
- (C) Those industries succeeded in expanding the domestic market for their products.
- (D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.
- (E) Those industries started to move into export markets that they had previously judged unprofitable.

Argument Construction

Situation Country Z bans the importation of products that would compete with those that some of its new industries are beginning to make. Consequently, the export-dependent local industries that buy these products must pay more for them, and these exporters are now less competitive in their markets.

Reasoning *What conclusion can be drawn about the export-dependent industries?* Any conclusion must be supported by the facts in the passage. The export-dependent industries could no longer compete effectively when they had to purchase necessary products at greater expense from local industries. The export-dependent industries' inability to adjust successfully to the rise in costs suggests that staying competitive in their markets required tight cost control to maintain their profit margins. It is reasonable to conclude then that their profit margins were not high enough for them to be able to absorb the increased costs caused by their new need to purchase domestically made products.

- A Correct.** This statement properly identifies the conclusion that the export-dependent industries were low-margin businesses that could not successfully accommodate the higher prices of the domestically made products.
- B** No information about other countries' ban of imports from Country Z is given in the passage.
- C** Not enough information is given in the passage to support this conclusion.
- D** No information about cutting labor costs is given in the passage.
- E** No information about the industries' moving into different markets is given in the passage.

The correct answer is A.

67. Several industries have recently switched at least partly from older technologies powered by fossil fuels to new technologies powered by electricity. It is thus evident that less fossil fuel is being used as a result of the operations of these industries than would have been used if these industries had retained their older technologies.

Which of the following, if true, most strengthens the argument above?

- (A) Many of the industries that have switched at least partly to the new technologies have increased their output.
- (B) Less fossil fuel was used to manufacture the machinery employed in the new technologies than was originally used to manufacture the machinery employed in the older technologies.
- (C) More electricity is used by those industries that have switched at least partly to the new technologies than by those industries that have not switched.
- (D) Some of the industries that have switched at least partly to the new technologies still use primarily technologies that are powered by fossil fuels.
- (E) The amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount that would have been used to power the older technologies.

Argument Evaluation

Situation Several industries have now switched, at least partly, to technologies using electricity rather than fossil fuels. Thus, less fossil fuel will be consumed as a result of the operation of these industries than otherwise would have been.

Reasoning *Which option most strengthens the argument?* One way to strengthen an argument is to eliminate or minimize one of its flaws or weaknesses. Because the conclusion is stated in terms of “fossil fuel consumed *as a result* of the operation of these industries,” the claim would encompass even any fossil fuel that might be used to generate the electricity that the newer technologies use. Yet the premise of the argument does not address this issue. So the argument is strengthened if it turns out that less fossil fuel was used to produce the electricity than would have been used to power the older technologies.

- A In an indirect way, this option slightly weakens rather than strengthens the argument. For *if* fossil fuels are used to produce the electricity now used by the industries and *if* it is because of these newer technologies that output has increased, the argument’s conclusion is *less* likely.
- B It does not matter how much fossil fuel was used to manufacture the older technologies *originally*. That has no bearing on whether more fossil fuel would have been expended as a result of the *continued operation* of the industries if the partial switch to newer technologies had not occurred.
- C This is what we would expect, but it in no way strengthens the argument.
- D This may seem to weaken the argument by indicating that the switch from older technologies will have less of an impact on fossil fuel consumption by these industries than we might have assumed. But since the conclusion makes no claim about how much consumption has been reduced, it is not clear that this option has any bearing on the strength of the argument one way or the other.
- E **Correct.** This is the option that most strengthens the argument.

The correct answer is E.

68. Scientists have modified feed corn genetically, increasing its resistance to insect pests. Farmers who tried out the genetically modified corn last season applied less insecticide to their corn fields and still got yields comparable to those they would have gotten with ordinary corn. Ordinary corn seed, however, costs less, and what these farmers saved on insecticide rarely exceeded their extra costs for seed. Therefore, for most feed-corn farmers, switching to genetically modified seed would be unlikely to increase profits.

Which of the following would it be most useful to know in order to evaluate the argument?

- (A) Whether there are insect pests that sometimes reduce feed-corn yields, but against which commonly used insecticides and the genetic modification are equally ineffective
- (B) Whether the price that farmers receive for feed corn has remained steady over the past few years
- (C) Whether the insecticides typically used on feed corn tend to be more expensive than insecticides typically used on other crops
- (D) Whether most of the farmers who tried the genetically modified corn last season applied more insecticide than was actually necessary
- (E) Whether, for most farmers who plant feed corn, it is their most profitable crop

Argument Evaluation

Situation Farmers who grew feed corn genetically engineered to be pest resistant got yields comparable to those of farmers growing ordinary feed corn, but did so while using less pesticide. Since the amount saved on pesticide was rarely in excess of the extra costs for the genetically modified corn, most farmers will probably not increase profits by choosing the genetically engineered variety.

Reasoning *Which would be most useful to know in evaluating the argument?* To answer a question such as this, one should look for information that would strengthen or weaken the argument. If one had information that the farmers growing the genetically modified corn could have increased their yields last year at lower cost, this would be helpful in evaluating the argument, because this would show that the argument is weak.

- A It does not matter to the argument whether there are pests against which pesticides and genetic resistance are equally ineffective, because that is compatible with there being pests against which they are not equally effective.
- B Whether prices of feed corn go up or down affects the comparison groups equally.
- C The relative cost of insecticides for other crops has no bearing on the argument because the argument is concerned with only feed corn.
- D **Correct.** This option provides the information that it would be most useful to know in evaluating the argument. It shows that farmers growing genetically modified corn last year could have attained higher profits than they in fact did.
- E The argument concerns only the relative profitability of growing one variety of feed corn versus another.

The correct answer is D.

69. Which of the following most logically completes the argument?

By competing with rodents for seeds, black ants help control rodent populations that pose a public health risk. However, a very aggressive species of black ant, the Loma ant, which has recently invaded a certain region, has a venomous sting that is often fatal to humans. Therefore, the planned introduction into that region of ant flies, which prey on Loma ants, would benefit public health, since _____.

- (A) ant flies do not attack black ants other than Loma ants
- (B) Loma ants are less effective than many bird species in competing with rodents for seeds
- (C) certain other species of black ants are more effective than Loma ants in competing with rodents for seeds
- (D) the sting of Loma ants can also be fatal to rodents
- (E) some pesticides that could be used to control Loma ants are harmful to the environment

Argument Construction

Situation Black ants help to control populations of rodents by competing with them for seeds. But a very aggressive species of black ant, the Loma ant, has a sting that can be fatal to humans. Ant flies prey on Loma ants and their presence can thereby benefit public health.

Reasoning *Which of the possible completions of the passage provides the most support for the conclusion?* The argument's conclusion is that introducing ant flies into the region where Loma ants have recently invaded would benefit public health. We know from the passage that black ants, generally, benefit public health by keeping down rodent populations. However, the sting of Loma ants, a species of black ant, can be fatal to humans. Ant flies prey on Loma ants. To that extent their introduction in the region would tend to benefit public health by making fatal Loma stinging of humans less likely. But if these ant flies also prey on black ants other than the Loma ants, then to that extent they would undermine another public health benefit associated with controlling rodents. Thus, the information that ant flies do not prey on black ants other than Loma ants would provide strong logical support for the conclusion.

- A Correct.** This most logically completes the argument because it addresses a potential downside of introducing the ant flies into the region. The potential downside is that it might reduce the desirable effect that other species of black ants have in keeping down the rodent populations.
- B** We have no idea whether the bird species that are more effective than Loma ants at competing with rodents for seeds are even present in the region in question.
- C** This does not help the conclusion very much because we do not know *from the passage* whether ant flies prey on other species of black ants besides Loma ants.
- D** If anything, this is a reason *not to introduce ant flies* into the region. This answer choice at least suggests that Loma ants might have some positive effect on public health because they might keep down rodent populations by reducing their survival chances.
- E** This provides very little support for the conclusion. It does not exclude the possibility that there are pesticides—perhaps several—that would control Loma ants effectively without harming the environment. So it is not a strong reason for introducing ant flies.

The correct answer is A.

70. Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist's reasoning?

- (A) Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- (B) Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
- (C) In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- (D) What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- (E) Do newly opened SaveAll stores ever lose money during their first five years of operation?

Argument Evaluation

Situation Morganville should stop SaveAll from opening a store on its outskirts if it wants to keep its shopping district healthy. Other small towns have experienced bankruptcies in 25 percent of the stores in their central shopping district within five years after such openings.

Reasoning *Which option provides the information that it would be most useful to know in evaluating the argument?* The argument contends that if SaveAll opens a store in Morganville, then that will somehow undermine the health of the shopping district. Two basic questions arise when evaluating the bankruptcy data from other small towns: (1) Did the opening of SaveAlls cause any of these bankruptcies? No information is given about bankruptcy rates in small towns without SaveAlls. (2) Is a 25 percent bankruptcy rate over five years *unhealthy*?

- A This has to do with the likelihood that the SaveAll will open; and not with what will happen if it does.
- B The conclusion would be supported just as well—or as poorly—if this question were answered with a yes as with a no.
- C **Correct.** This option provides the information that it would be most useful to know in evaluating the argument.
- D This may be important in determining the effect the SaveAll would have on Morganville residents, but the argument has only to do with SaveAll's effect on the economic health of the shopping district.
- E Whether SaveAlls tend to make or lose money in their first five years has no obvious bearing on whether they are apt to undermine the health of the town's shopping districts.

The correct answer is C.

71. In comparison to the standard typewriter keyboard, the EFCO keyboard, which places the most-used keys nearest the typist's strongest fingers, allows faster typing and results in less fatigue. Therefore, replacement of standard keyboards with the EFCO keyboard will result in an immediate reduction of typing costs.

Which of the following, if true, would most weaken the conclusion drawn above?

- (A) People who use both standard and EFCO keyboards report greater difficulty in the transition from the EFCO keyboard to the standard keyboard than in the transition from the standard keyboard to the EFCO keyboard.
- (B) EFCO keyboards are no more expensive to manufacture than are standard keyboards and require less frequent repair than do standard keyboards.
- (C) The number of businesses and government agencies that use EFCO keyboards is increasing each year.
- (D) The more training and experience an employee has had with the standard keyboard, the more costly it is to train that employee to use the EFCO keyboard.
- (E) Novice typists can learn to use the EFCO keyboard in about the same amount of time that it takes them to learn to use the standard keyboard.

Argument Evaluation

Situation Compared to the standard typewriter keyboard, the EFCO keyboard promotes faster typing while producing less fatigue. Replacing standard keyboards with EFCO keyboards promises immediate reduction of typing costs.

Reasoning *What point would weaken the conclusion about reduced typing costs?* Whenever a word like *immediate* is part of an argument, it is wise to be alert. Given the comparison with the standard keyboard, it could well be that over the longer term the EFCO keyboard will save money. What problems might there be initially, however, that would counteract the possibility of *immediate* savings? Personnel must first be retrained on the new EFCO keyboard, and it is possible that the costs of the training could offset any short-term savings. If the more experience employees have had with the standard keyboard, the more costly the initial training, then adopting the new keyboard could have high short-term costs that preclude *immediate* savings.

- A The greater ease of changing from the standard keyboard to the EFCO keyboard for typists experienced in both would support, not weaken, the conclusion.
- B The fewer repairs required by EFCO keyboards should save money in the long run; immediate costs will not go up since the price of both keyboards is the same. The conclusion is not weakened.
- C The increasing use of EFCO keyboards supports the conclusion, because it suggests that other offices have found the switch advantageous.
- D **Correct.** This statement properly identifies information that weakens the conclusion that savings will be immediate.
- E For new typists, training time is the same for both keyboards; this statement does not weaken the conclusion.

The correct answer is D.

72. In the past the country of Malvernia has relied heavily on imported oil. Malvernia recently implemented a program to convert heating systems from oil to natural gas. Malvernia currently produces more natural gas each year than it uses, and oil production in Malvernian oil fields is increasing at a steady pace. If these trends in fuel production and usage continue, therefore, Malvernian reliance on foreign sources for fuel is likely to decline soon.

Which of the following would it be most useful to establish in evaluating the argument?

- (A) When, if ever, will production of oil in Malvernia outstrip production of natural gas?
- (B) Is Malvernia among the countries that rely most on imported oil?
- (C) What proportion of Malvernia's total energy needs is met by hydroelectric, solar, and nuclear power?
- (D) Is the amount of oil used each year in Malvernia for generating electricity and fuel for transportation increasing?
- (E) Have any existing oil-burning heating systems in Malvernia already been converted to natural-gas-burning heating systems?

Argument Evaluation

Situation Malvernia has relied heavily on imported oil, but recently began a program to convert heating systems from oil to natural gas. Malvernia produces more natural gas than it uses, so it will probably reduce its reliance on imported oils if these trends continue.

Reasoning *Which option provides the information that it would be most useful to know in evaluating the argument?* In other words, we are looking for the option which—depending on whether it was answered yes or no—would either most weaken or most strengthen the argument. The argument indicates that Malvernia will be using less oil for heating and will be producing more oil domestically. But the conclusion that Malvernia's reliance on foreign oil will decline, assuming the current trends mentioned continue, would be seriously undermined if there was something in the works that was bound to offset these trends, for instance, if it turned out that the country's need for oil was going to rise drastically in the coming years.

- A Since both counteract the need for imported oil, it makes little difference to the argument whether domestic oil production exceeds domestic natural gas.
- B Whether there are many countries that rely more on foreign oil than Malvernia would have little impact on whether Malvernia's need for foreign oil can be expected to decline.
- C Since there is no information in the argument about whether Malvernia can expect an increase or decrease from these other energy sources, it does not matter how much they now provide.
- D Correct.** This option provides the information that it would be most useful to know in evaluating the argument.
- E The argument tells us that a program has begun *recently* to convert heating systems from oil to gas. So, even if no such conversions have been completed, the argument still indicates that they can be expected to occur.

The correct answer is D.

73. An overly centralized economy, not the changes in the climate, is responsible for the poor agricultural production in Country X since its new government came to power. Neighboring Country Y has experienced the same climatic conditions, but while agricultural production has been falling in Country X, it has been rising in Country Y.

Which of the following, if true, would most weaken the argument above?

- (A) Industrial production also is declining in Country X.
- (B) Whereas Country Y is landlocked, Country X has a major seaport.
- (C) Both Country X and Country Y have been experiencing drought conditions.
- (D) The crops that have always been grown in Country X are different from those that have always been grown in Country Y.
- (E) Country X's new government instituted a centralized economy with the intention of ensuring an equitable distribution of goods.

Argument Evaluation

Situation Two countries sharing similar climate conditions differ widely in agricultural production, one experiencing a rise and the other a decline. The decline is blamed on an overly centralized economy.

Reasoning *What point most weakens the argument that the economy is to blame?* If a factor other than the economy could account for the differences in agricultural production, then the argument is weakened. If the two countries grow different kinds of crops that may react differently to the same climate conditions, then the types of crops, rather than the economy could be responsible for the differences in production.

- A This weakly suggests that the overly centralized economy of Country X is to blame for its poor agricultural production; this strengthens the argument more than it weakens it.
- B The availability of a seaport does not explain the differences in agricultural production.
- C Similar climate conditions have already been established in the argument.
- D Correct.** This statement properly identifies a factor that weakens the argument.
- E The government's intention when instituting the economy does not have any bearing on whether the economy is responsible for the decline or not.

The correct answer is D.

74. Which of the following most logically completes the argument below?

Using broad-spectrum weed killers on weeds that are competing with crops for sunlight, water, and nutrients presents a difficulty: how to keep the crop from being killed along with the weeds. For at least some food crops, specially treated seed that produces plants resistant to weed killers is under development. This resistance wears off as the plants mature. Therefore, the special seed treatment will be especially useful for plants that _____.

- (A) produce their crop over an extended period of time, as summer squash does
- (B) produce large seeds that are easy to treat individually, as corn and beans do
- (C) provide, as they approach maturity, shade dense enough to keep weeds from growing
- (D) are typically grown in large tracts devoted to a single crop
- (E) are cultivated specifically for the seed they produce rather than for their leaves or roots

Argument Construction

Situation A difficulty in using broad-spectrum weed killers is keeping them from killing the food crops along with the weeds. Specially treated seed is being developed that will protect certain food crop plants in their earlier stages of growth.

Reasoning *Which is the best completion for the conclusion?* The conclusion is incompletely stated as “Therefore, the special seed treatment will be especially useful for plants that _____.” The question is what sorts of plants does the passage suggest the seed treatment would be especially useful for. We have been told that this treatment makes the plants resistant to weed killer, but that this resistance wears off when the plant matures. So the treatment will be most useful with plants that are not harmed by weed killer and that suffer no significant disadvantage when the resistance wears off as the plant matures. Choice (C) is the correct answer choice because it describes a sort of plant that can combat weeds and requires no weed killer once the plant matures.

- A Given that the seed treatment wears off as the plant matures, it would not be especially useful for plants that produce their crops over an extended period.
- B We have not been told whether small seeds are more difficult to treat, and so we have no basis to conclude that the special seed treatment would be *especially useful* for plants that have large seeds that are easy to treat individually. We have also been given no reason to think that it is better to treat seeds individually.
- C **Correct.** Plants that, as they approach maturity, produce shade dense enough to keep weeds from growing, would benefit from resistance to weed killer when young and would not need weed killer when they have matured and lost their resistance.
- D We have been given no reason to think that the seed treatment would be especially useful for plants grown in a large tract devoted to a single crop. For example, why would it be less useful for small tracts with a variety of crops?
- E A plant harvested for its roots, fruits, or leaves, rather than for its seeds, would derive no less an advantage from resistance to weed killers in earlier stages of growth.

The correct answer is C.

75. Because no employee wants to be associated with bad news in the eyes of a superior, information about serious problems at lower levels is progressively softened and distorted as it goes up each step in the management hierarchy. The chief executive is, therefore, less well informed about problems at lower levels than are his or her subordinates at those levels.

The conclusion drawn above is based on the assumption that

- (A) problems should be solved at the level in the management hierarchy at which they occur
- (B) employees should be rewarded for accurately reporting problems to their superiors
- (C) problem-solving ability is more important at higher levels than it is at lower levels of the management hierarchy
- (D) chief executives obtain information about problems at lower levels from no source other than their subordinates
- (E) some employees are more concerned about truth than about the way they are perceived by their superiors

Argument Construction

Situation No employee wants to report bad news to a superior, so information about problems is softened and distorted as it goes up the ranks of management. As a result, chief executives know less about problems at lower levels than their subordinates do.

Reasoning *What assumption is being made in this argument?* This passage contends that information travels step by step upward through an organization, and that information becomes increasingly distorted along the route with each additional individual's reluctance to be candid with a superior about problems. What must be true about this information flow to support the conclusion? In order to conclude that chief executives are *less well informed* about problems than their subordinates, the argument must logically assume that they have no source of information except their subordinates.

- A This argument is not about how problems should be solved, only about how chief executives learn of them.
- B No recommendation for solving the problem is assumed; only the method of discovering the problem is assumed.
- C Problem-solving ability plays no role in the argument.
- D Correct.** This statement properly identifies an assumption that underlies the argument.
- E This statement undermines the assertion made in the first sentence of the passage and so cannot be assumed.

The correct answer is D.

76. Although the earliest surviving Greek inscriptions written in an alphabet date from the eighth century B.C., **the fact that the text of these Greek inscriptions sometimes runs from right to left and sometimes from left to right** indicates that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were produced. After all, the Greeks learned alphabetic writing from the Phoenicians, and presumably, along with the alphabet, they also adopted the then-current Phoenician practice with respect to the direction of text. **And although Phoenician writing was originally inconsistent in direction, by the eighth century B.C. Phoenician was consistently written from right to left and had been for about two centuries.**

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first and the second each describe evidence that has been used to challenge the position that the argument seeks to establish.
- (B) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is that position.
- (C) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is a consideration that is introduced to counter the force of that evidence.
- (D) The first and the second each provide evidence in support of the position that the argument seeks to establish.
- (E) The first provides evidence in support of the position that the argument seeks to establish; the second is that position.

Argument Evaluation

Situation The oldest surviving Greek inscriptions written in an alphabet are from the eighth century B.C. and run from both left to right and right to left. Therefore, it is likely that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were made. The Greeks adopted their alphabet from the Phoenicians, who wrote in both directions up until two centuries prior to the eighth century.

Reasoning *What roles do the two boldfaced portions play in the argument?* The conclusion of the argument is that the Greeks adopted alphabetic writing at least two centuries before the oldest surviving Greek inscriptions were written in the eighth century B.C. The first and second boldfaced portions work together to support this conclusion.

- A The first and second portions are not used to challenge the position the argument seeks to establish, but to support it.
- B The first is evidence for the conclusion, not for an objection to it; the second is as well.
- C The first is evidence for the conclusion, not for an objection to it; the second is as well.
- D Correct.** This option correctly identifies the roles played by the boldfaced portions.
- E The second boldfaced portion is not the conclusion, but evidence for that conclusion.

The correct answer is D.

77. A recent report determined that although only 3 percent of drivers on Maryland highways equipped their vehicles with radar detectors, 33 percent of all vehicles ticketed for exceeding the speed limit were equipped with them. Clearly, drivers who equip their vehicles with radar detectors are more likely to exceed the speed limit regularly than are drivers who do not.

The conclusion drawn above depends on which of the following assumptions?

- (A) Drivers who equip their vehicles with radar detectors are less likely to be ticketed for exceeding the speed limit than are drivers who do not.
- (B) Drivers who are ticketed for exceeding the speed limit are more likely to exceed the speed limit regularly than are drivers who are not ticketed.
- (C) The number of vehicles that were ticketed for exceeding the speed limit was greater than the number of vehicles that were equipped with radar detectors.
- (D) Many of the vehicles that were ticketed for exceeding the speed limit were ticketed more than once in the time period covered by the report.
- (E) Drivers on Maryland highways exceeded the speed limit more often than did drivers on other state highways not covered in the report.

Argument Construction

Situation Although only 3 percent of drivers on Maryland's highways have radar detectors in their vehicles, 33 percent of vehicles recently ticketed for driving over the speed limit on Maryland highways have had radar detectors. Drivers who have radar detectors are thus more likely to exceed the speed limit regularly than drivers who do not.

Reasoning *What assumption must be true for the conclusion to be drawn?* The argument moves from a particular example, that is, the percentage of vehicles ticketed for exceeding the speed limit that were equipped with radar detectors, to a generalization about the regular driving behaviors of all drivers who have radar detectors in their vehicles. The reasoning links the example to the generalization with an assumption. What can the assumption be? Only if the drivers ticketed in this instance are assumed to make a regular habit of exceeding the speed limit can the conclusion be drawn that drivers with radar detectors are more likely to do so *regularly* than drivers who are not ticketed.

- A While this statement about being ticketed may be true, the conclusion pertains to the recurrent exceeding of the speed limit, so this statement is not relevant.
- B Correct.** This statement properly identifies the conclusion's necessary assumption about ticketed drivers' being more likely to drive in excess of the speed limit than nonticketed drivers.
- C This statement is about the number of vehicles ticketed, not about the regular habits of drivers, so it is not assumed for the conclusion.
- D While this additional information could help support the conclusion, it is not a necessary assumption in the conclusion because it is about the particular example of the drivers in Maryland, not about drivers' habits in general.
- E Learning that Maryland drivers are not representative of other drivers undermines the conclusion about all drivers, so it is clearly not assumed.

The correct answer is B.

78. **In countries where automobile insurance includes compensation for whiplash injuries sustained in automobile accidents, reports of having suffered such injuries are twice as frequent as they are in countries where whiplash is not covered.** Presently, no objective test for whiplash exists, so it is true that spurious reports of whiplash injuries cannot be readily identified. Nevertheless, these facts do not warrant the conclusion drawn by some commentators that in the countries with the higher rates of reported whiplash injuries, half of the reported cases are spurious. Clearly, **in countries where automobile insurance does not include compensation for whiplash, people often have little incentive to report whiplash injuries that they actually have suffered.**

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first is a claim that the argument disputes; the second is a conclusion that has been based on that claim.
- (B) The first is a claim that has been used to support a conclusion that the argument accepts; the second is that conclusion.
- (C) The first is evidence that has been used to support a conclusion for which the argument provides further evidence; the second is the main conclusion of the argument.
- (D) The first is a finding whose implications are at issue in the argument; the second is a claim presented in order to argue against deriving certain implications from that finding.
- (E) The first is a finding whose accuracy is evaluated in the argument; the second is evidence presented to establish that the finding is accurate.

Argument Evaluation

Situation Reported whiplash injuries are twice as common in countries where car insurance companies pay compensation for such injuries as they are in countries where insurance companies do not. Although there is no objective test for whiplash, this does not mean, as some suggest, that half of the reports of such injuries are fake. It could simply be that where insurance will not pay for such injuries, people are less inclined to report them.

Reasoning *What roles do the two boldfaced portions play in the argument?* The first portion tells us about the correlation between reported cases of whiplash in countries and the willingness of insurance companies in those countries to compensate for whiplash injuries. The argument next states that whiplash is difficult to objectively verify. The argument then asserts that *although* this last fact, taken together with the first boldfaced portion, has led some to infer that over half of the reported cases in countries with the highest whiplash rates are spurious, such an inference is unwarranted. The second boldfaced portion then helps to explain why such an inference is not necessarily warranted by offering an alternative explanation.

- A The claim made in the first boldfaced portion is never disputed in the argument; at dispute is how to account for the fact that this claim is true. The second is not the argument's conclusion.
- B In a manner of speaking, perhaps, the argument uses the first portion to support its conclusion; but there is no indication that it has been used elsewhere to do so. In any case, the second boldfaced portion is not the argument's conclusion.
- C The first has been used to support a conclusion that the argument *rejects*; the second boldfaced portion is not the argument's conclusion.
- D **Correct.** This option correctly identifies the roles played in the argument by the boldfaced portions.
- E The accuracy of the first boldfaced portion is never questioned in the argument; nor is the second intended to somehow help show that the first is accurate. Rather, the argument assumes that the first portion is accurate.

The correct answer is D.

79. When demand for a factory's products is high, more money is spent at the factory for safety precautions and machinery maintenance than when demand is low. Thus the average number of on-the-job accidents per employee each month should be lower during periods when demand is high than when demand is low and less money is available for safety precautions and machinery maintenance.

Which of the following, if true about a factory when demand for its products is high, casts the most serious doubt on the conclusion drawn above?

- (A) Its employees ask for higher wages than they do at other times.
- (B) Its management hires new workers but lacks the time to train them properly.
- (C) Its employees are less likely to lose their jobs than they are at other times.
- (D) Its management sponsors a monthly safety award for each division in the factory.
- (E) Its old machinery is replaced with modern, automated models.

Argument Evaluation

Situation Because more money is spent on safety precautions and machinery maintenance at a factory when demand for its product is high, the average number of job-related accidents per employee at the factory should be lower when demand is high.

Reasoning *What point casts doubt on the conclusion?* Consider what other conditions can result from high demand for a factory's products. What if, when demand is high, more employees are hired to meet the demand? If, in the effort to increase production, there is not enough time for proper training, then it is likely that the new, poorly trained employees will have more job-related accidents than experienced, well-trained workers.

- A If employers consented to employees' request and diverted money from safety to wages, this statement might cast doubt on the conclusion. However, no such reallocation of resources is implied, and the passage conclusively states that more money *is* spent on safety precautions and machinery maintenance when demand for the product is high. Therefore this statement is irrelevant.
- B Correct.** This statement properly identifies a point that undermines the conclusion.
- C Increased job security could result in an increased number of workers, which might increase the total number of accidents. However, the conclusion is about the number of accidents *per employee*, so this point is irrelevant.
- D Actively promoting safety with an award would tend to support the argument, not weaken it.
- E Replacing outdated machinery with more modern machinery could result in a safer workplace; this point could strengthen the conclusion.

The correct answer is B.

80. A sudden increase in the production of elephant ivory artifacts on the Mediterranean coast of North Africa occurred in the tenth century. Historians explain this increase as the result of an area opening up as a new source of ivory and argue on this basis that the important medieval trade between North Africa and East Africa began at this period.

Each of the following, if true, provides some support for the historians' account described above EXCEPT:

- (A) In East Africa gold coins from Mediterranean North Africa have been found at a tenth-century site but at no earlier sites.
- (B) The many surviving letters of pre-tenth-century North African merchants include no mention of business transactions involving East Africa.
- (C) Excavations in East Africa reveal a tenth-century change in architectural style to reflect North African patterns.
- (D) Documents from Mediterranean Europe and North Africa that date back earlier than the tenth century show knowledge of East African animals.
- (E) East African carvings in a style characteristic of the tenth century depict seagoing vessels very different from those used by local sailors but of a type common in the Mediterranean.

Argument Evaluation

Situation There was a sudden increase in the production of ivory artifacts in an area of North Africa in the tenth century. Historians say this was brought about by a new source of ivory opening up, and argue from this that important trade between North Africa and East Africa began at this time.

Reasoning *Which option does NOT provide support for the historians' account?* The historians' account posits new trade between North and East Africa opening in the tenth century and infers this from the increase in ivory production in North Africa that occurred at about this time. Thus, an option that identifies some connection between North and East Africa which predates the tenth century would not support but rather undermine the historians' account.

- A That gold coins may have first been traded between East Africa and North Africa supports the idea that important trade between these areas opened up at this time.
- B This is support for the historians' conclusion, because if there had been important trade between East Africa and North Africa prior to the tenth century, there likely would have been some mention of it in at least some of the letters that survive from that period.
- C This change in architectural design suggests that North Africa began to influence East Africa around this time. Opening up of new trade would explain the emergence of this new influence.
- D Correct.** This is the one option that does not support the historians' account.
- E The fact that East African carvings that are possibly from tenth century depict ships not from East Africa but possibly from North Africa would support the idea that trade was occurring at this time.

The correct answer is D.

81. Which of the following most logically completes the argument?

The attribution of the choral work *Lacrimae* to the composer Pescard (1400–1474) has been regarded as tentative, since it was based on a single treatise from the early 1500s that named Pescard as the composer. Recently, several musical treatises from the late 1500s have come to light, all of which name Pescard as the composer of *Lacrimae*. Unfortunately, these newly discovered treatises lend no support to the attribution of *Lacrimae* to Pescard, since _____.

- (A) the treatise from the early 1500s misidentifies the composers of some of the musical works it considers
- (B) the author of the treatise from the early 1500s had no very strong evidence on which to base the identification of Pescard as the composer of *Lacrimae*
- (C) there are works that can conclusively be attributed to Pescard that are not even mentioned in the treatise from the early 1500s
- (D) the later treatises probably had no source for their attribution other than the earlier treatise
- (E) no known treatises from the 1600s identify Pescard as the composer of *Lacrimae*

Argument Construction

Situation A choral work has been tentatively attributed to Pescard based on a single treatise from the early 1500s. But several treatises from the late 1500s have recently been discovered, and all of them attribute the work to Pescard.

Reasoning *Which of the answer choices provides the strongest reason for the conclusion?* The argument's conclusion is that the newly discovered late-1500 treatises lend no support to the attribution of *Lacrimae* to Pescard. It is worth noting that prior to the conclusion the passage provides information which suggests that these newly discovered treatises *do* lend support to the attribution. So the question is: Why don't they? A good reason for thinking they do not is that the newly discovered treatises probably derive solely from the attribution given in the earlier text. Thus the attributions in the later treatises are only as reliable as the attribution in the earlier treatise—and the argument suggests that that reliability has not been conclusively established.

- A This makes the treatise from the early 1500s less reliable, but it does not explain why the newly discovered treatises are unreliable.
- B Like answer choice (A), this is irrelevant. The question is not why the treatise from the early 1500s fails to lend support to the attribution but why the treatises from the late 1500s fail to do so.
- C This is irrelevant because it does not refer to the newly discovered treatises whose attribution of *Lacrimae* is at issue.
- D Correct.** The question is whether these newly discovered treatises lend *additional* support. *Lacrimae* has already been tentatively attributed to Pescard based on the text from the early 1500s. So, if the later treatises base their attribution solely on the earlier treatise, then they provide no additional support beyond that already provided by the earlier treatise.
- E This leaves open the possibility that there was no treatise at all in the 1600s that discussed Pescard or *Lacrimae*. Also, it fails to provide significant evidence either for or against Pescard's having composed *Lacrimae*. But even if it did provide such evidence, it would be irrelevant because the issue is why the late-1500 treatises fail to provide significant support for the attribution of *Lacrimae* to Pescard, not whether Pescard composed the work.

The correct answer is D.

82. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

- (A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.
- (B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.
- (C) The number of physics journals was the same last year as in previous years.
- (D) Particle accelerators can be used for more than one group of experiments in any given year.
- (E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

Argument Evaluation

Situation A journalist attributes the low number of articles about particle accelerators in physics journals to the fact that several accelerators at major research institutions had been out of service the previous year.

Reasoning *What point undermines the journalist's argument?* The journalist assumes that the researchers' lack of access to the accelerators is responsible for the decline in the number of articles. What else could explain fewer articles? What if the decline is due, not to the availability of the accelerators for experiments, but to policies regarding publishing articles related to such experiments? An alternate explanation is that changes in the editorial policies of physics journals, rather than the effect of the out-of-service accelerators, could well be responsible for the lower number of published articles about particle-accelerator research.

- A This statement rules out the possibility that submitted articles were not published, and eliminating this alternate explanation tends to support the argument.
- B A decline in waiting time would seem to promote more articles about accelerator research being written and published, not fewer.
- C While the decline in articles could be explained by a decline in the number of journals, this statement eliminates that alternate explanation.
- D If the accelerators can be used for multiple experiments, then it is reasonable to expect more articles related to them, not fewer.
- E **Correct.** This statement properly identifies a point that undermines the journalist's reasoning.

The correct answer is E.

83. Many people suffer an allergic reaction to certain sulfites, including those that are commonly added to wine as preservatives. However, since there are several winemakers who add sulfites to none of the wines they produce, people who would like to drink wine but are allergic to sulfites can drink wines produced by these winemakers without risking an allergic reaction to sulfites.

Which of the following is an assumption on which the argument depends?

- (A) These winemakers have been able to duplicate the preservative effect produced by adding sulfites by means that do not involve adding any potentially allergenic substances to their wine.
- (B) Not all forms of sulfite are equally likely to produce the allergic reaction.
- (C) Wine is the only beverage to which sulfites are commonly added.
- (D) Apart from sulfites, there are no substances commonly present in wine that give rise to an allergic reaction.
- (E) Sulfites are not naturally present in the wines produced by these winemakers in amounts large enough to produce an allergic reaction in someone who drinks these wines.

Argument Construction

Situation People who are allergic to certain sulfites can avoid risking an allergic reaction by drinking wine from one of the several producers that does not add sulfites.

Reasoning *On what assumption does the argument depend?* Drinking wine to which no sulfites have been *added* will not prevent exposure to sulfites if, for instance, sulfites occur naturally in wines. In particular, if the wines that do not have sulfites added have sulfites present naturally in quantities sufficient to produce an allergic reaction, drinking these wines will not prevent an allergic reaction. The argument therefore depends on assuming that this is not the case.

- A The argument does not require this because the conclusion does not address allergic reactions to substances other than sulfites.
- B The argument specifically refers to “certain sulfites” producing allergic reactions. It is entirely compatible with certain other forms of sulfites not producing allergic reactions in anyone.
- C This is irrelevant. The argument does not claim that one can avoid having an allergic reaction to sulfites *from any source* just by restricting one’s wine consumption to those varieties to which no sulfites have been added.
- D Once again, the argument’s conclusion does not address allergic reactions to substances other than sulfites in wine.
- E **Correct.** The argument relies on this assumption.

The correct answer is E.

84. Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur *Sandactylus* had similar networks of blood vessels in the skin of its wings provides evidence for the hypothesis that *Sandactylus* flew by flapping its wings, not just by gliding.

In the passage, the author develops the argument by

- (A) forming the hypothesis that best explains several apparently conflicting pieces of evidence
- (B) reinterpreting evidence that had been used to support an earlier theory
- (C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon
- (D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct
- (E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures

Argument Evaluation

Situation The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur *Sandactylus* to explain how the dinosaur flew.

Reasoning *How is this argument developed?* The author first shows that a physical characteristic of bats' wings is directly related to their style of flight. The author then argues that the similar structure found in the wings of *Sandactylus* is evidence that the dinosaur had a style of flight similar to that of bats. The structure of this argument is a comparison, or analogy, between a known phenomenon (bats) and an unknown one (*Sandactylus*).

- A The evidence of the blood vessels in the wings does not conflict with other evidence.
- B The evidence of the blood vessels in the wings is used to support only one theory—that *Sandactylus* flew by flapping its wings as well as by gliding; no evidence is discussed in relation to any earlier theory.
- C **Correct.** This statement properly identifies how the argument compares the wings of bats and of *Sandactylus* in order to draw a conclusion about how the dinosaur flew.
- D The argument is not about how the structures in the bats developed from the structures in the dinosaurs, but rather about how *Sandactylus* flew.
- E The comparison between bats and *Sandactylus* points out similarities, not differences.

The correct answer is C.

85. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry \$25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy.

Laura: The \$25 billion spent by some businesses will be revenue for others. Jobs and profits will be gained as well as lost.

Laura responds to Keith by

- (A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand
- (B) challenging the plausibility of the evidence that serves as the basis for Keith's argument
- (C) suggesting that Keith's argument overlooks a mitigating consequence
- (D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites
- (E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism

Argument Construction

Situation Keith argues that the cost of new regulations will result in a loss of jobs and profits, hurting the national economy. Laura points out that while one industry will suffer, others will gain by supplying the goods and services required by the regulations.

Reasoning *What is the strategy Laura uses in the counterargument?* Laura uses the same evidence, the \$25 billion spent on meeting new regulations, but comes to a different conclusion. While Keith focuses on the losses to one industry, Laura looks at the gains to other industries. By suggesting a consequence that Keith did not mention, she places the outcome in a more positive light.

- A Laura accepts the relevance of Keith's evidence and uses it herself when she replies that *the \$25 billion spent by some businesses will be revenue for others*.
- B Laura does not challenge Keith's evidence; she uses the same evidence as the basis of her own argument.
- C **Correct.** This statement properly identifies the strategy Laura employs in her counterargument. Laura points out that Keith did not consider that, in this case, losses for one industry mean gains for others.
- D Laura rejects rather than reinforces Keith's conclusion; while he notes the losses in jobs and profits that will harm the economy, she points out that *jobs and profits will be gained as well as lost*.
- E Laura does not agree with Keith's main conclusion that the regulations will harm the national economy; she argues instead that gains in other industries will compensate for the losses in one industry.

The correct answer is C.

86. When trying to identify new technologies that promise to transform the marketplace, market researchers survey the managers of those companies that are developing new technologies. Such managers have an enormous stake in succeeding, so they invariably overstate the potential of their new technologies. Surprisingly, however, market researchers typically do not survey a new technology's potential buyers, even though it is the buyers—not the producers—who will ultimately determine a technology's commercial success.

Which of the following, if true, best accounts for the typical survey practices among market researchers?

- (A) If a new technology succeeds, the commercial benefits accrue largely to the producers, not to the buyers, of that technology.
- (B) People who promote the virtues of a new technology typically fail to consider that the old technology that is currently in use continues to be improved, often substantially.
- (C) Investors are unlikely to invest substantial amounts of capital in a company whose own managers are skeptical about the commercial prospects of a new technology they are developing.
- (D) The potential buyers for not-yet-available technologies can seldom be reliably identified.
- (E) The developers of a new technology are generally no better positioned than its potential buyers to gauge how rapidly the new technology can be efficiently mass-produced.

Argument Construction

Situation Market researchers seeking to identify new technologies that have the potential to transform the marketplace survey managers of companies developing new technologies, but typically not the potential buyers of new technologies, even though managers tend to overstate the potential of their new technologies and it is the buyers who determine the products' commercial success.

Reasoning *What best explains why it is managers, not buyers, that the market researchers survey?* Why, despite the information in the passage, are managers of technology companies surveyed while potential buyers are typically not? A partial explanation would be that it is difficult to reliably determine who the potential buyers of new technologies will be. If market researchers cannot identify who the potential buyers of as-yet unavailable technologies will be, that explains why they are not typically surveyed—and why the next best alternative may be to survey managers.

- A This answer choice tells us who would benefit from commercial success of new technologies. But it says nothing about whose opinion would be most valuable in predicting the commercial success of new technologies.
- B At most, this could help explain why managers overstate the potential of their new technologies. But it does not explain the motives of market researchers in relying on the managers' rather than buyers' opinions about new technologies.
- C Given that managers of technology companies will want to attract investors, this helps to explain why the managers would tend to overstate the potential of their new technologies. But it does not help to explain the survey practices.
- D **Correct.** This accounts for why potential buyers of new technologies are not typically sought out in surveys by market researchers: It is difficult to determine in advance who they are.
- E This, like answer choice (C), tends to make the practices of market researchers more difficult rather than easier to understand. If developers of new technologies are no better at gauging how rapidly a new technology can be mass-produced (a factor affecting commercial success), then all the more reason to survey potential buyers rather than the managers.

The correct answer is D.

87. In the United States, of the people who moved from one state to another when they retired, the percentage who retired to Florida has decreased by three percentage points over the past ten years. Since many local businesses in Florida cater to retirees, these declines are likely to have a noticeably negative economic effect on these businesses and therefore on the economy of Florida.

Which of the following, if true, most seriously weakens the argument given?

- (A) People who moved from one state to another when they retired moved a greater distance, on average, last year than such people did ten years ago.
- (B) People were more likely to retire to North Carolina from another state last year than people were ten years ago.
- (C) The number of people who moved from one state to another when they retired has increased significantly over the past ten years.
- (D) The number of people who left Florida when they retired to live in another state was greater last year than it was ten years ago.
- (E) Florida attracts more people who move from one state to another when they retire than does any other state.

Argument Evaluation

Situation Of those people who move to another state when they retire, the percentage moving to Florida has declined. This trend is apt to harm Florida's economy because many businesses there cater to retirees.

Reasoning *Which of the options most weakens the argument?* The argument draws its conclusion from data about the *proportion* of emigrating retirees moving to Florida. Yet what matters more directly to the conclusion (and to Florida's economy) is the *absolute number* of retirees immigrating to Florida. That number could have remained constant or even risen if the absolute number of emigrating retirees itself increased while the proportion going to Florida decreased.

- A This has no obvious bearing on the argument one way or another. It makes it more likely, perhaps, that a person in a distant state will retire to Florida, but less likely that one in a neighboring state will do so.
- B This has no bearing whether fewer people have been retiring to Florida over the last ten years.
- C **Correct.** This is the option that most seriously weakens the argument.
- D This makes it *more* likely that Florida's economy will be harmed because of decreasing numbers of retirees, but has no real bearing on the argument which concludes specifically that *declines in the proportion of emigrating retirees moving to Florida* will have a negative effect on the state's economy.
- E This is irrelevant. At issue is how the numbers of retirees in Florida from one year compare to the next, not how those numbers compare with numbers of retirees in other states.

The correct answer is C.

88. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government's plan to increase the amount of money available for development loans for businesses?

- (A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.
- (B) The increased tax revenue the government would receive as a result of business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.
- (C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.
- (D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.
- (E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

Evaluation of a Plan

Situation Because the lack of available money for development loans is harming businesses, the government plans to modify the income-tax structure, encouraging taxpayers to put more money into retirement accounts. This plan is intended to ensure that with more money put into these accounts, more money will in turn be available to business borrowers.

Reasoning *What potential flaw in this plan might prevent it from being effective?* What is the expectation behind the plan? The government's plan supposes that the money invested in retirement accounts will be available to business borrowers in the form of development loans. Consider what circumstances might hinder that availability. What if consumer borrowers compete with businesses? If it is known that, historically, increased savings in personal retirement accounts corresponds with increased consumer borrowing, then the government's effort to target businesses as the beneficiaries of this plan could well fail.

- A **Correct.** This statement properly identifies a reason that the government's plan could be less effective in meeting its goal.
- B A predicted revenue shortfall does not directly affect the plan's effectiveness in reaching its stated goal, and might be deemed an acceptable cost of achieving that goal.
- C As long as the total amount deposited in personal retirement accounts increases sufficiently, the decision of *some people* not to increase their contributions will not keep the plan from achieving its goal.
- D The plan would increase the money available specifically for development loans, not existing loans.
- E The universal tax savings does not affect the effectiveness of the plan.

The correct answer is A.

89. Since it has become known that **several of a bank's top executives have been buying shares in their own bank**, the bank's depositors, who had been worried by rumors that the bank faced impending financial collapse, have been greatly relieved. They reason that, since top executives evidently have faith in the bank's financial soundness, those worrisome rumors must be false. Such reasoning might well be overoptimistic, however, since **corporate executives have been known to buy shares in their own company in a calculated attempt to dispel negative rumors about the company's health**.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first describes evidence that has been taken as supporting a conclusion; the second gives a reason for questioning that support.
- (B) The first describes evidence that has been taken as supporting a conclusion; the second states a contrary conclusion that is the main conclusion of the argument.
- (C) The first provides evidence in support of the main conclusion of the argument; the second states that conclusion.
- (D) The first describes the circumstance that the argument as a whole seeks to explain; the second gives the explanation that the argument seeks to establish.
- (E) The first describes the circumstance that the argument as a whole seeks to explain; the second provides evidence in support of the explanation that the argument seeks to establish.

Argument Evaluation

Situation Top executives at a bank that has been rumored to be in financial trouble have been buying shares in the bank. Bank depositors see this as a good sign, because they believe that it indicates that the executives have faith in the bank. However, corporate executives sometimes do this just to dispel rumors about a company's health.

Reasoning *What is the role that the two boldfaced portions play in the argument?* The first boldfaced portion states that bank executives are buying bank shares, which the passage indicates is taken by bank depositors to be evidence of the executives' faith in the bank. The passage then tells us what some have inferred from this, and finally offers in the second boldfaced statement evidence that undermines this inference.

- A **Correct.** This option correctly identifies the roles played by the boldfaced portions.
- B This correctly describes the first statement's role, but the second statement is not offered as a conclusion—no evidence is given for it; rather it is evidence for something else.
- C Again, the second statement is not offered as a conclusion; no evidence is given for it.
- D The second statement is not itself offered as an explanation of why these bank executives are investing in the bank; if it were, that would mean that the bank executives are doing so *because* corporate executives are known to do such things in a calculated effort to dispel worries. Furthermore the argument does not conclude that this other explanation (which the boldfaced portion points to) is correct, only that the one inferred by depositors may not be.
- E Again, the argument is not so much seeking to establish an explanation of its own as it is trying to undermine that inferred by the depositors.

The correct answer is A.

90. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

- (A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.
- (B) Corporate sponsors of research in university facilities are entitled to tax credits under new federal tax-code guidelines.
- (C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.
- (D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profit-making corporations.
- (E) Logos University is unlikely to attract corporate sponsorship of its scientific research.

Evaluation of a Plan

Situation Universities own the patents resulting from government-sponsored research at their institutions. One university plans to sell its patents to corporations to fund a program to improve teaching.

Reasoning *Which point casts doubt on the university's plan?* The university's plan assumes there will be a market for its patents, and that the corporations will want to buy them. What might make this untrue? If some of the corporations have already done the same or similar research, they will not be prospective buyers of the university's patents.

- A This point is irrelevant to the plan to sell patents in order to fund a program.
- B The university plans to sell the patents to the corporations, not to invite the corporations to sponsor research.
- C This point is irrelevant to the university's plan to sell off patents since the plan does not specify that the research scientists will be involved in the programs to improve undergraduate teaching.
- D Correct.** This statement properly identifies a factor that casts doubt on the university's plan to sell its patents to corporations.
- E The plan concerns selling patents resulting from government-sponsored research, not attracting corporate sponsorship for research.

The correct answer is D.

91. Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete resources.

The environmentalist's statements, if true, best support which of the following as a conclusion?

- (A) The use of technology is the reason for the increasing encroachment of people on nature.
- (B) It is possible to determine how many fish are in the sea in some way other than by catching fish.
- (C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.
- (D) Modern technologies waste resources by catching inedible fish.
- (E) Marine fish continue to be an endangered resource.

Argument Construction

Situation A public official argues that increased catches show that marine fish are no longer endangered. An environmentalist attacks the position and cites technology as the cause of the increased catch.

Reasoning *What conclusion do the environmentalist's statements support?* The environmentalist casts doubt by saying the commissioner *would have the public believe* that the increased catch shows that the fish are no longer endangered; the phrasing indicates that the environmentalist believes just the reverse. The environmentalist does believe the marine fish are endangered, and, after attacking the commissioner's argument as *specious*, or false, and offering an analogy to make that argument look ridiculous, the environmentalist gives an alternate explanation for the increased catch that is consistent with that belief.

- A Although the environmentalist claims that technology causes people's greater encroachment on nature in this single instance, there is nothing in the argument to suggest that such encroachment caused by technology is a general trend.
- B The environmentalist's claims imply that the number of fish caught is not a reliable indicator of how many are left in the ocean but do not give any indication that it is possible to find out by any other means, either.
- C The environmentalist creates an analogy between fish caught and rain forest trees cut down but does not compare their proportion.
- D Nothing about how the fish can be used, including whether they are edible or inedible, plays any role in the environmentalist's argument.
- E **Correct.** This statement properly identifies a conclusion supported by the environmentalist's statements: The marine fish are endangered.

The correct answer is E.

92. In the country of Veltria, the past two years' broad economic recession has included a business downturn in the clothing trade, where sales are down by about 7 percent as compared to two years ago. Clothing wholesalers have found, however, that the proportion of credit extended to retailers that was paid off on time fell sharply in the first year of the recession but returned to its prerecession level in the second year.

Which of the following, if true, most helps to explain the change between the first and the second year of the recession in the proportion of credit not paid off on time?

- (A) The total amount of credit extended to retailers by clothing wholesalers increased between the first year of the recession and the second year.
- (B) Between the first and second years of the recession, clothing retailers in Veltria saw many of their costs, rent and utilities in particular, increase.
- (C) Of the considerable number of clothing retailers in Veltria who were having financial difficulties before the start of the recession, virtually all were forced to go out of business during its first year.
- (D) Clothing retailers in Veltria attempted to stimulate sales in the second year of the recession by discounting merchandise.
- (E) Relatively recession-proof segments of the clothing trade, such as work clothes, did not suffer any decrease in sales during the first year of the recession.

Argument Evaluation

Situation Two years of recession in Veltria included a downturn in the clothing trade where sales are down 7 percent from two years ago. Yet, in the second year of the recession, the proportion of credit extended from clothing wholesalers to retailers that was paid off on time has returned to its prerecession level, after having fallen sharply during the first year.

Reasoning Which option would most help to explain the change between the first and second year in the proportion of credit paid off on time? The apparent discrepancy in the passage that needs explaining is between the downturn in the clothing trade over the last two years and the return to prerecession rates in the proportion of credit extended to clothing retailers that was paid on time. How can the proportion this past year be similar to what it would be in a normal year? After all, one would expect retailers to have a harder time paying off credit in a recession. And what changed in the past year to bring this about? If the first year of the recession drove out of business many of the retailers who were most apt to get behind in their payments to wholesalers, then that would explain how the rate at which credit was being paid on time could be as high in the second year of the recession as it was before the recession.

- A The fact that the absolute amount of credit that was extended to retailers went up in the second year does not help to explain why the *proportion that was paid on time* also went up.
- B If anything, this would suggest that more retailers would have trouble paying their credit to wholesalers on time.
- C **Correct.** This is the option that most helps to explain the phenomenon.
- D Just because retailers *tried* to stimulate sales does not mean that they succeeded, and the passage tells us that the downturn in sales in the clothing trade continued into the second year.
- E This does not change the fact that there was a downturn in sales of clothing during the first year. Furthermore, the question is why the rate of unpaid credit dropped in the *second* year of the recession.

The correct answer is C.

93. Commentator: The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

- (A) No country actually acts according to the theory of trade retaliation.
- (B) No country should block any of its markets to foreign trade.
- (C) Trade disputes should be settled by international tribunal.
- (D) For any two countries, at least one has some market closed to the other.
- (E) Countries close their markets to foreigners to protect domestic producers.

Argument Construction

Situation The theory of trade retaliation is explained as the action and reaction of closing markets between trading nations; no country would ever trade with another, the observation is offered, if every country acted according to the theory.

Reasoning *What assumption underlies this argument?* What makes the commentator conclude that no country would be trading if the theory were operative? The commentator must perceive of some condition as a given here. The argument assumes an initial action, a country's closing of a market to a trading partner, that is followed by a reaction, the retaliatory closing of a market by that partner. In this unending pattern of action-reaction, at least one of the two countries must have a market closed to the other.

- A The argument does not assume that no country acts according to the theory, just that not all countries do so.
- B The commentator's argument is about what the theory of trade retaliation predicts, not about what trade policies countries ought to follow, and a statement about the latter is not an assumption for the former.
- C This alternative scenario—trade disputes settled by international tribunal rather than by trade retaliation—plays no role in the argument.
- D **Correct.** This statement properly identifies the assumption required to create the never-ending action-reaction pattern.
- E The argument does not pertain to countries' initial reasons for closing their markets to foreign trade, only to the consequences of doing so.

The correct answer is D.

94. As a construction material, bamboo is as strong as steel and sturdier than concrete. Moreover, in tropical areas bamboo is a much less expensive construction material than either steel or concrete and is always readily available. In tropical areas, therefore, building with bamboo makes better economic sense than building with steel or concrete, except where land values are high.

Which of the following, if true, most helps to explain the exception noted above?

- (A) Buildings constructed of bamboo are less likely to suffer earthquake damage than are steel and concrete buildings.
- (B) Bamboo is unsuitable as a building material for multistory buildings.
- (C) In order to protect it from being damaged by termites and beetles, bamboo must be soaked, at some expense, in a preservative.
- (D) In some tropical areas, bamboo is used to make the scaffolding that is used during large construction projects.
- (E) Bamboo growing in an area where land values are increasing is often cleared to make way for construction.

Argument Construction

Situation Bamboo is as strong as steel and sturdier than concrete when used as a construction material. In tropical areas, bamboo is much less expensive and is always readily available.

Reasoning *What explains the exception specified in the conclusion?* The argument's conclusion is that in tropical areas bamboo is a more economical building material than steel or concrete, *except where land values are high*. The information in the passage makes clear why bamboo is a more economical building material in tropical areas than are concrete or steel. So the question is: Why must an exception be made for areas where land values are high? Multistory buildings are particularly desirable in areas where land values are high, but bamboo may not be suitable for such buildings.

- A This explains why bamboo would be preferable to steel or concrete in tropical areas especially prone to earthquakes. However, there is no clear connection to be made between areas where land values are high and areas especially prone to earthquakes.
- B Correct.** Multistory buildings provide a greater area of floor space for a given site area, and in that sense are more economical. A single-story building with the same floor space will occupy a much bigger site, so the higher the land values, the more likely it is that a multistory building will be built on that land. Thus, given this information, bamboo is less suitable for areas where land values are high.
- C This undermines, to some extent, the claim that bamboo is an economical building material. But it does nothing to explain why it would be less economical specifically in areas where land values are high.
- D This is irrelevant. Bamboo is used to build scaffolding for construction projects and as a building material for permanent structures. There is no way to infer from this that bamboo is less economical specifically in areas where land values are high.
- E The fact that bamboo is cleared from an area to make room for construction in no way implies that bamboo would not be a suitable and economical building material for the area once it has been cleared.

The correct answer is B.

95. Studies in restaurants show that the tips left by customers who pay their bill in cash tend to be larger when the bill is presented on a tray that bears a credit-card logo. Consumer psychologists hypothesize that simply seeing a credit-card logo makes many credit-card holders willing to spend more because it reminds them that their spending power exceeds the cash they have immediately available.

Which of the following, if true, most strongly supports the psychologists' interpretation of the studies?

- (A) The effect noted in the studies is not limited to patrons who have credit cards.
- (B) Patrons who are under financial pressure from their credit-card obligations tend to tip less when presented with a restaurant bill on a tray with a credit-card logo than when the tray has no logo.
- (C) In virtually all of the cases in the studies, the patrons who paid bills in cash did not possess credit cards.
- (D) In general, restaurant patrons who pay their bills in cash leave larger tips than do those who pay by credit card.
- (E) The percentage of restaurant bills paid with a given brand of credit card increases when that credit card's logo is displayed on the tray with which the bill is presented.

Argument Evaluation

Situation Studies have found that restaurant customers give more generous tips when their bills are brought on trays bearing a credit-card logo. Psychologists speculate that this is because the logo reminds customers of their ability to spend more money than they have.

Reasoning *Which of the options most helps to support the psychologists' explanation of the studies?* The psychologists' hypothesis is that the credit-card logos on the trays bring to the minds of those who tip more the fact that they have more purchasing power than merely the cash that they have at hand. This explanation would not be valid even if those people who are *not* reminded of their own excess purchasing power—if in fact they have any such power—when they see such a logo nonetheless tip more in such trays. Thus, if restaurant patrons who are under financial pressure from their credit-card obligations do not tip more when their bills are presented on trays bearing credit-card logos, then the psychologists' interpretation of the studies is supported.

- A This undermines the psychologists' interpretation, for it shows that the same phenomenon occurs even when the alleged cause has been removed.
- B Correct.** This option identifies the result that would most strengthen the psychologists' interpretation.
- C This undermines the psychologists' interpretation by showing that the same phenomenon occurs even when the alleged cause has been removed; patrons cannot be reminded of something that is not there.
- D To the extent that this bears on the interpretation of the study, it weakens it. Patrons *using* credit cards are surely aware that they have credit, and yet they spend *less* generously.
- E This does not support the idea that being reminded that one has a credit card induces one to be *more generous*, only that it induces one to *use* that credit card.

The correct answer is B.

96. Although parapsychology is often considered a pseudoscience, it is in fact a genuine scientific enterprise, for it uses scientific methods such as controlled experiments and statistical tests of clearly stated hypotheses to examine the questions it raises.

The conclusion above is properly drawn if which of the following is assumed?

- (A) If a field of study can conclusively answer the questions it raises, then it is a genuine science.
- (B) Since parapsychology uses scientific methods, it will produce credible results.
- (C) Any enterprise that does not use controlled experiments and statistical tests is not genuine science.
- (D) Any field of study that employs scientific methods is a genuine scientific enterprise.
- (E) Since parapsychology raises clearly statable questions, they can be tested in controlled experiments.

Argument Construction

Situation The argument states that parapsychology is a genuine science because it uses scientific methods.

Reasoning *What assumption does the argument make?* The argument asserts that parapsychology is a science, *for it uses scientific methods*. The argument thus assumes that the use of scientific methods proves that a field of study is a genuine science.

- A The argument is based on an assumption about how the questions are investigated rather than on how well they are answered.
- B The argument is not about whether the results are credible, so this assumption is irrelevant.
- C The argument does not concern what is *not* genuine science, so there is no need for this assumption.
- D **Correct.** This statement properly identifies the argument's assumption that the use of scientific method is sufficient to make an enterprise genuine science.
- E This assumption does not make the connection required by the argument between the use of scientific methods and a field of study's status as genuine science.

The correct answer is D.

97. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

- (A) Another manufacturer's introduction to the market of a similarly efficient burner
- (B) The Clifton Asphalt plant's need for more than one new burner
- (C) Very poor efficiency in the Clifton Asphalt plant's old burner
- (D) A decrease in the demand for asphalt
- (E) A steady increase in the price of oil beginning soon after the new burner is installed

Evaluation of a Plan

Situation Hotco produces a very efficient oil burner. It sells a burner to an asphalt plant, stating that the price of the burner is how much money the plant saves on oil using the new burner.

Reasoning *Hotco will be at a disadvantage if which of the following occurs?* Hotco is to be paid based on how much money the plant saves on oil over a two-year period. There is an assumption that a number of factors will remain relatively stable from the previous two years to the next two years. What is a factor that could cause a disadvantage for Hotco? If the price of oil goes up, then the plant will experience smaller savings than Hotco anticipated, despite the plant's using less oil than previously because of its new, more efficient burners. If the plant's savings go down, Hotco will not get the payment it is expecting.

- A The burner is already installed, so a competitor is not a problem.
- B The plant's need for multiple burners should be an opportunity for Hotco, not a disadvantage.
- C If the old burner was very inefficient, the new burner should save a great deal of money that would ultimately go to Hotco.
- D If demand decreases, less oil would need to be purchased, and Hotco would get more money.
- E **Correct.** This statement properly identifies a factor that would constitute a disadvantage for the plan: since the payment for the burner is based on savings in oil purchases, any increases in the price of oil will decrease savings and thus decrease payments to Hotco.

The correct answer is E.

98. **Delta Products Inc. has recently switched at least partly from older technologies using fossil fuels to new technologies powered by electricity.** The question has been raised whether it can be concluded that **for a given level of output Delta's operation now causes less fossil fuel to be consumed than it did formerly.** The answer, clearly, is yes, since the amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount needed to power the older technologies, provided level of output is held constant.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first identifies the content of the conclusion of the argument; the second provides support for that conclusion.
- (B) The first provides support for the conclusion of the argument; the second identifies the content of that conclusion.
- (C) The first states the conclusion of the argument; the second calls that conclusion into question.
- (D) The first provides support for the conclusion of the argument; the second calls that conclusion into question.
- (E) Each provides support for the conclusion of the argument.

Argument Evaluation

Situation Delta switched from technologies using fossil fuels to ones using electricity. It has been asked whether this results in less fossil fuel used per level of output. The answer is that it does.

Reasoning *What roles do the two boldfaced portions play in the argument?* The first boldfaced statement is simply asserted by the passage. But the second boldfaced statement, when it is first introduced, is not asserted to be true, but rather is identified as something that might be inferred from the first statement. By the end of the passage the argument concludes that the second statement is true.

- A This option simply reverses the roles that the statements play in the argument.
- B Correct.** This option identifies the roles the boldfaced portions play.
- C Nothing in the passage is intended to support the first statement; and the second statement is not supposed to call the first into question.
- D This correctly identifies the role of the first statement, but the second boldfaced portion does not call the argument's conclusion into question—it is part of a sentence that refers to the question whether that conclusion can be drawn from the first statement.
- E Again, this is only half right. The second boldfaced portion is not offered as support for the conclusion; if it were offered as such support, the argument would be guilty of circular reasoning, since the second boldfaced portion states exactly what the argument concludes.

The correct answer is B.

99. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

- (A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.
- (B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.
- (C) People who are better at abstract pattern recognition have more energy-efficient neural connections.
- (D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.
- (E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.

Argument Construction

Situation Experimental subjects worked with pattern recognition and completion. The subjects who performed best showed the lowest expenditure of energy in neurons in the brain.

Reasoning *Which hypothesis best accounts for the findings?* In order to account for the findings, the hypothesis must suggest a plausible link between successful performance and the energy expenditure of neurons in the brain. Consider each answer choice, and evaluate its plausibility and logic. Where is there a reasonably direct relationship between the given factors and the conclusion that is drawn? Understand that hypotheses based on factors not included in the experiment cannot be used to account for the findings.

- A The experiment did not compare types of reasoning so this hypothesis does not account for the results.
- B No information is provided about subjects' satisfaction, so this hypothesis is not warranted.
- C **Correct.** This statement properly identifies a hypothesis that connects subjects' performance with their energy expenditure and so could account for the experiment's results.
- D The most successful subjects would presumably not have completed fewer patterns than average, so the posited increase in energy would likely lead to higher energy expenditures for them, not lower.
- E No information is offered on the subjects, so no hypothesis about athletes is warranted.

The correct answer is C.

100. Debater: The average amount of overtime per month worked by an employee in the manufacturing division of the Haglut Corporation is 14 hours. Most employees of the Haglut Corporation work in the manufacturing division. Furthermore, the average amount of overtime per month worked by any employee in the company generally does not fluctuate much from month to month. Therefore, each month, most employees of the Haglut Corporation almost certainly work at least some overtime.

The debater's argument is most vulnerable to criticism on which of these grounds?

- (A) It takes for granted that the manufacturing division is a typical division of the corporation with regard to the average amount of overtime its employees work each month.
- (B) It takes for granted that if a certain average amount of overtime is worked each month by each employee of the Haglut Corporation, then approximately the same amount of overtime must be worked each month by each employee of the manufacturing division.
- (C) It confuses a claim from which the argument's conclusion about the Haglut Corporation would necessarily follow with a claim that would follow from the argument's conclusion only with a high degree of probability.
- (D) It overlooks the possibility that even if, on average, a certain amount of overtime is worked by the members of some group, many members of that group may work no overtime at all.
- (E) It overlooks the possibility that even if most employees of the corporation work some overtime each month, any one corporate employee may, in some months, work no overtime.

Argument Evaluation

Situation Most of the employees of the Haglut Corporation work in the manufacturing division, where employees average 14 hours per month in overtime. The average amount of overtime per month for employees at Haglut does not fluctuate much from month to month.

Reasoning *What is the argument's greatest weakness?* The argument's conclusion is that *almost certainly* each month most of the employees of Haglut work at least some overtime. Answer choice (D) identifies the argument's greatest weakness because it points out how the conclusion of the argument could be false even if all of the supporting information were true. For example, it could be that less than half of the employees work any overtime at all, but those that do work overtime work much more than 14 hours per month.

- A The argument leaves open the possibility that in some divisions of the corporation, the average monthly overtime of its employees is quite different from 14 hours, even if (as the argument states) that average does not change much from month to month.
- B The argument does not assume that there is a monthly amount of overtime worked by each employee of the manufacturing division equivalent to the company-wide average monthly overtime per employee.
- C This does not identify a weakness that can be detected in the argument. Since the claims mentioned here are not specified, the passage provides no evidence that clearly indicates that this type of confusion is playing a role in the argument.
- D **Correct.** The argument ignores the possibility that most of the employees of Haglut work no overtime at all in a particular month—which is quite consistent with the argument's assertion that the average number of monthly overtime hours per employee within the manufacturing division is 14.
- E The possibility described by this is not overlooked by the argument, because this possibility is consistent with the conclusion. It could easily be that most employees of the corporation work some overtime each month—as the conclusion envisions—but that there are always some employees who do not work any overtime.

The correct answer is D.

101. Which of the following most logically completes the argument?

The irradiation of food kills bacteria and thus retards spoilage. However, it also lowers the nutritional value of many foods. For example, irradiation destroys a significant percentage of whatever vitamin B1 a food may contain. Proponents of irradiation point out that irradiation is no worse in this respect than cooking. However, this fact is either beside the point, since much irradiated food is eaten raw, or else misleading, since _____.

- (A) many of the proponents of irradiation are food distributors who gain from foods' having a longer shelf life
- (B) it is clear that killing bacteria that may be present on food is not the only effect that irradiation has
- (C) cooking is usually the final step in preparing food for consumption, whereas irradiation serves to ensure a longer shelf life for perishable foods
- (D) certain kinds of cooking are, in fact, even more destructive of vitamin B1 than carefully controlled irradiation is
- (E) for food that is both irradiated and cooked, the reduction of vitamin B1 associated with either process individually is compounded

Argument Construction

Situation Irradiation kills bacteria but it also lowers the amount of nutrients—including vitamin B1—in foods. Proponents try to dismiss this concern by arguing that cooking destroys B1 as well. That point is said to be misleading.

Reasoning *Which option most logically completes the argument?* For the proponents' claim to be misleading it needs to be suggesting something about irradiation that is false. By stating that irradiation destroys no more B1 than cooking does, the proponent seems to be suggesting that any food that is going to be cooked might as well be irradiated because it will end up with the same amount of B1 either way. But if the effects of radiation and cooking combine to destroy more B1 than cooking or irradiation alone would, then the proponents' claim suggests something that is false.

- A This might make the assurances of the proponents less credible but it does not make their claim misleading.
- B Nothing about the proponents' claim suggests that the only effect irradiation has is to kill bacteria.
- C The fact that cooking and irradiation have different purposes does not indicate that the proponents' claim suggests something that is false.
- D If anything, this strengthens the proponents' point by minimizing the relative damage caused by irradiation.
- E **Correct.** This option most logically completes the argument.

The correct answer is E.

102. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called “benchmarking,” permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

- (A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.
- (B) Getting “inside” information about the unique practices of competitors is particularly difficult.
- (C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.
- (D) Managers are generally more receptive to new ideas that they find outside their own industry.
- (E) Much of the success of good companies is due to their adoption of practices that take advantage of the special circumstances of their products or markets.

Argument Construction

Situation “Benchmarking” is a technique for judging the performance of a company by comparing it with other companies. The goal is to find and adopt better industrial practices.

Reasoning *Which one condition does NOT recommend benchmarking against noncompetitors? Which one condition IS a well-founded reason to benchmark against competitors?* First, sort through the given information and the answer choices for the question to gain an understanding of the potential advantages or disadvantages of comparing a company to its competitors or to noncompetitors. What are the reasons in favor of benchmarking against noncompetitors? Information about noncompeting companies is easier to obtain; it can offer new insights; and it may be easier to put into practice. Why then might a manager choose to benchmark against competitors? Competing companies do share special circumstances involving products and markets. If companies are often successful because of practices related to these special circumstances within their industry, then benchmarking against competitors will reveal these practices and so be more fruitful than benchmarking against noncompetitors.

- A Since benchmarking against competitors would yield few new practices, it would be better to benchmark against noncompetitors.
- B If information about competitors is hard to obtain, benchmarking against noncompetitors is preferable.
- C Since benchmarking against noncompetitors would yield practices useful in beating competitors, benchmarking against noncompetitors is preferable.
- D If managers are more likely to adopt new practices learned from benchmarking against noncompetitors, then this technique is preferable.
- E **Correct.** This statement properly identifies the rationale that supports a company’s benchmarking against its competitors.

The correct answer is E.

103. For a trade embargo against a particular country to succeed, a high degree of both international accord and ability to prevent goods from entering or leaving that country must be sustained. A total blockade of Patria's ports is necessary to an embargo, but such an action would be likely to cause international discord over the embargo.

The claims above, if true, most strongly support which of the following conclusions?

- (A) The balance of opinion is likely to favor Patria in the event of a blockade.
- (B) As long as international opinion is unanimously against Patria, a trade embargo is likely to succeed.
- (C) A naval blockade of Patria's ports would ensure that no goods enter or leave Patria.
- (D) Any trade embargo against Patria would be likely to fail at some time.
- (E) For a blockade of Patria's ports to be successful, international opinion must be unanimous.

Argument Construction

Situation The success of a trade embargo requires both international accord and the ability to enforce the embargo. In the case of Patria, an embargo would require a total blockade of the ports, but the blockade itself would likely lead to international discord.

Reasoning *What conclusion can be drawn from this information?* A conclusion must be based only on the information provided. Since the given information discusses the general conditions for a successful trade embargo and the conditions specific to the possible embargo in Patria, the conclusion should be about the likelihood of success for a trade embargo against Patria. Since international accord is necessary for the success of an embargo but the blockade required in this case would create international discord, the contradictions of this paradoxical situation make any embargo unlikely to succeed.

- A Although international discord would likely result from a blockade, no information allows a conclusion to be drawn about the balance of opinion.
- B This conclusion is not justified because a successful embargo requires both international accord and the ability to enforce the embargo.
- C This statement simply defines the purpose of a blockade; it is not a conclusion from the information given.
- D **Correct.** This statement properly identifies a conclusion supported by the claims.
- E The necessary condition for success is *a high degree of international accord*, not unanimity, so this conclusion cannot be justified.

The correct answer is D.

104. Theater Critic: The play *La Finestrina*, now at Central Theater, was written in Italy in the eighteenth century. The director claims that this production is as similar to the original production as is possible in a modern theater. Although the actor who plays Harlequin the clown gives a performance very reminiscent of the twentieth-century American comedian Groucho Marx, Marx's comic style was very much within the comic acting tradition that had begun in sixteenth-century Italy.

The considerations given best serve as part of an argument that

- (A) modern audiences would find it hard to tolerate certain characteristics of a historically accurate performance of an eighteenth-century play
- (B) Groucho Marx once performed the part of the character Harlequin in *La Finestrina*
- (C) in the United States the training of actors in the twentieth century is based on principles that do not differ radically from those that underlay the training of actors in eighteenth-century Italy
- (D) the performance of the actor who plays Harlequin in *La Finestrina* does not serve as evidence against the director's claim
- (E) the director of *La Finestrina* must have advised the actor who plays Harlequin to model his performance on comic performances of Groucho Marx

Argument Construction

Situation The director of the local production of *La Finestrina* says it is as similar to the original production as is possible in a modern theater. The actor playing Harlequin gives a performance reminiscent of Groucho Marx, whose comic style falls within an acting tradition which began in sixteenth-century Italy.

Reasoning *For which of the options would the consideration given best serve as an argument?* The actor's performance was reminiscent of someone who fell within a tradition going back to sixteenth-century Italy. The play was written, and therefore was likely first performed, in eighteenth-century Italy. All of this suggests that there could be a similarity between the performances of Harlequin in the local production and in the original production. While the two performances *might* have been quite dissimilar, there is nothing *here* that supports that.

- A Regardless of how plausible this option might be on its own merits, the passage provides no support for it because the passage provides no information about the characteristics of a historically accurate performance of an eighteenth-century play.
- B The passage neither says this nor implies it.
- C The passage says nothing about the training of actors, so this option would be supported by the passage only in a very roundabout, indirect way.
- D **Correct.** This is the option that the considerations most support.
- E That the performance reminded the theater critic of Groucho Marx hardly shows that the similarity was intentional, let alone that it was at the director's instruction.

The correct answer is D.

105. The cost of producing radios in Country Q is 10 percent less than the cost of producing radios in Country Y. Even after transportation fees and tariff charges are added, it is still cheaper for a company to import radios from Country Q to Country Y than to produce radios in Country Y.

The statements above, if true, best support which of the following assertions?

- (A) Labor costs in Country Q are 10 percent below those in Country Y.
- (B) Importing radios from Country Q to Country Y will eliminate 10 percent of the manufacturing jobs in Country Y.
- (C) The tariff on a radio imported from Country Q to Country Y is less than 10 percent of the cost of manufacturing the radio in Country Y.
- (D) The fee for transporting a radio from Country Q to Country Y is more than 10 percent of the cost of manufacturing the radio in Country Q.
- (E) It takes 10 percent less time to manufacture a radio in Country Q than it does in Country Y.

Argument Construction

Situation One country's manufacturing costs for a product are 10 percent higher than another country's. Even with tariffs and transportation costs, importing is a less expensive option than local production.

Reasoning *What conclusion can be drawn from this information?* Because production costs are 10 percent higher in Country Y than in Country Q, importing radios is less expensive only if the combined costs of tariffs and transportation are less than 10 percent of the manufacturing costs.

- A Lower labor costs may explain the lower production costs in Country Q, but there may be a variety of other reasons as well.
- B It is possible that manufacturing jobs would be decreased, but no evidence in the passage leads to that conclusion.
- C **Correct.** This statement properly identifies the point that, for importing to be less expensive, tariffs and transportation costs together must be less than 10 percent of manufacturing costs. Therefore, tariffs alone must be less than 10 percent
- D If transportation costs were more than 10 percent, importing would be more expensive, not less.
- E Less production time may explain the lower costs in Country Q, but there may be a variety of other reasons as well.

The correct answer is C.

106. Exposure to certain chemicals commonly used in elementary schools as cleaners or pesticides causes allergic reactions in some children. Elementary school nurses in Renston report that the proportion of schoolchildren sent to them for treatment of allergic reactions to those chemicals has increased significantly over the past ten years. Therefore, either Renston's schoolchildren have been exposed to greater quantities of the chemicals, or they are more sensitive to them than schoolchildren were ten years ago.

Which of the following is an assumption on which the argument depends?

- (A) The number of school nurses employed by Renston's elementary schools has not decreased over the past ten years.
- (B) Children who are allergic to the chemicals are no more likely than other children to have allergies to other substances.
- (C) Children who have allergic reactions to the chemicals are not more likely to be sent to a school nurse now than they were ten years ago.
- (D) The chemicals are not commonly used as cleaners or pesticides in houses and apartment buildings in Renston.
- (E) Children attending elementary school do not make up a larger proportion of Renston's population now than they did ten years ago.

Argument Construction

Situation Some children have allergic reactions to some of the chemicals commonly used in elementary schools as cleaners and pesticides. The number of children sent to elementary school nurses in Renston for allergic reactions to such chemicals has risen significantly over the past ten years.

Reasoning *What must the argument assume?* The argument's conclusion presents just two alternatives: either the children are exposed to more of the chemicals than children in earlier years, *or* they are more sensitive. But there is a third possible explanation for the significant increase in school-nurse visits that the school nurses have reported: that children are just more inclined to go to the school nurse when they experience an allergic reaction than were children several years ago. For the conclusion to follow from its premises, the argument must assume that this is not the correct explanation.

- A If the number of elementary school nurses in Renston elementary schools had decreased over the past ten years, that would in no way explain the rise in the proportion of children reporting to school nurses for allergic reactions.
- B Only school-nurse visits for allergic reactions to the cleaners and pesticides used in elementary schools are in question in the argument. Of course there could be school-nurse visits for allergic reactions to other things, but that issue does not arise in the argument.
- C **Correct.** This can be seen by considering whether the argument would work if we assume that this were false, i.e., that a school-nurse visit *is* more likely in such cases. As noted above, this provides an alternative to the two explanations that the conclusion claims are the sole possibilities.
- D This does not need to be assumed by the argument. The argument's conclusion suggests that children may in recent years have had greater exposure to the chemicals, not that this exposure has occurred exclusively in the schools. The argument does not rely on this latter assumption.
- E The argument does not need to make this assumption. The argument is framed in terms of proportions of children having school-nurse visits for certain allergic reactions. *How many* children there are or what proportion such children are of Renston's total population is not directly relevant to the argument.

The correct answer is C.

107. Although the discount stores in Goreville's central shopping district are expected to close within five years as a result of competition from a SpendLess discount department store that just opened, those locations will not stay vacant for long. In the five years since the opening of Colson's, a nondiscount department store, a new store has opened at the location of every store in the shopping district that closed because it could not compete with Colson's.

Which of the following, if true, most seriously weakens the argument?

- (A) Many customers of Colson's are expected to do less shopping there than they did before the SpendLess store opened.
- (B) Increasingly, the stores that have opened in the central shopping district since Colson's opened have been discount stores.
- (C) At present, the central shopping district has as many stores operating in it as it ever had.
- (D) Over the course of the next five years, it is expected that Goreville's population will grow at a faster rate than it has for the past several decades.
- (E) Many stores in the central shopping district sell types of merchandise that are not available at either SpendLess or Colson's.

Argument Evaluation

Situation Due to competition from a recently opened SpendLess discount department store, discount stores in Goreville's central shopping district are expected to close within five years. But those locations will not be vacant long, for new stores have replaced all those that closed because of the opening five years ago of a Colson's nondiscount department store.

Reasoning *The question is which option would most weaken the argument?* The arguer infers that stores that leave because of the SpendLess will be replaced in their locations by other stores because that is what happened after the Colson's department came in. Since the reasoning relies on a presumed similarity between the two cases, any information that brings to light a relevant dissimilarity would weaken the argument. If the stores that were driven out by Colson's were replaced mostly by discount stores, that suggests that the stores were replaced because of a need that no longer exists after the opening of SpendLess.

- A The fact that Colson's may be seeing fewer customers does not mean that the discount stores that close will not be replaced; they might be replaced by stores that in no way compete with Colson's or SpendLess.
- B Correct.** This option most seriously weakens the argument.
- C If anything, this strengthens the argument by indicating that Goreville's central shopping district is thriving.
- D This, too, strengthens the argument because one is more likely to open a new store in an area with a growing population.
- E Because this statement does not indicate whether any of these stores that offer goods not sold at SpendLess or Colson's will be among those that are closing, it is not possible to determine what effect it has on the strength of the argument.

The correct answer is B.

108. Kale has more nutritional value than spinach. But since collard greens have more nutritional value than lettuce, it follows that kale has more nutritional value than lettuce.

Any of the following, if introduced into the argument as an additional premise, makes the argument above logically correct EXCEPT:

- (A) Collard greens have more nutritional value than kale.
- (B) Spinach has more nutritional value than lettuce.
- (C) Spinach has more nutritional value than collard greens.
- (D) Spinach and collard greens have the same nutritional value.
- (E) Kale and collard greens have the same nutritional value.

Argument Construction

Situation Using the symbol > to mean “has (or have) more nutritional value than,” this statement can be expressed as kale > spinach, and collard greens > lettuce. The conclusion that kale > lettuce remains valid if all but one of the premises is added.

Reasoning *Which premise makes the conclusion incorrect?* The information given in the passage is that kale > spinach and that collard greens > lettuce. This is not enough to conclude that kale > lettuce; another premise is needed to establish the relative nutritional value of kale and lettuce. Look at each premise offered in the answers to see whether the conclusion kale > lettuce remains valid. The ranking of vegetables may change with the additional premises; the conclusion, kale > lettuce, must not change. Find the one answer that does NOT support the conclusion.

- A Correct.** This statement properly identifies an additional premise that would invalidate the argument. If collard greens > kale, then it is possible that lettuce > kale, because the ranking could be collard greens > lettuce > kale > spinach.
- B** If spinach > lettuce, then kale > lettuce because kale > spinach.
- C** If spinach > collard greens, then kale > lettuce because the ranking would then be kale > spinach > collard greens > lettuce.
- D** If spinach = collard greens, then kale > lettuce because the ranking would be kale > spinach = collard greens > lettuce.
- E** If kale = collard greens, then kale > lettuce because kale = collard greens > lettuce.

The correct answer is A.

109. Last year all refuse collected by Shelbyville city services was incinerated. This incineration generated a large quantity of residual ash. In order to reduce the amount of residual ash Shelbyville generates this year to half of last year's total, the city has revamped its collection program. This year city services will separate for recycling enough refuse to reduce the number of truckloads of refuse to be incinerated to half of last year's number.

Which of the following is required for the revamped collection program to achieve its aim?

- (A) This year, no materials that city services could separate for recycling will be incinerated.
- (B) Separating recyclable materials from materials to be incinerated will cost Shelbyville less than half what it cost last year to dispose of the residual ash.
- (C) Refuse collected by city services will contain a larger proportion of recyclable materials this year than it did last year.
- (D) The refuse incinerated this year will generate no more residual ash per truckload incinerated than did the refuse incinerated last year.
- (E) The total quantity of refuse collected by Shelbyville city services this year will be no greater than that collected last year.

Argument Construction

Situation To cut in half the residual ash produced at its incinerator, the city will separate for recycling enough refuse to cut in half the number of truckloads of refuse going to the incinerator.

Reasoning *Which option is required if the city's revamped collection program is to achieve its aim?* Cutting the number of truckloads of refuse in half must reduce the amount of residual ash to half last year's level. But if removal of the recycled refuse does not proportionately reduce the amount of ash, this will not happen. So if the amount of residual ash produced per truckload increases after recycling, then the amount of ash produced will not be cut in half by cutting in half the number of truckloads.

- A This merely indicates that no further reduction of ash through recycling could be achieved this year; it indicates nothing about how much the ash will be reduced.
- B This suggests a further benefit from recycling, but does not bear on the amount of ash that will be produced.
- C Since no information is provided about how much, if any, recyclable materials were removed from the refuse last year, this does not affect the reasoning.
- D Correct.** This states a requirement for the collection program to achieve its aim.
- E This is not a requirement because even if the city collects more refuse this year, it could still cut in half the amount of residual ash by cutting in half the number of truckloads going to the incinerator.

The correct answer is D.

110. Although custom prosthetic bone replacements produced through a new computer-aided design process will cost more than twice as much as ordinary replacements, custom replacements should still be cost-effective. Not only will surgery and recovery time be reduced, but custom replacements should last longer, thereby reducing the need for further hospital stays.

Which of the following must be studied in order to evaluate the argument presented above?

- (A) The amount of time a patient spends in surgery versus the amount of time spent recovering from surgery
- (B) The amount by which the cost of producing custom replacements has declined with the introduction of the new technique for producing them
- (C) The degree to which the use of custom replacements is likely to reduce the need for repeat surgery when compared with the use of ordinary replacements
- (D) The degree to which custom replacements produced with the new technique are more carefully manufactured than are ordinary replacements
- (E) The amount by which custom replacements produced with the new technique will drop in cost as the production procedures become standardized and applicable on a larger scale

Argument Evaluation

Situation Custom prosthetic bone replacements, although twice as expensive as ordinary replacements, should be cost-effective because they reduce the time of surgery, recovery, and potential future hospitalizations.

Reasoning *What research study would help in evaluating this argument?* The custom replacements must be compared with the ordinary replacements on the basis of the costs of surgery, recovery, and potential repeat hospitalizations. Repeat surgery involves all three kinds of costs; the extent to which such repeat surgery can be avoided is a sound measure of the cost-effectiveness of the two types of replacements.

- A Comparing time in surgery with time in recovery does not lead to a conclusion about the two kinds of replacements and their cost-effectiveness.
- B The cost-effectiveness of the custom replacements is being projected in the current moment; a previous decline in production costs would already have been taken into account.
- C **Correct.** This statement properly identifies evidence of cost-effectiveness that would assist in evaluating the argument.
- D The analysis is about cost-effectiveness; it is not about the level of care taken in manufacture.
- E Anticipating a future drop in production costs is outside the scope of the analysis, which should be based on current conditions.

The correct answer is C.

111. Springfield Fire Commissioner: The vast majority of false fire alarms are prank calls made anonymously from fire alarm boxes on street corners. Since virtually everyone has access to a private telephone, these alarm boxes have outlived their usefulness. Therefore, we propose to remove the boxes. Removing the boxes will reduce the number of prank calls without hampering people's ability to report a fire.

Which of the following, if true, most strongly supports the claim that the proposal, if carried out, will have the announced effect?

- (A) The fire department traces all alarm calls made from private telephones and records where they came from.
- (B) Maintaining the fire alarm boxes costs Springfield approximately \$5 million annually.
- (C) A telephone call can provide the fire department with more information about the nature and size of a fire than can an alarm placed from an alarm box.
- (D) Responding to false alarms significantly reduces the fire department's capacity for responding to fires.
- (E) On any given day, a significant percentage of the public telephones in Springfield are out of service.

Argument Evaluation

Situation It is proposed that fire alarm boxes on street corners be removed. Doing so will reduce the number of prank calls without hampering people's ability to report fires. Most false alarms are prank calls made from these boxes. They have outlived their usefulness, as most people now have private telephones.

Reasoning *Which option most strongly supports the claim that removing the alarm boxes will reduce the number of prank calls without hampering people's ability to report a fire?* The argument already provides some evidence that (1) removing the boxes will reduce prank calls—because that is where most such call are now made from—and that (2) doing so will not hamper people's ability to report fires—virtually everyone already has a private telephone from which they could report a fire. So for an option to be correct it must support either (1) or (2) or both, and provide more such support than the other options. If prank calls from private telephones are traced back to their origin, that should deter people from making such calls.

- A **Correct.** This option provides the most support for the claim.
- B This may provide a reason for supporting the proposal, but it provides no support for either (1) or (2).
- C This indicates that it is better to receive fire calls from telephones than from alarm boxes—other things being equal—but that supports neither (1) nor (2). There is still the possibility that the only person aware that a fire has started is near an alarm box but lacks access to a telephone.
- D This merely indicates that it would be good if the proposal had the intended effects.
- E This actually *weakens* support for (2), by enhancing the possibility that the only person aware that a fire has started is near an alarm box but lacks access to a working telephone.

The correct answer is A.

112. The difficulty with the proposed high-speed train line is that a used plane can be bought for one-third the price of the train line, and the plane, which is just as fast, can fly anywhere. The train would be a fixed linear system, and we live in a world that is spreading out in all directions and in which consumers choose the free-wheel systems (cars, buses, aircraft), which do not have fixed routes. Thus a sufficient market for the train will not exist.

Which of the following, if true, most severely weakens the argument presented above?

- (A) Cars, buses, and planes require the efforts of drivers and pilots to guide them, whereas the train will be guided mechanically.
- (B) Cars and buses are not nearly as fast as the high-speed train will be.
- (C) Planes are not a free-wheel system because they can fly only between airports, which are less convenient for consumers than the high-speed train's stations would be.
- (D) The high-speed train line cannot use currently underutilized train stations in large cities.
- (E) For long trips, most people prefer to fly rather than to take ground-level transportation.

Argument Evaluation

Situation A free-wheel system of transportation, the airplane, is as fast as a fixed linear system, the high-speed train. Because people prefer free-wheel systems that do not have fixed routes, the high-speed train will never find a sufficient market.

Reasoning *What is the potential weakness in this argument?* The passage argues that consumers will choose to fly rather than use the high-speed train. The argument is based upon a consumer preference for free-wheel systems over fixed linear systems. The definition of a free-wheel system is one that does *not have fixed routes*. The argument is weakened by any challenge to the definition of flying as a free-wheel transportation system. It is true that airplanes may be able to go almost anywhere, but commercial airlines do establish fixed routes and necessarily must travel to and from airports. Furthermore, if airports are less conveniently located for consumers than are train terminals, consumers might well prefer the more convenient of the two fixed-route alternatives.

- A The method of guidance is irrelevant to the argument about free-wheel versus fixed linear systems.
- B The passage compares the speed and system models of airplanes and high-speed trains. The argument does not incorporate buses and cars, which are included only to give examples of free-wheel systems, and so this statement is irrelevant.
- C **Correct.** This statement properly identifies the weakness in the argument: Airplanes are not truly a free-wheel system because they are restricted to traveling between airports. Additionally, airports tend to be less conveniently located than train terminals, which has further potential to weaken the argument in favor of airplanes.
- D The inability of high-speed trains to use some convenient train stations strengthens, rather than weakens, the argument in favor of airplanes.
- E Consumer preference for air travel over ground travel on long trips strengthens, rather than weakens, the argument in favor of airplanes.

The correct answer is C.

113. The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- (A) The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
- (B) Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
- (C) The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
- (D) The number of televisions assembled annually in Vernland has increased significantly during the past three years.
- (E) The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.

Argument Construction

Situation Television assemblers in Vernland are paid less than those in neighboring Borodia. The number of televisions sold in Borodia has not dropped since its tariffs on Borodian TVs were lowered three years ago, but the number of TV assemblers in Borodia has. So TV imports from Vernland have likely increased.

Reasoning *What assumption does the argument depend on?* The fact that fewer individuals in Borodia are working as TV assemblers is offered as evidence that TV imports from Vernland into Borodia have likely increased. That piece of evidence is relevant *only* as an indication that the number of TVs being produced within Borodia has decreased. But a drop in the number of TV assemblers does not indicate a drop in the number of TVs being assembled *if* the number of TVs an average assembler puts together has increased. Thus, the argument must be assuming that the average time it takes an assembler to put together a TV has not significantly decreased.

- A The argument does not rely on any information about the number of television assemblers in Vernland nor for that matter on the number of TVs assembled in Vernland.
- B The argument need not assume there is any difference in the features of the TVs produced in the two countries. Increased sales of Vernlandian TVs in Borodia could be due to any number of other reasons, such as price or quality.
- C **Correct.** This option states an assumption on which the argument depends.
- D The argument does not depend upon this being so: Vernland's domestic TV sales (or perhaps its exports to countries other than Borodia) may have decreased by more than its imports into Borodia have increased.
- E The argument's conclusion addresses what *has* happened; the argument in no way relies on any assumptions about what may or may not happen in the coming years.

The correct answer is C.

114. Normally, the pineal gland governs a person's sleep-wake cycle by secreting melatonin in response to the daily cycle of light and darkness as detected by the eye. Nonetheless, many people who are totally blind due to lesions in the visual cortex of the brain easily maintain a 24-hour sleep-wake cycle. So the neural pathway by which the pineal gland receives information from the eye probably does not pass through the visual cortex.

For purposes of evaluating the argument it would be most useful to establish which of the following?

- (A) Whether melatonin supplements help people who have difficulty maintaining a 24-hour sleep cycle to establish such a pattern
- (B) Whether the melatonin levels of most totally blind people who successfully maintain a 24-hour sleep-wake cycle change in response to changes in exposure to light and darkness
- (C) Whether melatonin is the only substance secreted by the pineal gland
- (D) Whether most people who do not have a 24-hour sleep-wake cycle nevertheless have a cycle of consistent duration
- (E) Whether there are any people with normal vision whose melatonin levels respond abnormally to periods of light and darkness

Argument Evaluation

Situation Normally, a person's sleep-wake cycle is governed by the pineal gland secreting melatonin in response to the daily cycle of light and darkness as detected by the eye. Yet many people who are totally blind due to lesions of the visual cortex easily maintain a 24-hour sleep-wake cycle.

Reasoning *What additional information would be most helpful in evaluating the argument?* The argument's conclusion is that the neural pathway by which the pineal gland receives information probably does not pass through the visual cortex. This is suggested by the fact that people without a well-functioning visual cortex (e.g., people with a certain type of blindness) can nonetheless maintain a 24-hour sleep-wake cycle. Is it by the pineal gland's secretion of melatonin that they do so? The argument tells us that *normally* (i.e., in sighted people), this is the mechanism for sleep regulation. But the argument depends on assuming that a similar mechanism is operating in people who are blind but have well-regulated sleep cycles. The best choice will be the one that helps us decide whether that assumption is correct.

- A This question would not give us an answer that would help in evaluating the argument. A "no" answer would not clarify whether the pineal gland-melatonin mechanism operates in people who are blind. A "yes" answer would do no better. The question refers only to people who have sleep dysfunctions (which the argument does not address).
- B **Correct.** Answering this question would provide the most useful information for evaluating the argument. A "yes" answer would help confirm a key assumption of the argument: that blind people rely on the pineal gland-melatonin mechanism for sleep regulation. A "no" answer would help disconfirm that assumption.
- C Whether or not there are other substances secreted by the pineal gland makes no difference to the reasoning. The argument relies on the premise that the pineal gland governs the sleep cycle *by secreting melatonin*. For example, if the pineal gland sometimes secreted adrenaline, that would still have no bearing on the argument.
- D The consistency or inconsistency of the duration of some people's sleep patterns has no relevance to the reasoning. Their sleep patterns could be due to any of a number of factors.
- E This does not help, for there could be sighted people whose melatonin levels respond abnormally simply because of a pineal-gland abnormality.

The correct answer is B.

115. Guidebook writer: I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

Which of the following, if true, most seriously weakens the guidebook writer's argument?

- (A) The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.
- (B) Hotels built since 1930 can generally accommodate more guests than those built before 1930.
- (C) The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.
- (D) The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.
- (E) The average length of apprenticeship for carpenters has declined significantly since 1930.

Argument Evaluation

Situation The original carpentry in hotels built before 1930 shows superior care, skill, and effort to that in hotels built after 1930. This leads to the conclusion that carpenters working on hotels before 1930 were superior in skill, care, and effort to those that came after.

Reasoning *Which option most seriously weakens the argument?* The argument draws an inference from a comparison between carpentry in hotels of different eras to a judgment about the carpenters working on hotels in those eras. One way to weaken this inference is by finding some way in which the carpentry in the hotels may be unrepresentative of the skill, care, and effort of the carpenters working in the eras. The comparison is between the carpentry evident in hotels of the two eras *that still exist*. Thus, if there is some reason to think that hotels with good carpentry survive longer than those with bad carpentry, then still-existing hotels from the older era will have disproportionately more good carpentry, even assuming no difference between the skill, care, and effort of the carpenters from the two eras.

- A This option applies equally to both eras, so it has no bearing on the argument.
- B It is not clear whether carpenters working on larger hotels would exercise more, less, or the same skill and care as those working on smaller hotels; thus this option does not weaken the argument.
- C The argument does not rely, even implicitly, on there being any difference in the quality of materials used in the two eras, so it does not weaken the argument to point out that no such difference exists.
- D Correct.** This weakens the reasoning in the argument by showing a respect in which the comparison between *existing* hotels is unrepresentative.
- E The longer a carpenter works as an apprentice, the more skill he or she is apt to have upon becoming a full-fledged carpenter. So this option would tend to slightly strengthen rather than weaken the argument.

The correct answer is D.

116. Scientists typically do their most creative work before the age of forty. It is commonly thought that this happens because aging by itself brings about a loss of creative capacity. However, studies show that **of scientists who produce highly creative work beyond the age of forty, a disproportionately large number entered their field at an older age than is usual**. Since by the age of forty the large majority of scientists have been working in their field for at least fifteen years, the studies' finding strongly suggests that the real reason why scientists over forty rarely produce highly creative work is not that they have aged but rather that **scientists over forty have generally spent too long in their field**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a claim, the accuracy of which is at issue in the argument; the second is a conclusion drawn on the basis of that claim.
- (B) The first is an objection that has been raised against a position defended in the argument; the second is that position.
- (C) The first is evidence that has been used to support an explanation that the argument challenges; the second is that explanation.
- (D) The first is evidence that has been used to support an explanation that the argument challenges; the second is a competing explanation that the argument favors.
- (E) The first provides evidence to support an explanation that the argument favors; the second is that explanation.

Argument Evaluation

Situation It is generally thought that the reason scientists tend to do their most creative work before age forty is that creative capacity declines with age. Yet those scientists who do creative work after forty tend, disproportionately, to have started their careers in science later in life. So a better explanation is that many scientists over forty have just been at it too long.

Reasoning *What roles do the two portions of the argument that are in boldface play?* The argument describes a phenomenon and what is commonly thought to explain it. Then, the first boldfaced statement introduces evidence that suggests that there may be another explanation. After this evidence is further developed, the argument then concludes that there is indeed a better explanation for the phenomenon; that explanation is stated in the second boldfaced portion.

- A The accuracy of the first statement is never called into question by the argument; rather, it is relied upon as the basis for the argument's conclusion.
- B The first statement is not an objection against the position the argument defends; instead, it is a basis for that position.
- C The first statement is not used to support a position the argument challenges, and the second statement is the explanation the argument supports, not the one it challenges.
- D The second statement is indeed an explanation that the argument favors; but the first statement is not used to support a competing explanation that the argument challenges.
- E **Correct.** This option correctly identifies the roles played by the boldfaced portions of the argument.

The correct answer is E.

117. Northern Air has dozens of flights daily into and out of Belleville Airport, which is highly congested. Northern Air depends for its success on economy and quick turnaround and consequently is planning to replace its large planes with Skybuses, whose novel aerodynamic design is extremely fuel efficient. The Skybus's fuel efficiency results in both lower fuel costs and reduced time spent refueling.

Which of the following, if true, could present the most serious disadvantage for Northern Air in replacing their large planes with Skybuses?

- (A) The Skybus would enable Northern Air to schedule direct flights to destinations that currently require stops for refueling.
- (B) Aviation fuel is projected to decline in price over the next several years.
- (C) The fuel efficiency of the Skybus would enable Northern Air to eliminate refueling at some of its destinations, but several mechanics would lose their jobs.
- (D) None of Northern Air's competitors that use Belleville Airport are considering buying Skybuses.
- (E) The aerodynamic design of the Skybus causes turbulence behind it when taking off that forces other planes on the runway to delay their takeoffs.

Evaluation of a Plan

Situation An airline flies in and out of a highly congested airport many times a day. Because the airline's success depends on low costs and quick turnaround, it plans to replace its current planes with Skybuses, whose more fuel-efficient design will reduce both fuel costs and the time spent refueling.

Reasoning *What could be a serious disadvantage of the plan?* Since it is given that the Skybuses provide fuel economy and quicker refueling, what could be a disadvantage of the proposed plan? What if the use of the particular aircraft somehow contributed to the congestion at the busy airport or caused slower turnaround? While the Skybus's design promotes fuel economy, if it also creates turbulence on takeoff, the turbulence would then delay the takeoffs of any other planes. Since the airport is congested and the airline flies through it many times a day, such takeoff delays would ultimately impede Northern Air's turnaround time, as well as its success.

- A The ability to schedule direct flights would be an advantage, not a disadvantage.
- B The decline in the price of aviation fuel might make the plan seem less pressing, and it could conceivably complicate the issue of whether the expected savings would justify the investment in new planes. However, lower fuel costs would not diminish the crucial time-saving advantage of Skybuses, and any hypotheses about their relevance to the overall decision are purely speculative.
- C The ability to eliminate refueling is an advantage to the airline. The loss of jobs could, in theory, have some negative effect on the airline due to lowered morale among remaining employees. However, *several* does not support a hypothesis that the effect would be very significant, and any hypotheses about whether it might override the benefits are purely speculative.
- D The decisions made by other airlines are irrelevant to the plan.
- E **Correct.** This statement properly identifies a potentially serious disadvantage to the plan.

The correct answer is E.

118. It is true of both men and women that those who marry as young adults live longer than those who never marry. This does not show that marriage causes people to live longer, since, as compared with other people of the same age, young adults who are about to get married have fewer of the unhealthy habits that can cause a person to have a shorter life, most notably smoking and immoderate drinking of alcohol.

Which of the following, if true, most strengthens the argument above?

- (A) Marriage tends to cause people to engage less regularly in sports that involve risk of bodily harm.
- (B) A married person who has an unhealthy habit is more likely to give up that habit than a person with the same habit who is unmarried.
- (C) A person who smokes is much more likely than a nonsmoker to marry a person who smokes at the time of marriage, and the same is true for people who drink alcohol immoderately.
- (D) Among people who marry as young adults, most of those who give up an unhealthy habit after marriage do not resume the habit later in life.
- (E) Among people who as young adults neither drink alcohol immoderately nor smoke, those who never marry live as long as those who marry.

Argument Evaluation

Situation We should not conclude that getting married causes one to live longer based merely on the fact that those who marry young tend to live longer than those who never marry at all. Those who marry young tend to have fewer unhealthy habits to begin with, such as drinking and smoking, than do those who will never marry.

Reasoning *Which of the options most strengthens the argument?* The argument is trying to show that the difference in longevity between the two groups need not be *caused by* marital status. The argument relies on the fact that even before marriage those who will be married tend to live healthier lifestyles than those who will never marry. Yet, even if those who are apt to live longer are more apt to marry young, it could still be that marriage *further enhances* one's longevity. So, by showing that a person who gets married young tends to live about as long as one who had been living an equally healthy lifestyle as a young adult but who never got married, the argument is greatly strengthened.

- A To the extent that risk of bodily harm decreases longevity, this weakens rather than strengthens the argument.
- B This option, too, weakens the argument rather than strengthens it, since it suggests that marriage does indeed enhance one's longevity.
- C Even if a person with unhealthy habits who marries is more likely to wind up with a spouse with unhealthy habits than is a person with healthy habits who marries, that tells us nothing about whether the average person who gets married gets a boost in longevity.
- D This option does not tell us whether it is also true of those who never marry that most of them who give up an unhealthy habit as a young adult ever resume that habit later in life. Thus, by itself, this option has no bearing on the strength of the argument.
- E **Correct.** This strengthens the argument against the causal connection between marriage and longevity by showing that the longevity difference disappears when the longevity of those who marry young is compared with young adults with similar health habits who will never marry.

The correct answer is E.

119. The earliest Mayan pottery found at Colha, in Belize, is about 3,000 years old. Recently, however, 4,500-year-old stone agricultural implements were unearthed at Colha. These implements resemble Mayan stone implements of a much later period, also found at Colha. Moreover, the implements' designs are strikingly different from the designs of stone implements produced by other cultures known to have inhabited the area in prehistoric times. Therefore, there were surely Mayan settlements in Colha 4,500 years ago.

Which of the following, if true, most seriously weakens the argument?

- (A) Ceramic ware is not known to have been used by the Mayan people to make agricultural implements.
- (B) Carbon-dating of corn pollen in Colha indicates that agriculture began there around 4,500 years ago.
- (C) Archaeological evidence indicates that some of the oldest stone implements found at Colha were used to cut away vegetation after controlled burning of trees to open areas of swampland for cultivation.
- (D) Successor cultures at a given site often adopt the style of agricultural implements used by earlier inhabitants of the same site.
- (E) Many religious and social institutions of the Mayan people who inhabited Colha 3,000 years ago relied on a highly developed system of agricultural symbols.

Argument Evaluation

Situation Recently, 4,500-year-old stone agricultural implements have been found in Colha, a location where 3,000-year-old Mayan pottery had previously been found. The implements resemble other Mayan implements of a much later time that were also found in Colha, and they are unlike the implements used by other local cultures in prehistoric times. These recently discovered implements thus prove that Mayan culture was established in Colha 4,500 years ago.

Reasoning *Which point weakens the argument?* First, identify a crucial underlying assumption. The argument assumes the distinctive 4,500-year-old implements must be Mayan because they are similar to implements the Mayans are known to have used there much later. What if there is another reason for the similarity? What if a culture that comes to an already inhabited site tends to adapt its implements to the style of the resident culture's implements? In that case, the Mayans could have come to the already established community of Colha at some later point, and the later Mayan agricultural tools could be copies of the earlier culture's tools.

- A The argument does not suggest that the Mayans used ceramics for implements, so this point does not weaken the argument; it is irrelevant to it.
- B Since the point of the argument is who, specifically, established a settlement in Colha 4,500 years ago, the evidence that some unidentified people were practicing agriculture there at that time neither strengthens nor weakens the argument.
- C Discovering how the implements were used does not explain who was using them, so this information is not relevant to the conclusion.
- D **Correct.** This statement properly identifies the weakness in the argument that the similarity between the 4,500-year-old implements and the later Mayan implements may be attributed to the Mayans' adopting the style of implements used earlier by another culture.
- E That the Mayans relied on agricultural symbols at that time is nearly irrelevant to the issue of whether the earlier implements belonged to their culture. To the extent that this is relevant, it very slightly supports, rather than weakens, the argument; *highly developed* suggests that Mayans had been practicing agriculture for a long time.

The correct answer is D.

120. Codex Berinensis, a Florentine copy of an ancient Roman medical treatise, is undated but contains clues to when it was produced. Its first 80 pages are by a single copyist, but the remaining 20 pages are by three different copyists, which indicates some significant disruption. Since a letter in handwriting identified as that of the fourth copyist mentions a plague that killed many people in Florence in 1148, Codex Berinensis was probably produced in that year.

Which of the following, if true, most strongly supports the hypothesis that Codex Berinensis was produced in 1148?

- (A) Other than Codex Berinensis, there are no known samples of the handwriting of the first three copyists.
- (B) According to the account by the fourth copyist, the plague went on for 10 months.
- (C) A scribe would be able to copy a page of text the size and style of Codex Berinensis in a day.
- (D) There was only one outbreak of plague in Florence in the 1100s.
- (E) The number of pages of Codex Berinensis produced by a single scribe becomes smaller with each successive change of copyist.

Argument Evaluation

Situation The Florentine copy of an ancient Roman work is undated but provides clues as to the time it was produced. The first 80 pages of Codex Berinensis are the work of one copyist. The fact that the last 20 pages are the work of a succession of three different copyists is an indication of serious turmoil at the time the copying was done. Since a letter in the fourth copyist's handwriting reveals that a plague killed many people there in 1148, Codex Berinensis was probably produced in that year.

Reasoning *Which information supports the hypothesis dating the Codex to 1148?* Consider the basis of the hypothesis: the succession of copyists indicating the work was significantly disrupted, and the fourth copyist's letter indicating the plague of 1148 caused serious loss of life. From this it is argued that the plague of 1148 was the reason for the multiple copyists and that the work can thus be dated to that year. What if there were multiple plagues? In that case, Codex Berinensis could have been produced at another time. If instead only one plague occurred in the 1100s, the elimination of that possibility supports the hypothesis that the work was done in 1148.

- A Examples of the copyists' handwriting might help date Codex Berinensis; the absence of handwriting samples does not help support 1148 as the date.
- B The length of the plague, while it may account for the succession of copyists, does not help support the particular year the work was done.
- C The amount of work a copyist could achieve each day does not provide any information about the year the work appeared.
- D **Correct.** This statement properly identifies a circumstance that supports the hypothesis.
- E The productivity or tenure of the various copyists is irrelevant to establishing the date.

The correct answer is D.

121. The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale—the seven-note musical scale used in much of Western music since the Renaissance. Musicologists therefore hypothesize that the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians.

Which of the following, if true, most strongly supports the hypothesis?

- (A) Bone flutes were probably the only musical instrument made by Neanderthals.
- (B) No musical instrument that is known to have used a diatonic scale is of an earlier date than the flute found at the Neanderthal campsite.
- (C) The flute was made from a cave-bear bone and the campsite at which the flute fragment was excavated was in a cave that also contained skeletal remains of cave bears.
- (D) Flutes are the simplest wind instrument that can be constructed to allow playing a diatonic scale.
- (E) The cave-bear leg bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

Argument Evaluation

Situation The arrangement of the holes in a bone fragment from a Neanderthal campsite match part of the scale used in Western music since the Renaissance. Musicologists hypothesize from this that the scale was developed thousands of years before Western musicians adopted it.

Reasoning *Which of the options, if true, would provide the most support for the musicologists' hypothesis?* One way to approach this question is to ask yourself, "If this option were false, would the hypothesis be *less* likely to be true?" If the Neanderthal bone fragment could *not* have been part of a flute that encompassed *the entire* seven-note diatonic scale, then the bone fragment's existence would not provide strong support for the hypothesis.

- A To the extent that this is even relevant, it tends to weaken the hypothesis; it makes less likely the possibility that Neanderthals used other types of musical instruments employing the diatonic scale.
- B This also weakens the hypothesis, because it states that there is no known evidence of a certain type that would support the hypothesis.
- C The fact that the cave-bear bone fragment that was apparently a flute came from a site where many other cave-bear skeletal remains were found has little bearing on the hypothesis, and in no way supports it.
- D This does not strengthen the hypothesis, for even if the option were false—even if a simpler instrument could be constructed that employed the diatonic scale—the existence of a flute employing the diatonic scale would provide no less support for the hypothesis.
- E **Correct.** This option most strongly supports the hypothesis.

The correct answer is E.

122. Outsourcing is the practice of obtaining from an independent supplier a product or service that a company has previously provided for itself. Since a company's chief objective is to realize the highest possible year-end profits, any product or service that can be obtained from an independent supplier for less than it would cost the company to provide the product or service on its own should be outsourced.

Which of the following, if true, most seriously weakens the argument?

- (A) If a company decides to use independent suppliers for a product, it can generally exploit the vigorous competition arising among several firms that are interested in supplying that product.
- (B) Successful outsourcing requires a company to provide its suppliers with information about its products and plans that can fall into the hands of its competitors and give them a business advantage.
- (C) Certain tasks, such as processing a company's payroll, are commonly outsourced, whereas others, such as handling the company's core business, are not.
- (D) For a company to provide a product or service for itself as efficiently as an independent supplier can provide it, the managers involved need to be as expert in the area of that product or service as the people in charge of that product or service at an independent supplier are.
- (E) When a company decides to use an independent supplier for a product or service, the independent supplier sometimes hires members of the company's staff who formerly made the product or provided the service that the independent supplier now supplies.

Argument Evaluation

Situation In order to realize the highest year-end profits, a company should outsource any service or product that can be obtained from an independent supplier for less than it would cost the company to provide that service or product itself.

Reasoning *What weakens this argument?* When could outsourcing a service or product result in a business disadvantage or lower profits? It is clear that the company must give independent suppliers enough information to enable them to provide the contracted products and services, but this means that the company can lose control over who has possession of such critical information. If the information becomes known to the company's competitors and gives them a business advantage, the company's profitability may be harmed rather than helped by outsourcing. This possibility weakens the argument.

- A This would strengthen the argument since the pricing competition among independent suppliers is an advantage for the company.
- B Correct.** This statement properly identifies one disadvantage of outsourcing: the company no longer controls access to its information and plans. With the increased possibility of competitors' gaining access to its proprietary information, the company's business is put at risk.
- C Providing examples of the tasks typically outsourced or handled internally does not affect the argument.
- D Expertise in a particular area is an advantage of outsourcing and thus a strength of the argument.
- E The supplier's hiring of members of the company's staff to handle work no longer performed within the company is not shown to be a disadvantage.

The correct answer is B.

123. Museums that house Renaissance oil paintings typically store them in environments that are carefully kept within narrow margins of temperature and humidity to inhibit any deterioration. Laboratory tests have shown that the kind of oil paint used in these paintings actually adjusts to climatic changes quite well. If, as some museum directors believe, **paint is the most sensitive substance in these works**, then by relaxing the standards for temperature and humidity control, **museums can reduce energy costs without risking damage to these paintings**. Museums would be rash to relax those standards, however, since results of preliminary tests indicate that gesso, a compound routinely used by Renaissance artists to help paint adhere to the canvas, is unable to withstand significant variations in humidity.

In the argument above, the two portions in boldface play which of the following roles?

- (A) The first is an objection that has been raised against the position taken by the argument; the second is the position taken by the argument.
- (B) The first is the position taken by the argument; the second is the position that the argument calls into question.
- (C) The first is a judgment that has been offered in support of the position that the argument calls into question; the second is a circumstance on which that judgment is, in part, based.
- (D) The first is a judgment that has been offered in support of the position that the argument calls into question; the second is that position.
- (E) The first is a claim that the argument calls into question; the second is the position taken by the argument.

Argument Evaluation

Situation Museums house Renaissance paintings under strictly controlled climatic conditions to prevent deterioration. This is costly. But the paint in these works actually adjusts well to climate changes. On the other hand, another compound routinely used in these paintings, gesso, does not react well to changes in humidity.

Reasoning *What roles do the two boldfaced statements play in the argument?* The first statement is not asserted by the author of the argument, but rather attributed as a belief to some museum directors. What the argument itself asserts is that IF this belief is true THEN the second boldfaced statement is true. But the argument then goes on to offer evidence that the first statement is false and so concludes that museum directors would be ill-advised to assume that the second statement was true.

- A This option mistakenly claims that the argument adopts the second statement as its position, when in fact the argument calls this position into question.
- B Rather than adopting the first statement, the argument offers evidence that calls it into question.
- C This option contends that the first statement is a judgment that is based on the second; in fact the opposite is true.
- D **Correct.** This option properly identifies the roles the two portions in boldface play in the argument.
- E While the argument does call the first statement into question, it also calls the second statement into question.

The correct answer is D.

124. Vargonia has just introduced a legal requirement that student-teacher ratios in government-funded schools not exceed a certain limit. All Vargonian children are entitled to education, free of charge, in these schools. When a recession occurs and average incomes fall, the number of children enrolled in government-funded schools tends to increase. Therefore, though most employment opportunities contract in economic recessions, getting a teaching job in Vargonia's government-funded schools will not be made more difficult by a recession.

Which of the following would be most important to determine in order to evaluate the argument?

- (A) Whether in Vargonia there are any schools not funded by the government that offer children an education free of charge
- (B) Whether the number of qualified applicants for teaching positions in government-funded schools increases significantly during economic recessions
- (C) What the current student-teacher ratio in Vargonia's government-funded schools is
- (D) What proportion of Vargonia's workers currently hold jobs as teachers in government-funded schools
- (E) Whether in the past a number of government-funded schools in Vargonia have had student-teacher ratios well in excess of the new limit

Argument Evaluation

Situation During a recession, the number of children in government-funded schools in Vargonia tends to increase. Vargonian children are entitled to a free education in these schools. A new law requires student-teacher ratios in these schools to remain below a certain limit.

Reasoning *Which of the five questions would provide us with the best information for evaluating the argument?* The argument's conclusion is that recessions do not make teaching jobs in Vargonia's government-funded schools harder to get. During recessions, the reasoning goes, more students will enroll in Vargonia's government-funded schools than in non-recession times. Implicit in the argument is the thought that, because the new law sets an upper limit on the average number of students per teacher, schools that get an influx of new students would have to hire more teachers. During a recession, however, there might be much more competition in the labor market for teachers because many more qualified people are applying for teaching jobs.

- A This information is not significant in the context of the argument, which does not need to assume that only government-funded schools provide free education.
- B Correct.** Getting an answer to this question would provide us with specific information useful in evaluating the argument. A "yes" answer to this question would suggest that competition for teaching jobs in Vargonian government-funded schools would be keener during recessions. A "no" answer would suggest that the level of competition would decrease during recessions.
- C Discovering the current student-teacher ratio in Vargonia's schools would be of no value, by itself, in evaluating the argument. We do not know what the new upper limit on the student-teacher ratio is, and we do not know whether Vargonia is currently in a recession.
- D Finding out whether the proportion this refers to is 1 percent, for example, or 4 percent, would tell us nothing about whether getting teaching jobs at government-funded schools in Vargonia becomes more difficult during a recession. Among other things, we do not know whether Vargonia is currently in a recession, and we do not know what proportion of Vargonia's workers would be qualified candidates for teaching jobs.
- E This is of no relevance in evaluating the argument because, presumably, the new limit on student-teacher ratios will be complied with. Thus, even if student-teacher ratios in the past would have exceeded the new limit, the argument concerns whether, *in the future*, getting a teaching job in Vargonia's government-funded schools will be made more difficult by a recession.

The correct answer is B.

8.4 Practice Questions

Each of the critical reasoning questions is based on a short argument, a set of statements, or a plan of action. For each question, select the best answer of the choices given.

1. Neuroscientist: Memory evolved to help animals react appropriately to situations they encounter by drawing on the past experience of similar situations. But this does not require that animals perfectly recall every detail of all their experiences. Instead, to function well, memory should generalize from past experiences that are similar to the current one.

The neuroscientist's statements, if true, most strongly support which of the following conclusions?

- (A) At least some animals perfectly recall every detail of at least some past experiences.
 - (B) Perfectly recalling every detail of all their past experiences could help at least some animals react more appropriately than they otherwise would to new situations they encounter.
 - (C) Generalizing from past experiences requires clear memories of most if not all the details of those experiences.
 - (D) Recalling every detail of all past experiences would be incompatible with any ability to generalize from those experiences.
 - (E) Animals can often react more appropriately than they otherwise would to situations they encounter if they draw on generalizations from past experiences of similar situations.
2. Astronomer: Most stars are born in groups of thousands, each star in a group forming from the same parent cloud of gas. Each cloud has a unique, homogeneous chemical composition. Therefore, whenever two stars have the same chemical composition as each other, they must have originated from the same cloud of gas.

Which of the following, if true, would most strengthen the astronomer's argument?

- (A) In some groups of stars, not every star originated from the same parent cloud of gas.
- (B) Clouds of gas of similar or identical chemical composition may be remote from each other.
- (C) Whenever a star forms, it inherits the chemical composition of its parent cloud of gas.
- (D) Many stars in vastly different parts of the universe are quite similar in

their chemical compositions.

(E) Astronomers can at least sometimes precisely determine whether a star has the same chemical composition as its parent cloud of gas.

3. A provincial government plans to raise the gasoline tax to give people an incentive to drive less, reducing traffic congestion in the long term. However, skeptics point out that most people in the province live in areas where cars are the only viable transportation to jobs and stores and therefore cannot greatly change their driving habits in response to higher gasoline prices.

In light of the skeptics' objection, which of the following, if true, would most logically support the prediction that the government's plan will achieve its goal of reducing traffic congestion?

(A) The revenue from the tax will be used to make public transportation a viable means of transportation to jobs and stores for far more people.

(B) The tax will encourage many residents to switch to more fuel-efficient cars, reducing air pollution and other problems.

(C) Because gasoline has been underpriced for decades, the province has many neighborhoods where cars are the only viable means of transportation.

(D) Most residents who cannot greatly change their driving habits could compensate for high gasoline prices by reducing other expenses.

(E) Traffic congestion is an especially serious problem for people for whom cars are the only viable means of transportation.

4. Editorial: The roof of Northtown's municipal equipment-storage building collapsed under the weight of last week's heavy snowfall. The building was constructed recently and met local building-safety codes in every particular, except that the nails used for attaching roof supports to the building's columns were of a smaller size than the codes specify for this purpose. Clearly, this collapse exemplifies how even a single, apparently insignificant departure from safety standards can have severe consequences.

Which of the following, if true, most seriously weakens the editorial's argument?

(A) The only other buildings to suffer roof collapses from the weight of the snowfall were older buildings constructed according to less exacting standards than those in the codes.

(B) The amount of snow that accumulated on the roof of the equipment-storage building was greater than the predicted maximum that was used in drawing up the safety codes.

(C) Because the equipment-storage building was not intended for human occupation, some safety-code provisions that would have applied to an office

building did not apply to it.

(D) The municipality of Northtown itself has the responsibility for ensuring that buildings constructed within its boundaries meet the provisions of the building-safety codes.

(E) Because the equipment-storage building was used for storing snow-removal equipment, the building was almost completely empty when the roof collapsed.

5. Snowmaking machines work by spraying a mist that freezes immediately on contact with cold air. Because the sudden freezing kills bacteria, QuickFreeze is planning to market a wastewater purification system that works on the same principle. The process works only when temperatures are cold, however, so municipalities using it will still need to maintain a conventional system.

Which of the following, if true, provides the strongest grounds for a prediction that municipalities will buy QuickFreeze's purification system despite the need to maintain a conventional purification system as well?

(A) Bacteria are not the only impurities that must be removed from wastewater.

(B) Many municipalities have old wastewater purification systems that need to be replaced.

(C) Conventional wastewater purification systems have not been fully successful in killing bacteria at cold temperatures.

(D) During times of warm weather, when it is not in use, QuickFreeze's purification system requires relatively little maintenance.

(E) Places where the winters are cold rarely have a problem of water shortage.

6. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author

(A) fails to distinguish between purchasing and consuming

(B) does not supply information about homeowners in age groups other than 40 to 50

(C) depends on popular belief rather than on documented research findings

(D) does not specify the precise amount of ice cream purchased by any demographic group

(E) discusses ice cream rather than more nutritious and healthful foods

7. Suncorp, a new corporation with limited funds, has been clearing large sections of the tropical Amazon forest for cattle ranching. This practice continues even though greater profits can be made from rubber tapping, which does not destroy the forest, than from cattle ranching, which does destroy the forest.

Which of the following, if true, most helps to explain why Suncorp has been pursuing the less profitable of the two economic activities mentioned above?

(A) The soil of the Amazon forest is very rich in nutrients that are important in the development of grazing lands.

(B) Cattle-ranching operations that are located in tropical climates are more profitable than cattle-ranching operations that are located in cold-weather climates.

(C) In certain districts, profits made from cattle ranching are more heavily taxed than profits made from any other industry.

(D) Some of the cattle that are raised on land cleared in the Amazon are killed by wildcats.

(E) The amount of money required to begin a rubber-tapping operation is twice as high as the amount needed to begin a cattle ranch.

8. A newly discovered painting seems to be the work of one of two seventeenth-century artists, either the northern German Johannes Drechen or the Frenchman Louis Birelle, who sometimes painted in the same style as Drechen. Analysis of the carved picture frame, which has been identified as the painting's original seventeenth-century frame, showed that it is made of wood found widely in northern Germany at the time, but rare in the part of France where Birelle lived. This shows that the painting is most likely the work of Drechen.

Which of the following is an assumption that the argument requires?

(A) The frame was made from wood local to the region where the picture was painted.

(B) Drechen is unlikely to have ever visited the home region of Birelle in France.

(C) Sometimes a painting so resembles others of its era that no expert is able to confidently decide who painted it.

(D) The painter of the picture chose the frame for the picture.

(E) The carving style of the picture frame is not typical of any specific region of Europe.

9. Traverton's city council wants to minimize the city's average yearly expenditures on its traffic signal lights and so is considering replacing the incandescent bulbs

currently in use with arrays of light-emitting diodes (LEDs) as the incandescent bulbs burn out. Compared to incandescent bulbs, LED arrays consume significantly less energy and cost no more to purchase. Moreover, the costs associated with the conversion of existing fixtures so as to accept LED arrays would be minimal.

Which of the following would it be most useful to know in determining whether switching to LED arrays would be likely to help minimize Traverton's yearly maintenance costs?

- (A) Whether the expected service life of LED arrays is at least as long as that of the currently used incandescent bulbs
- (B) Whether any cities have switched from incandescent lights in their traffic signals to lighting elements other than LED arrays
- (C) Whether the company from which Traverton currently buys incandescent bulbs for traffic signals also sells LED arrays
- (D) Whether Traverton's city council plans to increase the number of traffic signal lights in Traverton
- (E) Whether the crews that currently replace incandescent bulbs in Traverton's traffic signals know how to convert the existing fixtures so as to accept LED arrays

10. In order to reduce the number of items damaged while in transit to customers, packaging consultants recommended that the TrueSave mail-order company increase the amount of packing material so as to fill any empty spaces in its cartons. Accordingly, TrueSave officials instructed the company's packers to use more packing material than before, and the packers zealously acted on these instructions and used as much as they could. Nevertheless, customer reports of damaged items rose somewhat.

Which of the following, if true, most helps to explain why acting on the consultants' recommendation failed to achieve its goal?

- (A) The change in packing policy led to an increase in expenditure on packing material and labor.
- (B) When packing material is compressed too densely, it loses some of its capacity to absorb shock.
- (C) The amount of packing material used in a carton does not significantly influence the ease with which a customer can unpack the package.
- (D) Most of the goods that TrueSave ships are electronic products that are highly vulnerable to being damaged in transit.
- (E) TrueSave has lost some of its regular customers as a result of the high number of damaged items they received.

11. Parland's alligator population has been declining in recent years, primarily because of hunting. Alligators prey heavily on a species of freshwater fish that is highly valued as food by Parlanders, who had hoped that the decline in the alligator population would lead to an increase in the numbers of these fish available for human consumption. Yet the population of this fish species has also declined, even though the annual number caught for human consumption has not increased.

Which of the following, if true, most helps to explain the decline in the population of the fish species?

- (A) The decline in the alligator population has meant that fishers can work in some parts of lakes and rivers that were formerly too dangerous.
- (B) Over the last few years, Parland's commercial fishing enterprises have increased the number of fishing boats they use.
- (C) The main predator of these fish is another species of fish on which alligators also prey.
- (D) Many Parlanders who hunt alligators do so because of the high market price of alligator skins, not because of the threat alligators pose to the fish population.
- (E) In several neighboring countries through which Parland's rivers also flow, alligators are at risk of extinction as a result of extensive hunting.

12. A company is considering changing its policy concerning daily working hours. Currently, this company requires all employees to arrive at work at 8 a.m. The proposed policy would permit each employee to decide when to arrive—from as early as 6 a.m. to as late as 11 a.m.

The adoption of this policy would be most likely to decrease employees' productivity if the employees' job functions required them to

- (A) work without interruption from other employees
- (B) consult at least once a day with employees from other companies
- (C) submit their work for a supervisor's eventual approval
- (D) interact frequently with each other throughout the entire workday
- (E) undertake projects that take several days to complete

13. The amount of time it takes for most of a worker's occupational knowledge and skills to become obsolete has been declining because of the introduction of advanced manufacturing technology (AMT). Given the rate at which AMT is currently being introduced in manufacturing, the average worker's old skills become obsolete and new skills are required within as little as five years.

Which of the following plans, if feasible, would allow a company to prepare most effectively for the rapid obsolescence of skills described above?

- (A) The company will develop a program to offer selected employees the opportunity to receive training six years after they were originally hired.
- (B) The company will increase its investment in AMT every year for a period of at least five years.
- (C) The company will periodically survey its employees to determine how the introduction of AMT has affected them.
- (D) Before the introduction of AMT, the company will institute an educational program to inform its employees of the probable consequences of the introduction of AMT.
- (E) The company will ensure that it can offer its employees any training necessary for meeting their job requirements.

14. While many people think of genetic manipulation of food crops as being aimed at developing larger and larger plant varieties, some plant breeders have in fact concentrated on discovering or producing dwarf varieties, which are roughly half as tall as normal varieties.

Which of the following would, if true, most help to explain the strategy of the plant breeders referred to above?

- (A) Plant varieties used as food by some are used as ornamentals by others.
- (B) The wholesale prices of a given crop decrease as the supply of it increases.
- (C) Crops once produced exclusively for human consumption are often now used for animal feed.
- (D) Short plants are less vulnerable to strong wind and heavy rains.
- (E) Nations with large industrial sectors tend to consume more processed grains.

15. A certain automaker aims to increase its market share by deeply discounting its vehicles' prices for the next several months. The discounts will cut into profits, but because they will be heavily advertised the manufacturer hopes that they will attract buyers away from rival manufacturers' cars. In the longer term, the automaker envisions that customers initially attracted by the discounts may become loyal customers.

In assessing the plan's chances of achieving its aim, it would be most useful to know which of the following?

- (A) Whether the automaker's competitors are likely to respond by offering deep discounts on their own products
- (B) Whether the advertisements will be created by the manufacturer's current advertising agency

(C) Whether some of the automaker's models will be more deeply discounted than others

(D) Whether the automaker will be able to cut costs sufficiently to maintain profit margins even when the discounts are in effect

(E) Whether an alternative strategy might enable the automaker to enhance its profitability while holding a constant or diminishing share of the market

16. In virtually any industry, technological improvements increase labor productivity, which is the output of goods and services per person-hour worked. In Parland's industries, labor productivity is significantly higher than it is in Vergia's industries. Clearly, therefore, Parland's industries must, on the whole, be further advanced technologically than Vergia's are.

The argument is most vulnerable to which of the following criticisms?

(A) It offers a conclusion that is no more than a paraphrase of one of the pieces of information provided in its support.

(B) It presents as evidence in support of a claim information that is inconsistent with other evidence presented in support of the same claim.

(C) It takes one possible cause of a condition to be the actual cause of that condition without considering any other possible causes.

(D) It takes a condition to be the effect of something that happened only after the condition already existed.

(E) It makes a distinction that presupposes the truth of the conclusion that is to be established.

17. The Maxilux car company's design for its new luxury model, the Max 100, included a special design for the tires that was intended to complement the model's image. The winning bid for supplying these tires was submitted by Rubco. Analysts concluded that the bid would only just cover Rubco's costs on the tires, but Rubco executives claim that winning the bid will actually make a profit for the company.

Which of the following, if true, most strongly justifies the claim made by Rubco's executives?

(A) In any Maxilux model, the spare tire is exactly the same make and model as the tires that are mounted on the wheels.

(B) Rubco holds exclusive contracts to supply Maxilux with the tires for a number of other models made by Maxilux.

(C) The production facilities for the Max 100 and those for the tires to be supplied by Rubco are located very near each other.

(D) When people who have purchased a carefully designed luxury automobile need to replace a worn part of it, they almost invariably replace

it with a part of exactly the same make and type.

(E) When Maxilux awarded the tire contract to Rubco, the only criterion on which Rubco's bid was clearly ahead of its competitors' bids was price.

18. Which of the following most logically completes the passage?

Most bicycle helmets provide good protection for the top and back of the head, but little or no protection for the temple regions on the sides of the head. A study of head injuries resulting from bicycle accidents showed that a large proportion were caused by blows to the temple area. Therefore, if bicycle helmets protected this area, the risk of serious head injury in bicycle accidents would be greatly reduced, especially since _____.

(A) among the bicyclists included in the study's sample of head injuries, only a very small proportion had been wearing a helmet at the time of their accident

(B) even those bicyclists who regularly wear helmets have a poor understanding of the degree and kind of protection that helmets afford

(C) a helmet that included protection for the temples would have to be somewhat larger and heavier than current helmets

(D) the bone in the temple area is relatively thin and impacts in that area are thus very likely to cause brain injury

(E) bicyclists generally land on their arm or shoulder when they fall to the side, which reduces the likelihood of severe impacts on the side of the head

19. Wood smoke contains dangerous toxins that cause changes in human cells. Because wood smoke presents such a high health risk, legislation is needed to regulate the use of open-air fires and wood-burning stoves.

Which of the following, if true, provides the most support for the argument above?

(A) The amount of dangerous toxins contained in wood smoke is much less than the amount contained in an equal volume of automobile exhaust.

(B) Within the jurisdiction covered by the proposed legislation, most heating and cooking is done with oil or natural gas.

(C) Smoke produced by coal-burning stoves is significantly more toxic than smoke from woodburning stoves.

(D) No significant beneficial effect on air quality would result if open-air fires were banned within the jurisdiction covered by the proposed legislation.

(E) In valleys where wood is used as the primary heating fuel, the concentration of smoke results in poor air quality.

20. Hunter: **Many people blame hunters alone for the decline in Greenrock National Forest's deer population over the past ten years.** Yet clearly, black bears have also played an important role in this decline. In the past ten years, the forest's protected black bear population has risen sharply, and examination of black bears found dead in the forest during the deer hunting season showed that a number of them had recently fed on deer.

In the hunter's argument, the portion in boldface plays which of the following roles?

- (A) It is the main conclusion of the argument.
 - (B) It is a finding that the argument seeks to explain.
 - (C) It is an explanation that the argument concludes is correct.
 - (D) It provides evidence in support of the main conclusion of the argument.
 - (E) It introduces a judgment that the argument opposes.
21. Many agriculturally intensive areas of the world are beginning to encounter water scarcity problems. As a result, many farmers in these areas are likely to reduce their output as the water supply they need in order to maintain production shrinks. However, one group of farmers in such a region plans to increase their production by implementing techniques for water conservation.

Which of the following, if true, would most strongly support the prediction that the group's plan will succeed?

- (A) Farmers that can gain a larger share of the food market in their regions will be better positioned to control more water resources.
 - (B) Most agricultural practices in areas with water shortages are water-intensive.
 - (C) Other regions of the world not facing water shortages are likely to make up for the reduction in agricultural output.
 - (D) Demand for agricultural products in the group's region is not expected to decline.
 - (E) More than half the water used for agriculture in the farmers' region is lost to evaporation or leakage from irrigation channels.
22. Physician: The hormone melatonin has shown promise as a medication for sleep disorders when taken in synthesized form. Because the long-term side effects of synthetic melatonin are unknown, however, I cannot recommend its use at this time.

Patient: Your position is inconsistent with your usual practice. You prescribe many medications that you know have serious side effects, so concern about side effects cannot be the real reason you will not prescribe melatonin.

The patient's argument is flawed because it fails to consider that

- (A) the side effects of synthetic melatonin might be different from those of naturally produced melatonin
- (B) it is possible that the physician does not believe that melatonin has been conclusively shown to be effective
- (C) sleep disorders, if left untreated, might lead to serious medical complications
- (D) the side effects of a medication can take some time to manifest themselves
- (E) known risks can be weighed against known benefits, but unknown risks cannot

23. Plan: Concerned about the welfare of its senior citizens, the government of Runagia decided two years ago to increase by 20 percent the government-provided pension paid to all Runagians age sixty-five and older. Result: Many Runagian senior citizens are no better off financially now than they were before the increase. Further information: The annual rate of inflation since the pension increase has been below 5 percent, and the increased pension has been duly received by all eligible Runagians.

In light of the further information, which of the following, if true, does most to explain the result that followed implementation of the plan?

- (A) The majority of senior citizens whose financial position has not improved rely entirely on the government pension for their income.
 - (B) The Runagian banking system is so inefficient that cashing a pension check can take as much as three weeks.
 - (C) The prices of goods and services that meet the special needs of many senior citizens have increased at a rate much higher than the rate of inflation.
 - (D) The pension increase occurred at a time when the number of Runagians age sixty-five and older who were living below the poverty level was at an all-time high.
 - (E) The most recent pension increase was only the second such increase in the last ten years.
24. Hollywood restaurant is replacing some of its standard tables with tall tables and stools. The restaurant already fills every available seat during its operating hours, and the change in seating arrangements will not result in an increase in the restaurant's seating capacity. Nonetheless, the restaurant's management expects revenue to increase as a result of the seating change without any concurrent change in menu, prices, or operating hours.

Which of the following, if true, provides the best reason for the expectation?

- (A) One of the taller tables takes up less floor space than one of the standard tables.
- (B) Diners seated on stools typically do not linger over dinner as long as diners seated at standard tables.
- (C) Since the restaurant will replace only some of its standard tables, it can continue to accommodate customers who do not care for the taller tables.
- (D) Few diners are likely to avoid the restaurant because of the new seating arrangement.
- (E) The standard tables being replaced by tall tables would otherwise have to be replaced with new standard tables at a greater expense.

25. A major network news organization experienced a drop in viewership in the week following the airing of a controversial report on the economy. The network also received a very large number of complaints regarding the report. The network, however, maintains that negative reactions to the report had nothing to do with its loss of viewers.

Which of the following, if true, most strongly supports the network's position?

- (A) The other major network news organizations reported similar reductions in viewership during the same week.
- (B) The viewers who registered complaints with the network were regular viewers of the news organization's programs.
- (C) Major network news organizations publicly attribute drops in viewership to their own reports only when they receive complaints about those reports.
- (D) This was not the first time that this network news organization has aired a controversial report on the economy that has inspired viewers to complain to the network.
- (E) Most network news viewers rely on network news broadcasts as their primary source of information regarding the economy.

26. Only a reduction of 10 percent in the number of scheduled flights using Greentown's airport will allow the delays that are so common there to be avoided. Hevelia airstrip, 40 miles away, would, if upgraded and expanded, be an attractive alternative for fully 20 percent of the passengers using Greentown airport. Nevertheless, experts reject the claim that turning Hevelia into a full-service airport would end the chronic delays at Greentown.

Which of the following, if true, most helps to justify the experts' position?

- (A) Turning Hevelia into a full-service airport would require not only substantial construction at the airport itself, but also the construction of

new access highways.

(B) A second largely undeveloped airstrip close to Greentown airport would be a more attractive alternative than Hevelia for many passengers who now use Greentown.

(C) Hevelia airstrip lies in a relatively undeveloped area but would, if it became a full-service airport, be a magnet for commercial and residential development.

(D) If an airplane has to wait to land, the extra jet fuel required adds significantly to the airline's costs.

(E) Several airlines use Greentown as a regional hub, so that most flights landing at Greentown have many passengers who then take different flights to reach their final destinations.

27. For similar cars and comparable drivers, automobile insurance for collision damage has always cost more in Greatport than in Fairmont. Police studies, however, show that cars owned by Greatport residents are, on average, slightly less likely to be involved in a collision than cars in Fairmont. Clearly, therefore, insurance companies are making a greater profit on collision-damage insurance in Greatport than in Fairmont.

In evaluating the argument, it would be most useful to compare

(A) the level of traffic congestion in Greatport with the level of traffic congestion in Fairmont

(B) the cost of repairing collision damage in Greatport with the cost of repairing collision damage in Fairmont

(C) the rates Greatport residents pay for other forms of insurance with the rates paid for similar insurance by residents of Fairmont

(D) the condition of Greatport's roads and streets with the condition of Fairmont's roads and streets

(E) the cost of collision-damage insurance in Greatport and Fairmont with that in other cities

28. The tulu, a popular ornamental plant, does not reproduce naturally, and is only bred and sold by specialized horticultural companies. Unfortunately, the tulu is easily devastated by a contagious fungal rot. The government ministry plans to reassure worried gardeners by requiring all tulu plants to be tested for fungal rot before being sold. However, infected plants less than 30 weeks old have generally not built up enough fungal rot in their systems to be detected reliably. And many tulu plants are sold before they are 24 weeks old.

Which of the following, if performed by the government ministry, could logically be expected to overcome the problem with their plan to test for the fungal rot?

- (A) Releasing a general announcement that tulu plants less than 30 weeks old cannot be effectively tested for fungal rot
- (B) Requiring all tulu plants less than 30 weeks old to be labeled as such
- (C) Researching possible ways to test tulu plants less than 24 weeks old for fungal rot
- (D) Ensuring that tulu plants not be sold before they are 30 weeks old
- (E) Quarantining all tulu plants from horticultural companies at which any case of fungal rot has been detected until those tulu plants can be tested for fungal rot

29. Last year a record number of new manufacturing jobs were created. Will this year bring another record? Well, a new manufacturing job is created either within an existing company or by the start-up of a new company. Within existing firms, new jobs have been created this year at well below last year's record pace. At the same time, there is considerable evidence that the number of new companies starting up will be no higher this year than it was last year, and surely **the new companies starting up this year will create no more jobs per company than did last year's start-ups**. Clearly, it can be concluded that **the number of new jobs created this year will fall short of last year's record**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is that main conclusion.
- (B) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is a conclusion drawn in order to support that main conclusion.
- (C) The first is an objection that the argument rejects; the second is the main conclusion of the argument.
- (D) The first is an objection that the argument rejects; the second presents a conclusion that could be drawn if that objection were allowed to stand.
- (E) The first is a claim that has been advanced in support of a position that the argument opposes; the second is a claim advanced in support of the main conclusion of the argument.

30. People who do regular volunteer work tend to live longer, on average, than people who do not. It has been found that "doing good," a category that certainly includes volunteer work, releases endorphins, the brain's natural opiates, which induce in people a feeling of well-being. Clearly, there is a connection: Regular releases of endorphins must in some way help to extend people's lives.

Which of the following, if true, most seriously undermines the force of the

evidence given as support for the hypothesis that endorphins promote longevity?

(A) People who do regular volunteer work are only somewhat more likely than others to characterize the work they do for a living as “doing good.”

(B) Although extremely high levels of endorphins could be harmful to health, such levels are never reached as a result of the natural release of endorphins.

(C) There are many people who have done some volunteer work but who do not do such work regularly.

(D) People tend not to become involved in regular volunteer work unless they are healthy and energetic to begin with.

(E) Releases of endorphins are responsible for the sense of well-being experienced by many long-distance runners while running.

31. The Eurasian ruffe, a fish species inadvertently introduced into North America’s Great Lakes in recent years, feeds on the eggs of lake whitefish, a native species, thus threatening the lakes’ natural ecosystem. To help track the ruffe’s spread, government agencies have produced wallet-sized cards about the ruffe. The cards contain pictures of the ruffe and explain the danger they pose; the cards also request anglers to report any ruffe they catch.

Which of the following, if true, would provide most support for the prediction that the agencies’ action will have its intended effect?

(A) The ruffe has spiny fins that make it unattractive as prey.

(B) Ruffe generally feed at night, but most recreational fishing on the Great Lakes is done during daytime hours.

(C) Most people who fish recreationally on the Great Lakes are interested in the preservation of the lake whitefish because it is a highly prized game fish.

(D) The ruffe is one of several nonnative species in the Great Lakes whose existence threatens the survival of lake whitefish populations there.

(E) The bait that most people use when fishing for whitefish on the Great Lakes is not attractive to ruffe.

32. Which of the following most logically completes the argument?

Ferber’s syndrome, a viral disease that frequently affects cattle, is transmitted to these animals through infected feed. Even though chickens commercially raised for meat are often fed the type of feed identified as the source of infection in cattle, Ferber’s syndrome is only rarely observed in chickens. This fact, however, does not indicate that most chickens are immune to the virus that causes Ferber’s syndrome, since _____.

(A) chickens and cattle are not the only kinds of farm animal that are

typically fed the type of feed liable to be contaminated with the virus that causes Ferber's syndrome

(B) Ferber's syndrome has been found in animals that have not been fed the type of feed liable to be contaminated with the virus that can cause the disease

(C) resistance to some infectious organisms such as the virus that causes Ferber's syndrome can be acquired by exposure to a closely related infectious organism

(D) chickens and cattle take more than a year to show symptoms of Ferber's syndrome, and chickens commercially raised for meat, unlike cattle, are generally brought to market during the first year of life

(E) the type of feed liable to be infected with the virus that causes Ferber's syndrome generally constitutes a larger proportion of the diet of commercially raised chickens than of commercially raised cattle

33. Which of the following most logically completes the argument below?

Although the number of large artificial satellites orbiting the Earth is small compared to the number of small pieces of debris in orbit, the large satellites interfere more seriously with telescope observations because of the strong reflections they produce. Because many of those large satellites have ceased to function, the proposal has recently been made to eliminate interference from nonfunctioning satellites by exploding them in space. This proposal, however, is ill conceived, since _____.

(A) many nonfunctioning satellites remain in orbit for years

(B) for satellites that have ceased to function, repairing them while they are in orbit would be prohibitively expensive

(C) there are no known previous instances of satellites' having been exploded on purpose

(D) the only way to make telescope observations without any interference from debris in orbit is to use telescopes launched into extremely high orbits around the Earth

(E) a greatly increased number of small particles in Earth's orbit would result in a blanket of reflections that would make certain valuable telescope observations impossible

34. Thyrian lawmaker: Thyria's Cheese Importation Board inspects all cheese shipments to Thyria and rejects shipments not meeting specified standards. Yet only 1 percent is ever rejected. Therefore, since the health consequences and associated economic costs of not rejecting that 1 percent are negligible, whereas the board's operating costs are considerable, for economic reasons alone the board

should be disbanded.

Consultant: I disagree. The threat of having their shipments rejected deters many cheese exporters from shipping substandard product.

The consultant responds to the lawmaker's argument by

- (A) rejecting the lawmaker's argument while proposing that the standards according to which the board inspects imported cheese should be raised
- (B) providing evidence that the lawmaker's argument has significantly overestimated the cost of maintaining the board
- (C) objecting to the lawmaker's introducing into the discussion factors that are not strictly economic
- (D) pointing out a benefit of maintaining the board, which the lawmaker's argument has failed to consider
- (E) shifting the discussion from the argument at hand to an attack on the integrity of the cheese inspectors

35. The growing popularity of computer-based activities was widely expected to result in a decline in television viewing, since it had been assumed that people lack sufficient free time to maintain current television viewing levels while spending increasing amounts of free time on the computer. That assumption, however, is evidently false: In a recent mail survey concerning media use, a very large majority of respondents who report increasing time spent per week using computers report no change in time spent watching television.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether a large majority of the survey respondents reported watching television regularly
 - (B) Whether the amount of time spent watching television is declining among people who report that they rarely or never use computers
 - (C) Whether the type of television programs a person watches tends to change as the amount of time spent per week using computers increases
 - (D) Whether a large majority of the computer owners in the survey reported spending increasing amounts of time per week using computers
 - (E) Whether the survey respondents' reports of time spent using computers included time spent using computers at work
36. Crowding on Mooreville's subway frequently leads to delays, because it is difficult for passengers to exit from the trains. Subway ridership is projected to increase by 20 percent over the next 10 years. The Mooreville Transit Authority plans to increase the number of daily train trips by only 5 percent over the same period.

Officials predict that this increase is sufficient to ensure that the incidence of delays due to crowding does not increase.

Which of the following, if true, provides the strongest grounds for the officials' prediction?

- (A) By changing maintenance schedules, the Transit Authority can achieve the 5 percent increase in train trips without purchasing any new subway cars.
- (B) The Transit Authority also plans a 5 percent increase in the number of bus trips on routes that connect to subways.
- (C) For most commuters who use the subway system, there is no practical alternative public transportation available.
- (D) Most of the projected increase in ridership is expected to occur in off-peak hours when trains are now sparsely used.
- (E) The 5 percent increase in the number of train trips can be achieved without an equal increase in Transit Authority operational costs.

37. Although the school would receive financial benefits if it had soft drink vending machines in the cafeteria, we should not allow them. Allowing soft drink machines there would not be in our students' interest. If our students start drinking more soft drinks, they will be less healthy.

The argument depends on which of the following?

- (A) If the soft drink vending machines were placed in the cafeteria, students would consume more soft drinks as a result.
- (B) The amount of soft drinks that most students at the school currently drink is not detrimental to their health.
- (C) Students are apt to be healthier if they do not drink soft drinks at all than if they just drink small amounts occasionally.
- (D) Students will not simply bring soft drinks from home if the soft drink vending machines are not placed in the cafeteria.
- (E) The school's primary concern should be to promote good health among its students.

38. Which of the following most logically completes the argument?

Sviatovin is a medieval Moringian text whose author and exact date of composition are unknown. However, the events in the life of Prince Sviatov that the text describes occurred in 1165, and in the diagram of Sviatov's family that accompanies the text his father, who died in 1167, is identified as still living. Thus *Sviatovin* must have been written between 1165 and 1167, assuming that _____.

(A) the life of Prince Sviatov is not the subject of any other medieval Moringian texts

(B) the author of *Sviatovin* intended it to provide as accurate a report about Prince Sviatov's exploits as possible

(C) the diagram accurately represents the composition of Sviatov's family at the time *Sviatovin* was written

(D) *Sviatovin* is the earliest Moringian text whose composition can be dated to within a few years

(E) *Sviatovin* was not written by Sviatov's father himself

39. A study of ticket sales at a summer theater festival found that people who bought tickets to individual plays had a no-show rate of less than 1 percent, while those who paid in advance for all ten plays being performed that summer had a no-show rate of nearly 30 percent. This may be at least in part because the greater the awareness customers retain about the cost of an item, the more likely they are to use it.

Which of the following would, if true, best serve as an alternative explanation of the results of the study?

(A) The price per ticket was slightly cheaper for those who bought all ten tickets in advance.

(B) Many people who attended the theater festival believed strongly that they should support it financially.

(C) Those who attended all ten plays became eligible for a partial refund.

(D) Usually, people who bought tickets to individual plays did so immediately prior to each performance that they attended.

(E) People who arrived just before the performance began could not be assured of obtaining seats in a preferred location.

40. If the county continues to collect residential trash at current levels, landfills will soon be overflowing and parkland will need to be used in order to create more space. Charging each household a fee for each pound of trash it puts out for collection will induce residents to reduce the amount of trash they create; this charge will therefore protect the remaining county parkland.

Which of the following is an assumption made in drawing the conclusion above?

(A) Residents will reduce the amount of trash they put out for collection by reducing the number of products they buy.

(B) The collection fee will not significantly affect the purchasing power of most residents, even if their households do not reduce the amount of trash they put out.

(C) The collection fee will not induce residents to dump their trash in the parklands illegally.

(D) The beauty of county parkland is an important issue for most of the county's residents.

(E) Landfills outside the county's borders could be used as dumping sites for the county's trash.

41. Although there is no record of poet Edmund Spenser's parentage, we do know that as a youth Spenser attended the Merchant Tailors' School in London for a period between 1560 and 1570. Records from this time indicate that the Merchant Tailors' Guild then had only three members named Spenser: Robert Spenser, listed as a gentleman; Nicholas Spenser, elected the Guild's Warden in 1568; and John Spenser, listed as a "journeyman cloth-maker." Of these, the last was likely the least affluent of the three—and most likely Edmund's father, since school accounting records list Edmund as a scholar who attended the school at a reduced fee.

Which of the following is an assumption on which the argument depends?

(A) Anybody in sixteenth-century London who made clothing professionally would have had to be a member of the Merchant Tailors' Guild.

(B) The fact that Edmund Spenser attended the Merchant Tailors' School did not necessarily mean that he planned to become a tailor.

(C) No member of the Guild could become Guild warden in sixteenth-century London unless he was a gentleman.

(D) Most of those whose fathers were members of the Merchant Tailors' Guild were students at the Merchant Tailors' School.

(E) The Merchant Tailors' School did not reduce its fees for the children of the more affluent Guild members.

42. Trancorp currently transports all its goods to Burland Island by truck. The only bridge over the channel separating Burland from the mainland is congested, and trucks typically spend hours in traffic. Trains can reach the channel more quickly than trucks, and freight cars can be transported to Burland by barges that typically cross the channel in an hour. Therefore, to reduce shipping time, Trancorp plans to switch to trains and barges to transport goods to Burland.

Which of the following would be most important to know in determining whether Trancorp's plan, if implemented, is likely to achieve its goal?

(A) Whether transportation by train and barge would be substantially less expensive than transportation by truck

(B) Whether there are boats that can make the trip between the mainland and Burland faster than barges can

- (C) Whether loading the freight cars onto barges is very time consuming
- (D) Whether the average number of vehicles traveling over the bridge into Burland has been relatively constant in recent years
- (E) Whether most trucks transporting goods into Burland return to the mainland empty

43. Which of the choices most logically completes the following argument?

NowNews, although still the most popular magazine covering cultural events in Kalopolis, has recently suffered a significant drop in advertising revenue because of falling circulation. Many readers have begun buying a competing magazine that, at 50 cents per copy, costs less than *NowNews* at \$1.50 per copy. In order to boost circulation and thus increase advertising revenue, *NowNews*'s publisher has proposed making it available at no charge. However, this proposal has a serious drawback, since _____.

- (A) Those Kalopolis residents with the greatest interest in cultural events are regular readers of both magazines.
- (B) One reason *NowNews*'s circulation fell was that its competitor's reporting on cultural events was superior.
- (C) The newsstands and stores that currently sell *NowNews* will no longer carry it if it is being given away for free.
- (D) At present, 10 percent of the total number of copies of each issue of *NowNews* are distributed free to students on college campuses in the Kalopolis area.
- (E) *NowNews*'s competitor would begin to lose large amounts of money if it were forced to lower its cover price.

44. Which of the following best completes the passage below?

The computer industry's estimate that it loses millions of dollars when users illegally copy programs without paying for them is greatly exaggerated. Most of the illegal copying is done by people with no serious interest in the programs. Thus, the loss to the industry is quite small, because _____.

- (A) many users who illegally copy programs never find any use for them
- (B) most people who illegally copy programs would not purchase them even if purchasing them were the only way to obtain them
- (C) even if the computer industry received all the revenue it claims to be losing, it would still be experiencing financial difficulties
- (D) the total market value of all illegal copies is low in comparison to the total revenue of the computer industry

(E) the number of programs that are frequently copied illegally is low in comparison to the number of programs available for sale

45. In the last decade there has been a significant decrease in coffee consumption. During this same time, there has been increasing publicity about the adverse long-term effects on health of the caffeine in coffee. Therefore, the decrease in coffee consumption must have been caused by consumers' awareness of the harmful effects of caffeine.

Which of the following, if true, most seriously calls into question the explanation above?

(A) On average, people consume 30 percent less coffee today than they did 10 years ago.

(B) Heavy coffee drinkers may have mild withdrawal symptoms, such as headaches, for a day or so after significantly decreasing their coffee consumption.

(C) Sales of specialty types of coffee have held steady as sales of regular brands have declined.

(D) The consumption of fruit juices and caffeine-free herbal teas has increased over the past decade.

(E) Coffee prices increased steadily in the past decade because of unusually severe frosts in coffee-growing nations.

46. Which of the following best completes the passage below?

When the products of several competing suppliers are perceived by consumers to be essentially the same, classical economics predicts that price competition will reduce prices to the same minimal levels and all suppliers' profits to the same minimal levels. Therefore, if classical economics is true, and given suppliers' desire to make as much profit as possible, it should be expected that _____.

(A) in a crowded market widely differing prices will be charged for products that are essentially the same as each other

(B) as a market becomes less crowded as suppliers leave, the profits of the remaining suppliers will tend to decrease

(C) each supplier in a crowded market will try to convince consumers that its product differs significantly from its competitors' products.

(D) when consumers are unable to distinguish the products in a crowded market, consumers will judge that the higher-priced products are of higher quality

(E) suppliers in crowded markets will have more incentive to reduce prices and thus increase sales than to introduce innovations that would distinguish

their product from their competitors' products

47. Installing scrubbers in smokestacks and switching to cleaner-burning fuel are the two methods available to Northern Power for reducing harmful emissions from its plants. Scrubbers will reduce harmful emissions more than cleaner-burning fuels will. Therefore, by installing scrubbers, Northern Power will be doing the most that can be done to reduce harmful emissions from its plants.

Which of the following is an assumption on which the argument depends?

- (A) Switching to cleaner-burning fuel will not be more expensive than installing scrubbers.
- (B) Northern Power can choose from among various kinds of scrubbers, some of which are more effective than others.
- (C) Northern Power is not necessarily committed to reducing harmful emissions from its plants.
- (D) Harmful emissions from Northern Power's plants cannot be reduced more by using both methods together than by the installation of scrubbers alone.
- (E) Aside from harmful emissions from the smokestacks of its plants, the activities of Northern Power do not cause significant air pollution.

48. Archaeologist: Researchers excavating a burial site in Cyprus found a feline skeleton lying near a human skeleton. Both skeletons were in the same sediment at the same depth and equally well-preserved, suggesting that the feline and human were buried together about 9,500 years ago. This shows that felines were domesticated around the time farming began, when they would have been useful in protecting stores of grain from mice.

Which of the following, if true, would most seriously weaken the archaeologist's argument?

- (A) Archaeologists have not found any remains of stores of grain in the immediate vicinity of the burial site.
- (B) The burial site in Cyprus is substantially older than any other known burial site in which a feline skeleton and a human skeleton appear to have been buried together.
- (C) Paintings found near the burial site seem to show people keeping felines as domestic companions, but do not show felines hunting mice.
- (D) In Cyprus, there are many burial sites dating from around 9,500 years ago in which the remains of wild animals appear to have been buried alongside human remains.
- (E) Before felines were domesticated, early farmers had no effective way to

protect stores of grain from mice.

49. Economist: The most economically efficient way to reduce emissions of air pollutants is to tax them in proportion to the damage they are likely to cause. But in Country Y, many serious pollutants are untaxed and unregulated, and policy makers strongly oppose new taxes. Therefore, the best way to achieve a reduction in air pollutant emissions in Country Y would be to institute fixed upper limits on them.

Which of the following is an assumption of the economist's argument?

- (A) Policy makers in Country Y oppose all new taxes equally strongly, regardless of any benefits they may provide.
 - (B) Country Y's air pollutant emissions would not fall significantly if they were taxed in proportion to the damage they are likely to cause.
 - (C) Policy makers in Country Y strongly favor reductions in air pollutant emissions.
 - (D) Country Y's policy makers believe that air pollutant emissions should be reduced with maximum economic efficiency.
 - (E) Policy makers in Country Y do not oppose setting fixed upper limits on air pollutant emissions as strongly as they oppose new taxes.
50. Some anthropologists study modern-day societies of foragers in an effort to learn about our ancient ancestors who were also foragers. A flaw in this strategy is that forager societies are extremely varied. Indeed, any forager society with which anthropologists are familiar has had considerable contact with modern, non-forager societies.

Which of the following, if true, would most weaken the criticism made above of the anthropologists' strategy?

- (A) All forager societies throughout history have had a number of important features in common that are absent from other types of societies.
 - (B) Most ancient forager societies either dissolved or made a transition to another way of life.
 - (C) All anthropologists study one kind or another of modern-day society.
 - (D) Many anthropologists who study modern-day forager societies do not draw inferences about ancient societies on the basis of their studies.
 - (E) Even those modern-day forager societies that have not had significant contact with modern societies are importantly different from ancient forager societies.
51. Contrary to earlier predictions, demand for sugarcane has not increased in recent years. Yet, even though prices and production amounts have also been stable

during the last three years, sugarcane growers last year increased their profits by more than 10 percent over the previous year's level.

Any of the following statements, if true about last year, helps to explain the rise in profits EXCEPT:

- (A) Many countries that are large consumers of sugarcane increased their production of sugarcane-based ethanol, yet their overall consumption of sugarcane decreased.
- (B) Sugarcane growers have saved money on wages by switching from paying laborers an hourly wage to paying them by the amount harvested.
- (C) The price of oil, the major energy source used by sugarcane growers in harvesting their crops, dropped by over 20 percent.
- (D) Many small sugarcane growers joined together to form an association of sugarcane producers and began to buy supplies at low group rates.
- (E) Rainfall in sugarcane-growing regions was higher than it had been during the previous year, allowing the growers to save money on expensive artificial irrigation.

52. Although computers can enhance people's ability to communicate, computer games are a cause of underdeveloped communication skills in children. After-school hours spent playing computer games are hours not spent talking with people. Therefore, children who spend all their spare time playing these games have less experience in interpersonal communication than other children have.

The argument depends on which of the following assumptions?

- (A) Passive activities such as watching television and listening to music do not hinder the development of communication skills in children.
- (B) Most children have other opportunities, in addition to after-school hours, in which they can choose whether to play computer games or to interact with other people.
- (C) Children who do not spend all of their afterschool hours playing computer games spend at least some of that time talking with other people.
- (D) Formal instruction contributes little or nothing to children's acquisition of communication skills.
- (E) The mental skills developed through playing computer games do not contribute significantly to children's intellectual development.

53. Humans get Lyme disease from infected ticks. Ticks get infected by feeding on animals with Lyme disease, but the ease of transmission from host animal to tick varies. With most species of host animal, transmission of Lyme disease to ticks is extremely rare, but white-footed mice are an exception, readily passing Lyme

disease to ticks. And white-footed mouse populations greatly expand, becoming the main food source for ticks, in areas where biodiversity is in decline.

The information in the passage most strongly supports which of the following?

- (A) In areas where many humans are infected with Lyme disease, the proportion of ticks infected with Lyme disease is especially high.
- (B) Very few animals that live in areas where there are no white-footed mice are infected with Lyme disease.
- (C) Humans are less at risk of contracting Lyme disease in areas where biodiversity is high.
- (D) Ticks feed on white-footed mice only when other host species are not available to them.
- (E) The greater the biodiversity of an area, the more likely any given host animal in that area is to pass Lyme disease to ticks.

54. Which of the following most logically completes the argument below?

Davison River farmers are currently deciding between planting winter wheat this fall or spring wheat next spring. Winter wheat and spring wheat are usually about equally profitable. Because of new government restrictions on the use of Davison River water for irrigation, per acre yields for winter wheat, though not for spring wheat, would be much lower than average. Therefore, planting spring wheat will be more profitable than planting winter wheat, since _____.

- (A) the smaller-than-average size of a winter wheat harvest this year would not be compensated for by higher winter wheat prices
- (B) new crops of spring wheat must be planted earlier than the time at which standing crops of winter wheat are ready to be harvested
- (C) the spring wheat that farmers in the Davison River region plant is well adapted to the soil of the region
- (D) spring wheat has uses that are different from those of winter wheat
- (E) planting spring wheat is more profitable than planting certain other crops, such as rye

55. Advertisement: When your car's engine is running at its normal operating temperature, any major brand of motor oil will protect it about as well as Tuff does. When the engine is cold, it is a different story: Tuff motor oil flows better at lower temperatures than its major competitors do. So, if you want your car's engine to have maximum protection, you should use Tuff.

Which of the following, if true, most strengthens the argument in the advertisement?

- (A) Tuff motor oil provides above-average protection for engines that happen to overheat.
- (B) Tuff motor oil is periodically supplied free of charge to automobile manufacturers to use in factory-new cars.
- (C) Tuff motor oil's share of the engine oil market peaked three years ago.
- (D) Tuff motor oil, like any motor oil, is thicker and flows less freely at cold temperatures than at hot temperatures.
- (E) Tuff motor oil is manufactured at only one refinery and shipped from there to all markets.

56. Certain genetically modified strains of maize produce a powerful natural insecticide. The insecticide occurs throughout the plant, including its pollen. Maize pollen is dispersed by the wind and frequently blows onto milkweed plants that grow near maize fields. Caterpillars of monarch butterflies feed exclusively on milkweed leaves. When these caterpillars are fed milkweed leaves dusted with pollen from modified maize plants, they die. Therefore, by using genetically modified maize, farmers put monarch butterflies at risk.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether the natural insecticide is as effective against maize-eating insects as commercial insecticides typically used on maize are
- (B) Whether the pollen of genetically modified maize contains as much insecticide as other parts of these plants
- (C) Whether monarch butterfly caterpillars are actively feeding during the part of the growing season when maize is releasing pollen
- (D) Whether insects that feed on genetically modified maize plants are likely to be killed by insecticide from the plant's pollen
- (E) Whether any maize-eating insects compete with monarch caterpillars for the leaves of milkweed plants growing near maize fields

57. *The Testament of William Thorpe* was published around 1530 as an appendix to Thorpe's longer *Examination*. Many scholars, however, doubt the attribution of the *Testament* to Thorpe because, whereas the *Examination* is dated 1406, the *Testament* is dated 1460. One scholar has recently argued that the 1460 date be amended to 1409, based on the observation that when these numbers are expressed as Roman numerals, MCCCCLX and MCCCCIX, it becomes easy to see how the dates might have become confused through scribal error.

Which of the following, if true, would most support the scholar's hypothesis concerning the date of the *Testament*?

- (A) The sole evidence that historians have had that William Thorpe died no earlier than 1460 was the presumed date of publication of the *Testament*.
- (B) In the preface to the 1530 publication, the editor attributes both works to William Thorpe.
- (C) Few writers in fifteenth-century England marked dates in their works using only Roman numerals.
- (D) The *Testament* alludes to a date, "Friday, September 20," as apparently contemporaneous with the writing of the *Testament*, and September 20 fell on a Friday in 1409 but not in 1460.
- (E) The *Testament* contains few references to historical events that occurred later than 1406.

58. To reduce productivity losses from employees calling in sick, Corporation X implemented a new policy requiring employees to come into work unless they were so sick that they had to go to a doctor. But a year after the policy was implemented, a study found that Corporation X's overall productivity losses due to reported employee illnesses had increased.

Which of the following, if true, would best explain why the policy produced the reverse of its intended effect?

- (A) After the policy was implemented, employees more frequently went to the doctor when they felt sick.
- (B) Before the policy was implemented, employees who were not sick at all often called in sick.
- (C) Employees coming into work when sick often infect many of their coworkers.
- (D) Unusually few employees became genuinely sick during the year after the policy was implemented.
- (E) There are many other factors besides employee illness that can adversely affect productivity.

59. Rye sown in the fall and plowed into the soil in early spring leaves a residue that is highly effective at controlling broad-leaved weeds, but unfortunately for only about forty-five days. No major agricultural crop matures from seed in as little as forty-five days. Synthetic herbicides, on the other hand, although not any longer-lasting, can be reapplied as the crop grows. Clearly, therefore, for major agricultural crops, plowing rye into the soil can play no part in effective weed control.

The argument is most vulnerable to the objection that it fails to

- (A) consider that there might be minor, quickgrowing crops that do mature in forty-five days or less

- (B) identify any alternative method of weed control that could be used instead of the method it rejects
- (C) distinguish among the various kinds of synthetic herbicides
- (D) allow for the possibility of combining the two weed-control methods it mentions
- (E) allow for the possibility that plants other than rye, handled the same way, might have the same effect

60. Advertising by mail has become much less effective, with fewer consumers responding. Because consumers are increasingly overwhelmed by the sheer amount of junk mail they receive, most discard almost all offers without considering them. Thus, an effective way for corporations to improve response rates would be to more carefully target the individuals to whom they mail advertising, thereby cutting down on the amount of junk mail each consumer receives.

Which of the following, if true, would most support the recommendation above?

- (A) There are cost-effective means by which corporations that currently advertise by mail could improve response rates.
- (B) Many successful corporations are already carefully targeting the individuals to whom they mail advertising.
- (C) Any consumer who, immediately after receiving an advertisement by mail, merely glances at it, is very likely to discard it.
- (D) Improvements in the quality of the advertising materials used in mail that is carefully targeted to individuals can improve the response rate for such mail.
- (E) Response rates to carefully targeted advertisements by mail are considerably higher, on average, than response rates to most other forms of advertising.

61. One variety of partially biodegradable plastic beverage container is manufactured from small bits of plastic bound together by a degradable bonding agent such as cornstarch. Since only the bonding agent degrades, leaving the small bits of plastic, no less plastic refuse per container is produced when such containers are discarded than when comparable nonbiodegradable containers are discarded.

Which of the following, if true, most strengthens the argument above?

- (A) Both partially biodegradable and nonbiodegradable plastic beverage containers can be crushed completely flat by refuse compactors.
- (B) The partially biodegradable plastic beverage containers are made with more plastic than comparable nonbiodegradable ones in order to

compensate for the weakening effect of the bonding agents.

(C) Many consumers are ecology-minded and prefer to buy a product sold in the partially biodegradable plastic beverage containers rather than in nonbiodegradable containers, even if the price is higher.

(D) The manufacturing process for the partially biodegradable plastic beverage containers results in less plastic waste than the manufacturing process for nonbiodegradable plastic beverage containers.

(E) Technological problems with recycling currently prevent the reuse as food or beverage containers of the plastic from either type of plastic beverage container.

62. Most employees in the computer industry move from company to company, changing jobs several times in their careers. However, Summit Computers is known throughout the industry for retaining its employees. Summit credits its success in retaining employees to its informal, nonhierarchical work environment.

Which of the following, if true, most strongly supports Summit's explanation of its success in retaining employees?

(A) Some people employed in the computer industry change jobs if they become bored with their current projects.

(B) A hierarchical work environment hinders the cooperative exchange of ideas that computer industry employees consider necessary for their work.

(C) Many of Summit's senior employees had previously worked at only one other computer company.

(D) In a nonhierarchical work environment, people avoid behavior that might threaten group harmony and thus avoid discussing with their colleagues any dissatisfaction they might have with their jobs.

(E) The cost of living near Summit is relatively low compared to areas in which some other computer companies are located.

63. Politician: Hybrid cars use significantly less fuel per kilometer than nonhybrids. And fuel produces air pollution, which contributes to a number of environmental problems. Motorists can save money by driving cars that are more fuel efficient, and they will be encouraged to drive hybrid cars if we make them aware of that fact. Therefore, we can help reduce the total amount of pollution emitted by cars in this country by highlighting this advantage of hybrid cars.

Which of the following, if true, would most indicate a vulnerability of the politician's argument?

(A) People with more fuel-efficient cars typically drive more than do those with less fuel-efficient cars.

- (B) Not all air pollution originates from automobiles.
- (C) Hybrid cars have already begun to gain popularity.
- (D) Fuel-efficient alternatives to hybrid cars will likely become available in the future.
- (E) The future cost of gasoline and other fuel cannot be predicted with absolute precision or certainty.

64. Which of the following most logically completes the passage?

A recent government study links the high rates of respiratory ailments in Groverston to airborne pollutants released by the Woodco plywood manufacturing plant there. To address the problem, the government imposed strict regulations on emissions which will go into effect in four years.

Although Woodco plans to cut its emissions in half two years ahead of schedule, it is unlikely that the rate of respiratory ailments will decline before the regulations go into effect, since _____.

- (A) the number of facilities capable of treating respiratory ailments is not likely to increase
- (B) reducing emissions even further than planned would necessitate decreasing production at Woodco
- (C) it is difficult to make accurate, long-term predictions about emissions
- (D) not all respiratory ailments are caused by airborne pollutants
- (E) three new plywood manufacturing plants are about to go into production in Groverston

65. One summer, floods covered low-lying garlic fields situated in a region with a large mosquito population. Since mosquitoes lay their eggs in standing water, flooded fields would normally attract mosquitoes, yet no mosquitoes were found in the fields. Diallyl sulfide, a major component of garlic, is known to repel several species of insects, including mosquitoes, so it is likely that diallyl sulfide from the garlic repelled the mosquitoes.

Which of the following, if true, most strengthens the argument?

- (A) Diallyl sulfide is also found in onions but at concentrations lower than in garlic.
- (B) The mosquito population of the region as a whole was significantly smaller during the year in which the flooding took place than it had been in previous years.
- (C) By the end of the summer, most of the garlic plants in the flooded fields had been killed by waterborne fungi.

(D) Many insect species not repelled by diallyl sulfide were found in the flooded garlic fields throughout the summer.

(E) Mosquitoes are known to be susceptible to toxins in plants other than garlic, such as marigolds.

66. Which of the following most logically completes the passage?

Pecan growers get a high price for their crop when pecans are comparatively scarce, but the price drops sharply when pecans are abundant. Thus, in high-yield years, growers often hold back part of their crop in refrigerated warehouses for one or two years, hoping for higher prices in the future. This year's pecan crop was the smallest in five years. It is nonetheless quite possible that a portion of this year's crop will be held back, since _____.

(A) each of the last two years produced recordbreaking pecan yields

(B) the quality of this year's pecan crop is no worse than the quality of the pecan crops of the previous five years

(C) pecan prices have not been subject to sharp fluctuations in recent years

(D) for some pecan growers, this year's crop was no smaller than last year's

(E) the practice of holding back part of one year's crop had not yet become widespread the last time the pecan crop was as small as it was this year

67. Coffee shop owner: A large number of customers will pay at least the fair market value for a cup of coffee, even if there is no formal charge. Some will pay more than this out of appreciation of the trust that is placed in them. And our total number of customers is likely to increase. We could therefore improve our net cash flow by implementing an honor system in which customers pay what they wish for coffee by depositing money in a can.

Manager: We're likely to lose money on this plan. Many customers would cheat the system, paying a very small sum or nothing at all.

Which of the following, if true, would best support the owner's plan, in light of the manager's concern?

(A) The new system, if implemented, would increase the number of customers.

(B) By roasting its own coffee, the shop has managed to reduce the difficulties (and cost) of maintaining an inventory of freshly roasted coffee.

(C) Many customers stay in the cafe for long stretches of time.

(D) The shop makes a substantial profit from pastries and other food bought by the coffee drinkers.

(E) No other coffee shop in the area has such a system.

68. Which of the following most logically completes the argument?

By competing with rodents for seeds, black ants help control rodent populations that pose a public health risk. However, a very aggressive species of black ant, the Loma ant, which has recently invaded a certain region, has a venomous sting that is often fatal to humans. Therefore, the planned introduction into that region of ant flies, which prey on Loma ants, would benefit public health, since _____.

- (A) ant flies do not attack black ants other than Loma ants
- (B) Loma ants are less effective than many bird species in competing with rodents for seeds
- (C) certain other species of black ants are more effective than Loma ants in competing with rodents for seeds
- (D) the sting of Loma ants can also be fatal to rodents
- (E) some pesticides that could be used to control Loma ants are harmful to the environment

69. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

- (A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.
- (B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.
- (C) The number of physics journals was the same last year as in previous years.
- (D) Particle accelerators can be used for more than one group of experiments in any given year.
- (E) Recent changes in the editorial policies of several physics journals have decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

70. City council member: Demand for electricity has been increasing by 1.5 percent a year, and there simply is no more space to build additional power plants to meet future demand increases. We must therefore begin to curtail usage, which is why I propose passing ordinances requiring energy-conservation measures in all city departments.

The city council member's proposal assumes which of the following?

- (A) Existing power plants do not have the capacity to handle all of the projected increase in demand for electricity.
- (B) No city departments have implemented energy-conservation measures voluntarily.
- (C) Passing ordinances designed to curtail electricity usage will not have negative economic consequences for the city.
- (D) Residential consumers are not responsible for the recent increases in demand for electricity.
- (E) City departments that successfully conserve energy will set a good example for residential and industrial consumers of electricity.

71. Which of the following most logically completes the argument below?

Using broad-spectrum weed killers on weeds that are competing with crops for sunlight, water, and nutrients presents a difficulty: how to keep the crop from being killed along with the weeds. For at least some food crops, specially treated seed that produces plants resistant to weed killers is under development. This resistance wears off as the plants mature. Therefore, the special seed treatment will be especially useful for plants that _____.

- (A) produce their crop over an extended period of time, as summer squash does
- (B) produce large seeds that are easy to treat individually, as corn and beans do
- (C) provide, as they approach maturity, shade dense enough to keep weeds from growing
- (D) are typically grown in large tracts devoted to a single crop
- (E) are cultivated specifically for the seed they produce rather than for their leaves or roots

72. Which of the following most logically completes the argument given below?

People in isolated rain-forest communities tend to live on a largely vegetarian diet, and they eat little salt. Few of them suffer from high blood pressure, and their blood pressure does not tend to increase with age, as is common in industrialized countries. Such people often do develop high blood pressure when they move to cities and adopt high-salt diets. Though suggestive, these facts do not establish salt as the culprit in high blood pressure, however, because _____.

- (A) genetic factors could account for the lack of increase of blood pressure with age among such people

(B) people eating high-salt diets and living from birth in cities in industrialized societies generally have a tendency to have high blood pressure

(C) it is possible to have a low-salt diet while living in a city in an industrialized country

(D) there are changes in other aspects of diet when such people move to the city

(E) salt is a necessity for human life, and death can occur when the body loses too much salt

73. Which of the following most logically completes the argument?

The attribution of the choral work *Lacrimae* to the composer Pescard (1400–1474) has been regarded as tentative, since it was based on a single treatise from the early 1500s that named Pescard as the composer. Recently, several musical treatises from the late 1500s have come to light, all of which name Pescard as the composer of *Lacrimae*. Unfortunately, these newly discovered treatises lend no support to the attribution of *Lacrimae* to Pescard, since _____.

(A) the treatise from the early 1500s misidentifies the composers of some of the musical works it considers

(B) the author of the treatise from the early 1500s had no very strong evidence on which to base the identification of Pescard as the composer of *Lacrimae*

(C) there are works that can conclusively be attributed to Pescard that are not even mentioned in the treatise from the early 1500s

(D) the later treatises probably had no source for their attribution other than the earlier treatise

(E) no known treatises from the 1600s identify Pescard as the composer of *Lacrimae*

74. When trying to identify new technologies that promise to transform the marketplace, market researchers survey the managers of those companies that are developing new technologies. Such managers have an enormous stake in succeeding, so they invariably overstate the potential of their new technologies. Surprisingly, however, market researchers typically do not survey a new technology's potential buyers, even though it is the buyers—not the producers—who will ultimately determine a technology's commercial success.

Which of the following, if true, best accounts for the typical survey practices among market researchers?

(A) If a new technology succeeds, the commercial benefits accrue largely to the producers, not to the buyers, of that technology.

(B) People who promote the virtues of a new technology typically fail to consider that the old technology that is currently in use continues to be improved, often substantially.

(C) Investors are unlikely to invest substantial amounts of capital in a company whose own managers are skeptical about the commercial prospects of a new technology they are developing.

(D) The potential buyers for not-yet-available technologies can seldom be reliably identified.

(E) The developers of a new technology are generally no better positioned than its potential buyers to gauge how rapidly the new technology can be efficiently mass-produced.

75. In order to withstand tidal currents, juvenile horseshoe crabs frequently burrow in the sand. Such burrowing discourages barnacles from clinging to their shells. When fully grown, however, the crabs can readily withstand tidal currents without burrowing, and thus they acquire substantial populations of barnacles. Surprisingly, in areas where tidal currents are very weak, juvenile horseshoe crabs are found not to have significant barnacle populations, even though they seldom burrow.

Which of the following, if true, most helps to explain the surprising finding?

(A) Tidal currents do not themselves dislodge barnacles from the shells of horseshoe crabs.

(B) Barnacles most readily attach themselves to horseshoe crabs in areas where tidal currents are weakest.

(C) The strength of the tidal currents in a given location varies widely over the course of a day.

(D) A very large barnacle population can significantly decrease the ability of a horseshoe crab to find food.

(E) Until they are fully grown, horseshoe crabs shed their shells and grow new ones several times a year.

76. Voters commonly condemn politicians for being insincere, but politicians often must disguise their true feelings when they make public statements. If they expressed their honest views—about, say, their party's policies—then achieving politically necessary compromises would be much more difficult. Clearly, the very insincerity that people decry shows that our government is functioning well.

Which of the following, if true, most seriously undermines this reasoning?

(A) Achieving political compromises is not all that is necessary for the proper functioning of a government.

(B) Some political compromises are not in the best long-term interest of the government.

(C) Voters often judge politicians by criteria other than the sincerity with which they express their views.

(D) A political party's policies could turn out to be detrimental to the functioning of a government.

(E) Some of the public statements made by politicians about their party's policies could in fact be sincere.

77. To reduce waste of raw materials, the government of Sperland is considering requiring household appliances to be broken down for salvage when discarded. To cover the cost of salvage, the government is planning to charge a fee, which would be imposed when the appliance is first sold. Imposing the fee at the time of salvage would reduce waste more effectively, however, because consumers tend to keep old appliances longer if they are faced with a fee for discarding them.

Which of the following, if true, most seriously weakens the argument?

(A) Increasing the cost of disposing of an appliance properly increases the incentive to dispose of it improperly.

(B) The fee provides manufacturers with no incentive to produce appliances that are more durable.

(C) For people who have bought new appliances recently, the salvage fee would not need to be paid for a number of years.

(D) People who sell their used, working appliances to others would not need to pay the salvage fee.

(E) Many nonfunctioning appliances that are currently discarded could be repaired at relatively little expense.

78. When there is less rainfall than normal, the water level of Australian rivers falls and the rivers flow more slowly. Because algae whose habitat is river water grow best in slow-moving water, the amount of algae per unit of water generally increases when there has been little rain. By contrast, however, following a period of extreme drought, algae levels are low even in very slow-moving river water.

Which of the following, if true, does most to explain the contrast described above?

(A) During periods of extreme drought, the populations of some of the species that feed on algae tend to fall.

(B) The more slowly water moves, the more conducive its temperature is to the growth of algae.

(C) When algae populations reach very high levels, conditions within the river can become toxic for some of the other species that normally live

there.

(D) Australian rivers dry up completely for short intervals in periods of extreme drought.

(E) Except during periods of extreme drought, algae levels tend to be higher in rivers in which the flow has been controlled by damming than in rivers that flow freely.

79. Increased use of incineration is sometimes advocated as a safe way to dispose of chemical waste. But opponents of incineration point to the 40 incidents involving unexpected releases of dangerous chemical agents that were reported just last year at two existing incinerators commissioned to destroy a quantity of chemical waste material. Since designs for proposed new incinerators include no additional means of preventing such releases, leaks will only become more prevalent if use of incineration increases.

Which of the following, if true, most seriously weakens the argument?

(A) At the two incinerators at which leaks were reported, staff had had only cursory training on the proper procedures for incinerating chemical waste.

(B) Other means of disposing of chemical waste, such as chemical neutralization processes, have not been proven safer than incineration.

(C) The capacity of existing incinerators is sufficient to allow for increased incineration of chemical waste without any need for new incinerators.

(D) The frequency of reports of unexpected releases of chemical agents at newly built incinerators is about the same as the frequency at older incinerators.

(E) In only three of the reported incidents of unexpected chemical leaks did the releases extend outside the property on which the incinerators were located.

80. To protect certain fledgling industries, the government of Country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

Which of the following conclusions about Country Z's adversely affected export-dependent industries is best supported by the passage?

(A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.

(B) Those industries had to contend with the fact that other countries banned imports from Country Z.

(C) Those industries succeeded in expanding the domestic market for their products.

(D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.

(E) Those industries started to move into export markets that they had previously judged unprofitable.

81. Public health expert: **Increasing the urgency of a public health message may be counterproductive.** In addition to irritating the majority who already behave responsibly, **it may undermine all government pronouncements on health by convincing people that such messages are overly cautious.** And there is no reason to believe that those who ignore measured voices will listen to shouting.

The two sections in boldface play which of the following roles in the public health expert's argument?

(A) The first is a conclusion for which support is provided, but is not the argument's main conclusion; the second is an unsupported premise supporting the argument's main conclusion.

(B) The first is a premise supporting the only explicit conclusion; so is the second.

(C) The first is the argument's main conclusion; the second supports that conclusion and is itself a conclusion for which support is provided.

(D) The first is a premise supporting the argument's only conclusion; the second is that conclusion.

(E) The first is the argument's only explicit conclusion; the second is a premise supporting that conclusion.

82. A prominent investor who holds a large stake in the Burton Tool Company has recently claimed that **the company is mismanaged**, citing as evidence the company's failure to slow production in response to a recent rise in its inventory of finished products. It is doubtful whether an investor's sniping at management can ever be anything other than counterproductive, **but in this case it is clearly not justified.** It is true that an increased inventory of finished products often indicates that production is outstripping demand, but in Burton's case it indicates no such thing. Rather, the increase in inventory is entirely attributable to products that have already been assigned to orders received from customers.

In the argument given, the two boldfaced portions play which of the following roles?

(A) The first states the position that the argument as a whole opposes; the second provides evidence to undermine the support for the position being

opposed.

(B) The first states the position that the argument as a whole opposes; the second is evidence that has been used to support the position being opposed.

(C) The first states the position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.

(D) The first is evidence that has been used to support a position that the argument as a whole opposes; the second provides information to undermine the force of that evidence.

(E) The first is evidence that has been used to support a position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.

83. Several industries have recently switched at least partly from older technologies powered by fossil fuels to new technologies powered by electricity. It is thus evident that less fossil fuel is being used as a result of the operations of these industries than would have been used if these industries had retained their older technologies.

Which of the following, if true, most strengthens the argument above?

(A) Many of the industries that have switched at least partly to the new technologies have increased their output.

(B) Less fossil fuel was used to manufacture the machinery employed in the new technologies than was originally used to manufacture the machinery employed in the older technologies.

(C) More electricity is used by those industries that have switched at least partly to the new technologies than by those industries that have not switched.

(D) Some of the industries that have switched at least partly to the new technologies still use primarily technologies that are powered by fossil fuels.

(E) The amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount that would have been used to power the older technologies.

84. Proposed new safety rules for Beach City airport would lengthen considerably the minimum time between takeoffs from the airport. In consequence, the airport would be able to accommodate 10 percent fewer flights than currently use the airport daily. The city's operating budget depends heavily on taxes generated by tourist spending, and most of the tourists come by plane. Therefore, the proposed new safety rules, if adopted, will reduce the revenue available for the operating budget.

The argument depends on assuming which of the following?

- (A) There are no periods of the day during which the interval between flights taking off from the airport is significantly greater than the currently allowed minimum.
- (B) Few, if any, of the tourists who use Beach City airport do so when their main destination is a neighboring community and not Beach City itself.
- (C) If the proposed safety rules are adopted, the reduction in tourist numbers will not result mainly from a reduction in the number of tourists who spend relatively little in Beach City.
- (D) Increasing the minimum time between takeoffs is the only way to achieve necessary safety improvements without a large expenditure by the city government on airport enhancements.
- (E) The response to the adoption of the new safety rules would not include a large increase in the number of passengers per flight.

85. As a construction material, bamboo is as strong as steel and sturdier than concrete. Moreover, in tropical areas bamboo is a much less expensive construction material than either steel or concrete and is always readily available. In tropical areas, therefore, building with bamboo makes better economic sense than building with steel or concrete, except where land values are high.

Which of the following, if true, most helps to explain the exception noted above?

- (A) Buildings constructed of bamboo are less likely to suffer earthquake damage than are steel and concrete buildings.
- (B) Bamboo is unsuitable as a building material for multistory buildings.
- (C) In order to protect it from being damaged by termites and beetles, bamboo must be soaked, at some expense, in a preservative.
- (D) In some tropical areas, bamboo is used to make the scaffolding that is used during large construction projects.
- (E) Bamboo growing in an area where land values are increasing is often cleared to make way for construction.

86. Scientists have modified feed corn genetically, increasing its resistance to insect pests. Farmers who tried out the genetically modified corn last season applied less insecticide to their corn fields and still got yields comparable to those they would have gotten with ordinary corn. Ordinary corn seed, however, costs less, and what these farmers saved on insecticide rarely exceeded their extra costs for seed. Therefore, for most feed-corn farmers, switching to genetically modified seed would be unlikely to increase profits.

Which of the following would it be most useful to know in order to evaluate the

argument?

- (A) Whether there are insect pests that sometimes reduce feed-corn yields, but against which commonly used insecticides and the genetic modification are equally ineffective
- (B) Whether the price that farmers receive for feed corn has remained steady over the past few years
- (C) Whether the insecticides typically used on feed corn tend to be more expensive than insecticides typically used on other crops
- (D) Whether most of the farmers who tried the genetically modified corn last season applied more insecticide than was actually necessary
- (E) Whether, for most farmers who plant feed corn, it is their most profitable crop

87. Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist's reasoning?

- (A) Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- (B) Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
- (C) In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- (D) What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- (E) Do newly opened SaveAll stores ever lose money during their first five years of operation?

88. Debater: The average amount of overtime per month worked by an employee in the manufacturing division of the Haglut Corporation is 14 hours. Most employees of the Haglut Corporation work in the manufacturing division. Furthermore, the average amount of overtime per month worked by any employee in the company generally does not fluctuate much from month to month. Therefore, each month, most employees of the Haglut Corporation almost certainly work at least some overtime.

The debater's argument is most vulnerable to criticism on which of these grounds?

- (A) It takes for granted that the manufacturing division is a typical division of the corporation with regard to the average amount of overtime its employees work each month.
- (B) It takes for granted that if a certain average amount of overtime is worked each month by each employee of the Haglut Corporation, then approximately the same amount of overtime must be worked each month by each employee of the manufacturing division.
- (C) It confuses a claim from which the argument's conclusion about the Haglut Corporation would necessarily follow with a claim that would follow from the argument's conclusion only with a high degree of probability.
- (D) It overlooks the possibility that even if, on average, a certain amount of overtime is worked by the members of some group, many members of that group may work no overtime at all.
- (E) It overlooks the possibility that even if most employees of the corporation work some overtime each month, any one corporate employee may, in some months, work no overtime.

89. In the past the country of Malvernia has relied heavily on imported oil. Malvernia recently implemented a program to convert heating systems from oil to natural gas. Malvernia currently produces more natural gas each year than it uses, and oil production in Malvernian oil fields is increasing at a steady pace. If these trends in fuel production and usage continue, therefore, Malvernian reliance on foreign sources for fuel is likely to decline soon.

Which of the following would it be most useful to establish in evaluating the argument?

- (A) When, if ever, will production of oil in Malvernia outstrip production of natural gas?
 - (B) Is Malvernia among the countries that rely most on imported oil?
 - (C) What proportion of Malvernia's total energy needs is met by hydroelectric, solar, and nuclear power?
 - (D) Is the amount of oil used each year in Malvernia for generating electricity and fuel for transportation increasing?
 - (E) Have any existing oil-burning heating systems in Malvernia already been converted to natural-gas-burning heating systems?
90. Exposure to certain chemicals commonly used in elementary schools as cleaners or pesticides causes allergic reactions in some children. Elementary school nurses in Renston report that the proportion of schoolchildren sent to them for treatment of allergic reactions to those chemicals has increased significantly over the past ten

years. Therefore, either Renston's schoolchildren have been exposed to greater quantities of the chemicals, or they are more sensitive to them than schoolchildren were ten years ago.

Which of the following is an assumption on which the argument depends?

- (A) The number of school nurses employed by Renston's elementary schools has not decreased over the past ten years.
- (B) Children who are allergic to the chemicals are no more likely than other children to have allergies to other substances.
- (C) Children who have allergic reactions to the chemicals are not more likely to be sent to a school nurse now than they were ten years ago.
- (D) The chemicals are not commonly used as cleaners or pesticides in houses and apartment buildings in Renston.
- (E) Children attending elementary school do not make up a larger proportion of Renston's population now than they did ten years ago.

91. Although the earliest surviving Greek inscriptions written in an alphabet date from the eighth century B.C., **the fact that the text of these Greek inscriptions sometimes runs from right to left and sometimes from left to right** indicates that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were produced. After all, the Greeks learned alphabetic writing from the Phoenicians, and presumably, along with the alphabet, they also adopted the then-current Phoenician practice with respect to the direction of text. **And although Phoenician writing was originally inconsistent in direction, by the eighth century B.C. Phoenician was consistently written from right to left and had been for about two centuries.**

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first and the second each describe evidence that has been used to challenge the position that the argument seeks to establish.
- (B) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is that position.
- (C) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is a consideration that is introduced to counter the force of that evidence.
- (D) The first and the second each provide evidence in support of the position that the argument seeks to establish.
- (E) The first provides evidence in support of the position that the argument seeks to establish; the second is that position.

92. Normally, the pineal gland governs a person's sleepwake cycle by secreting melatonin in response to the daily cycle of light and darkness as detected by the eye. Nonetheless, many people who are totally blind due to lesions in the visual cortex of the brain easily maintain a 24-hour sleep-wake cycle. So the neural pathway by which the pineal gland receives information from the eye probably does not pass through the visual cortex.

For purposes of evaluating the argument it would be most useful to establish which of the following?

- (A) Whether melatonin supplements help people who have difficulty maintaining a 24-hour sleep cycle to establish such a pattern
- (B) Whether the melatonin levels of most totally blind people who successfully maintain a 24-hour sleep-wake cycle change in response to changes in exposure to light and darkness
- (C) Whether melatonin is the only substance secreted by the pineal gland
- (D) Whether most people who do not have a 24-hour sleep-wake cycle nevertheless have a cycle of consistent duration
- (E) Whether there are any people with normal vision whose melatonin levels respond abnormally to periods of light and darkness

93. **In countries where automobile insurance includes compensation for whiplash injuries sustained in automobile accidents, reports of having suffered such injuries are twice as frequent as they are in countries where whiplash is not covered.** Presently, no objective test for whiplash exists, so it is true that spurious reports of whiplash injuries cannot be readily identified. Nevertheless, these facts do not warrant the conclusion drawn by some commentators that in the countries with the higher rates of reported whiplash injuries, half of the reported cases are spurious. Clearly, **in countries where automobile insurance does not include compensation for whiplash, people often have little incentive to report whiplash injuries that they actually have suffered.**

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first is a claim that the argument disputes; the second is a conclusion that has been based on that claim.
- (B) The first is a claim that has been used to support a conclusion that the argument accepts; the second is that conclusion.
- (C) The first is evidence that has been used to support a conclusion for which the argument provides further evidence; the second is the main conclusion of the argument.

(D) The first is a finding whose implications are at issue in the argument; the second is a claim presented in order to argue against deriving certain implications from that finding.

(E) The first is a finding whose accuracy is evaluated in the argument; the second is evidence presented to establish that the finding is accurate.

94. Last year a global disturbance of weather patterns disrupted harvests in many of the world's important agricultural areas. Worldwide production of soybeans, an important source of protein for people and livestock alike, was not adversely affected, however. Indeed, last year's soybean crop was actually slightly larger than average. Nevertheless, the weather phenomenon is probably responsible for a recent increase in the world price of soybeans.

Which of the following, if true, provides the strongest justification for the attribution of the increase in soybean prices to the weather phenomenon?

(A) Last year's harvest of anchovies, which provide an important protein source for livestock, was disrupted by the effects of the weather phenomenon.

(B) Most countries that produce soybeans for export had above-average harvests of a number of food crops other than soybeans last year.

(C) The world price of soybeans also rose several years ago, immediately after an earlier occurrence of a similar global weather disturbance.

(D) Heavy rains attributable to the weather phenomenon improved grazing pastures last year, allowing farmers in many parts of the world to reduce their dependence on supplemental feed.

(E) Prior to last year, soybean prices had been falling for several years.

95. Commentator: The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

(A) No country actually acts according to the theory of trade retaliation.

(B) No country should block any of its markets to foreign trade.

(C) Trade disputes should be settled by international tribunal.

(D) For any two countries, at least one has some market closed to the other.

(E) Countries close their markets to foreigners to protect domestic producers.

96. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco

will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

- (A) Another manufacturer's introduction to the market of a similarly efficient burner
- (B) The Clifton Asphalt plant's need for more than one new burner
- (C) Very poor efficiency in the Clifton Asphalt plant's old burner
- (D) A decrease in the demand for asphalt
- (E) A steady increase in the price of oil beginning soon after the new burner is installed

97. Most of the year, the hermit thrush, a North American songbird, eats a diet consisting mainly of insects, but in autumn, as the thrushes migrate to their Central and South American wintering grounds, they feed almost exclusively on wild berries. Wild berries, however, are not as rich in calories as insects, yet thrushes need to consume plenty of calories in order to complete their migration. One possible explanation is that berries contain other nutrients that thrushes need for migration and that insects lack.

Which of the following, if true, most seriously calls into question the explanation given for the thrush's diet during migration?

- (A) Hermit thrushes, if undernourished, are unable to complete their autumn migration before the onset of winter.
- (B) Insect species contain certain nutrients that are not found in wild berries.
- (C) For songbirds, catching insects requires the expenditure of significantly more calories than eating wild berries does.
- (D) Along the hermit thrushes' migration routes, insects are abundant throughout the migration season.
- (E) There are some species of wild berries that hermit thrushes generally do not eat, even though these berry species are exceptionally rich in calories.

98. Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur *Sandactylus* had similar

networks of blood vessels in the skin of its wings provides evidence for the hypothesis that *Sandactylus* flew by flapping its wings, not just by gliding.

In the passage, the author develops the argument by

- (A) forming the hypothesis that best explains several apparently conflicting pieces of evidence
- (B) reinterpreting evidence that had been used to support an earlier theory
- (C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon
- (D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct
- (E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures

99. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry \$25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy. Laura: The \$25 billion spent by some businesses will be revenue for others. Jobs and profits will be gained as well as lost.

Laura responds to Keith by

- (A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand
- (B) challenging the plausibility of the evidence that serves as the basis for Keith's argument
- (C) suggesting that Keith's argument overlooks a mitigating consequence
- (D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites
- (E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism

100. A certain cultivated herb is one of a group of closely related plants that thrive in soil with high concentrations of metals that are toxic to most other plants. Agronomists studying the growth of this herb have discovered that it produces large amounts of histidine, an amino acid that, in test-tube solutions, renders these metals chemically inert. Hence, the herb's high histidine production must be the key feature that allows it to grow in metal-rich soils.

In evaluating the argument, it would be most important to determine which of the following?

- (A) Whether the herb can thrive in soil that does not have high concentrations of the toxic metals
- (B) Whether others of the closely related group of plants also produce histidine in large quantities
- (C) Whether the herb's high level of histidine production is associated with an unusually low level of production of some other amino acid
- (D) Whether growing the herb in soil with high concentrations of the metals will, over time, reduce their concentrations in the soil
- (E) Whether the concentration of histidine in the growing herb declines as the plant approaches maturity

101. Many people suffer an allergic reaction to certain sulfites, including those that are commonly added to wine as preservatives. However, since there are several winemakers who add sulfites to none of the wines they produce, people who would like to drink wine but are allergic to sulfites can drink wines produced by these winemakers without risking an allergic reaction to sulfites.

Which of the following is an assumption on which the argument depends?

- (A) These winemakers have been able to duplicate the preservative effect produced by adding sulfites by means that do not involve adding any potentially allergenic substances to their wine.
- (B) Not all forms of sulfite are equally likely to produce the allergic reaction.
- (C) Wine is the only beverage to which sulfites are commonly added.
- (D) Apart from sulfites, there are no substances commonly present in wine that give rise to an allergic reaction.
- (E) Sulfites are not naturally present in the wines produced by these winemakers in amounts large enough to produce an allergic reaction in someone who drinks these wines.

102. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government's plan to increase the amount of money available for development loans for businesses?

- (A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.
- (B) The increased tax revenue the government would receive as a result of

business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.

(C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.

(D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.

(E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

103. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

(A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.

(B) Corporate sponsors of research in university facilities are entitled to tax credits under new federal tax-code guidelines.

(C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.

(D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profitmaking corporations.

(E) Logos University is unlikely to attract corporate sponsorship of its scientific research.

104. Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete resources.

The environmentalist's statements, if true, best support which of the following as a

conclusion?

(A) The use of technology is the reason for the increasing encroachment of people on nature.

(B) It is possible to determine how many fish are in the sea in some way other than by catching fish.

(C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.

(D) Modern technologies waste resources by catching inedible fish.

(E) Marine fish continue to be an endangered resource.

105. Since it has become known that **several of a bank's top executives have been buying shares in their own bank**, the bank's depositors, who had been worried by rumors that the bank faced impending financial collapse, have been greatly relieved. They reason that, since top executives evidently have faith in the bank's financial soundness, those worrisome rumors must be false. Such reasoning might well be overoptimistic, however, since **corporate executives have been known to buy shares in their own company in a calculated attempt to dispel negative rumors about the company's health**.

In the argument given, the two boldfaced portions play which of the following roles?

(A) The first describes evidence that has been taken as supporting a conclusion; the second gives a reason for questioning that support.

(B) The first describes evidence that has been taken as supporting a conclusion; the second states a contrary conclusion that is the main conclusion of the argument.

(C) The first provides evidence in support of the main conclusion of the argument; the second states that conclusion.

(D) The first describes the circumstance that the argument as a whole seeks to explain; the second gives the explanation that the argument seeks to establish.

(E) The first describes the circumstance that the argument as a whole seeks to explain; the second provides evidence in support of the explanation that the argument seeks to establish.

106. Between 1980 and 2000 the sea otter population of the Aleutian Islands declined precipitously. There were no signs of disease or malnutrition, so there was probably an increase in the number of otters being eaten by predators. Orcas will eat otters when seals, their normal prey, are unavailable, and the Aleutian Islands seal population declined dramatically in the 1980s. Therefore, orcas were most likely the immediate cause of the otter population decline.

Which of the following, if true, most strengthens the argument?

- (A) The population of sea urchins, the main food of sea otters, has increased since the sea otter population declined.
- (B) Seals do not eat sea otters, nor do they compete with sea otters for food.
- (C) Most of the surviving sea otters live in a bay that is inaccessible to orcas.
- (D) The population of orcas in the Aleutian Islands has declined since the 1980s.
- (E) An increase in commercial fishing near the Aleutian Islands in the 1980s caused a slight decline in the population of the fish that seals use for food.

107. In the country of Veltria, the past two years' broad economic recession has included a business downturn in the clothing trade, where sales are down by about 7 percent as compared to two years ago. Clothing wholesalers have found, however, that the proportion of credit extended to retailers that was paid off on time fell sharply in the first year of the recession but returned to its prerecession level in the second year.

Which of the following, if true, most helps to explain the change between the first and the second year of the recession in the proportion of credit not paid off on time?

- (A) The total amount of credit extended to retailers by clothing wholesalers increased between the first year of the recession and the second year.
- (B) Between the first and second years of the recession, clothing retailers in Veltria saw many of their costs, rent and utilities in particular, increase.
- (C) Of the considerable number of clothing retailers in Veltria who were having financial difficulties before the start of the recession, virtually all were forced to go out of business during its first year.
- (D) Clothing retailers in Veltria attempted to stimulate sales in the second year of the recession by discounting merchandise.
- (E) Relatively recession-proof segments of the clothing trade, such as work clothes, did not suffer any decrease in sales during the first year of the recession.

108. Studies in restaurants show that the tips left by customers who pay their bill in cash tend to be larger when the bill is presented on a tray that bears a creditcard logo. Consumer psychologists hypothesize that simply seeing a credit-card logo makes many creditcard holders willing to spend more because it reminds them that their spending power exceeds the cash they have immediately available.

Which of the following, if true, most strongly supports the psychologists' interpretation of the studies?

- (A) The effect noted in the studies is not limited to patrons who have credit cards.
- (B) Patrons who are under financial pressure from their credit-card obligations tend to tip less when presented with a restaurant bill on a tray with a credit-card logo than when the tray has no logo.
- (C) In virtually all of the cases in the studies, the patrons who paid bills in cash did not possess credit cards.
- (D) In general, restaurant patrons who pay their bills in cash leave larger tips than do those who pay by credit card.
- (E) The percentage of restaurant bills paid with a given brand of credit card increases when that credit card's logo is displayed on the tray with which the bill is presented.

109. In an experiment, each volunteer was allowed to choose between an easy task and a hard task and was told that another volunteer would do the other task. Each volunteer could also choose to have a computer assign the two tasks randomly. Most volunteers chose the easy task for themselves and under questioning later said they had acted fairly. But when the scenario was described to another group of volunteers, almost all said choosing the easy task would be unfair. This shows that most people apply weaker moral standards to themselves than to others.

Which of the following is an assumption required by this argument?

- (A) At least some volunteers who said they had acted fairly in choosing the easy task would have said that it was unfair for someone else to do so.
- (B) The most moral choice for the volunteers would have been to have the computer assign the two tasks randomly.
- (C) There were at least some volunteers who were assigned to do the hard task and felt that the assignment was unfair.
- (D) On average, the volunteers to whom the scenario was described were more accurate in their moral judgments than the other volunteers were.
- (E) At least some volunteers given the choice between assigning the tasks themselves and having the computer assign them felt that they had made the only fair choice available to them.

110. **Delta Products Inc. has recently switched at least partly from older technologies using fossil fuels to new technologies powered by electricity.** The question has been raised whether it can be concluded that **for a given level of output Delta's operation now causes less fossil fuel to be consumed than it did formerly.** The answer, clearly, is yes, since the amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount needed to power the older technologies, provided level of

output is held constant.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first identifies the content of the conclusion of the argument; the second provides support for that conclusion.
- (B) The first provides support for the conclusion of the argument; the second identifies the content of that conclusion.
- (C) The first states the conclusion of the argument; the second calls that conclusion into question.
- (D) The first provides support for the conclusion of the argument; the second calls that conclusion into question.
- (E) Each provides support for the conclusion of the argument.

111. Which of the following most logically completes the argument?

The irradiation of food kills bacteria and thus retards spoilage. However, it also lowers the nutritional value of many foods. For example, irradiation destroys a significant percentage of whatever vitamin B1 a food may contain. Proponents of irradiation point out that irradiation is no worse in this respect than cooking. However, this fact is either beside the point, since much irradiated food is eaten raw, or else misleading, since _____.

Which of the following most logically completes the argument?

- (A) many of the proponents of irradiation are food distributors who gain from foods' having a longer shelf life
- (B) it is clear that killing bacteria that may be present on food is not the only effect that irradiation has
- (C) cooking is usually the final step in preparing food for consumption, whereas irradiation serves to ensure a longer shelf life for perishable foods
- (D) certain kinds of cooking are, in fact, even more destructive of vitamin B1 than carefully controlled irradiation is
- (E) for food that is both irradiated and cooked, the reduction of vitamin B1 associated with either process individually is compounded

112. Theater Critic: The play *La Finestrina*, now at Central Theater, was written in Italy in the eighteenth century. The director claims that this production is as similar to the original production as is possible in a modern theater. Although the actor who plays Harlequin the clown gives a performance very reminiscent of the twentieth-century American comedian Groucho Marx, Marx's comic style was very much within the comic acting tradition that had begun in sixteenth-century Italy.

The considerations given best serve as part of an argument that

- (A) modern audiences would find it hard to tolerate certain characteristics of a historically accurate performance of an eighteenth-century play
- (B) Groucho Marx once performed the part of the character Harlequin in *La Finestrina*
- (C) in the United States the training of actors in the twentieth century is based on principles that do not differ radically from those that underlay the training of actors in eighteenth-century Italy
- (D) the performance of the actor who plays Harlequin in *La Finestrina* does not serve as evidence against the director's claim
- (E) the director of *La Finestrina* must have advised the actor who plays Harlequin to model his performance on comic performances of Groucho Marx

113. Although the discount stores in Goreville's central shopping district are expected to close within five years as a result of competition from a SpendLess discount department store that just opened, those locations will not stay vacant for long. In the five years since the opening of Colson's, a nondiscount department store, a new store has opened at the location of every store in the shopping district that closed because it could not compete with Colson's.

Which of the following, if true, most seriously weakens the argument?

- (A) Many customers of Colson's are expected to do less shopping there than they did before the SpendLess store opened.
- (B) Increasingly, the stores that have opened in the central shopping district since Colson's opened have been discount stores.
- (C) At present, the central shopping district has as many stores operating in it as it ever had.
- (D) Over the course of the next five years, it is expected that Goreville's population will grow at a faster rate than it has for the past several decades.
- (E) Many stores in the central shopping district sell types of merchandise that are not available at either SpendLess or Colson's.

114. Last year all refuse collected by Shelbyville city services was incinerated. This incineration generated a large quantity of residual ash. In order to reduce the amount of residual ash Shelbyville generates this year to half of last year's total, the city has revamped its collection program. This year city services will separate for recycling enough refuse to reduce the number of truckloads of refuse to be incinerated to half of last year's number.

Which of the following is required for the revamped collection program to achieve

its aim?

- (A) This year, no materials that city services could separate for recycling will be incinerated.
- (B) Separating recyclable materials from materials to be incinerated will cost Shelbyville less than half what it cost last year to dispose of the residual ash.
- (C) Refuse collected by city services will contain a larger proportion of recyclable materials this year than it did last year.
- (D) The refuse incinerated this year will generate no more residual ash per truckload incinerated than did the refuse incinerated last year.
- (E) The total quantity of refuse collected by Shelbyville city services this year will be no greater than that collected last year.

115. Springfield Fire Commissioner: The vast majority of false fire alarms are prank calls made anonymously from fire alarm boxes on street corners. Since virtually everyone has access to a private telephone, these alarm boxes have outlived their usefulness. Therefore, we propose to remove the boxes. Removing the boxes will reduce the number of prank calls without hampering people's ability to report a fire.

Which of the following, if true, most strongly supports the claim that the proposal, if carried out, will have the announced effect?

- (A) The fire department traces all alarm calls made from private telephones and records where they came from.
- (B) Maintaining the fire alarm boxes costs Springfield approximately \$5 million annually.
- (C) A telephone call can provide the fire department with more information about the nature and size of a fire than can an alarm placed from an alarm box.
- (D) Responding to false alarms significantly reduces the fire department's capacity for responding to fires.
- (E) On any given day, a significant percentage of the public telephones in Springfield are out of service.

116. The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- (A) The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
- (B) Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
- (C) The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
- (D) The number of televisions assembled annually in Vernland has increased significantly during the past three years.
- (E) The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.

117. Guidebook writer: I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

Which of the following, if true, most seriously weakens the guidebook writer's argument?

- (A) The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.
- (B) Hotels built since 1930 can generally accommodate more guests than those built before 1930.
- (C) The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.
- (D) The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.
- (E) The average length of apprenticeship for carpenters has declined significantly since 1930.

118. Scientists typically do their most creative work before the age of forty. It is commonly thought that this happens because aging by itself brings about a loss of creative capacity. However, studies show that **of scientists who produce highly creative work beyond the age of forty, a disproportionately large number entered their field at an older age than is usual.** Since by the age of forty the large majority of scientists have been working in their field for at least

fifteen years, the studies' finding strongly suggests that the real reason why scientists over forty rarely produce highly creative work is not that they have aged but rather that **scientists over forty have generally spent too long in their field.**

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a claim, the accuracy of which is at issue in the argument; the second is a conclusion drawn on the basis of that claim.
- (B) The first is an objection that has been raised against a position defended in the argument; the second is that position.
- (C) The first is evidence that has been used to support an explanation that the argument challenges; the second is that explanation.
- (D) The first is evidence that has been used to support an explanation that the argument challenges; the second is a competing explanation that the argument favors.
- (E) The first provides evidence to support an explanation that the argument favors; the second is that explanation.

119. The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale—the seven-note musical scale used in much of Western music since the Renaissance. Musicologists therefore hypothesize that the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians.

Which of the following, if true, most strongly supports the hypothesis?

- (A) Bone flutes were probably the only musical instrument made by Neanderthals.
- (B) No musical instrument that is known to have used a diatonic scale is of an earlier date than the flute found at the Neanderthal campsite.
- (C) The flute was made from a cave-bear bone and the campsite at which the flute fragment was excavated was in a cave that also contained skeletal remains of cave bears.
- (D) Flutes are the simplest wind instrument that can be constructed to allow playing a diatonic scale.
- (E) The cave-bear leg bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

120. Vargonia has just introduced a legal requirement that student-teacher ratios in

government-funded schools not exceed a certain limit. All Vargonian children are entitled to education, free of charge, in these schools. When a recession occurs and average incomes fall, the number of children enrolled in government-funded schools tends to increase. Therefore, though most employment opportunities contract in economic recessions, getting a teaching job in Vargonia's government-funded schools will not be made more difficult by a recession.

Which of the following would be most important to determine in order to evaluate the argument?

- (A) Whether in Vargonia there are any schools not funded by the government that offer children an education free of charge
- (B) Whether the number of qualified applicants for teaching positions in government-funded schools increases significantly during economic recessions
- (C) What the current student-teacher ratio in Vargonia's government-funded schools is
- (D) What proportion of Vargonia's workers currently hold jobs as teachers in government-funded schools
- (E) Whether in the past a number of government-funded schools in Vargonia have had student-teacher ratios well in excess of the new limit

121. In Colorado subalpine meadows, nonnative dandelions co-occur with a native flower, the larkspur. Bumblebees visit both species, creating the potential for interactions between the two species with respect to pollination. In a recent study, researchers selected 16 plots containing both species; all dandelions were removed from eight plots; the remaining eight control plots were left undisturbed. The control plots yielded significantly more larkspur seeds than the dandelion-free plots, leading the researchers to conclude that the presence of dandelions facilitates pollination (and hence seed production) in the native species by attracting more pollinators to the mixed plots.

Which of the following, if true, most seriously undermines the researchers' reasoning?

- (A) Bumblebees preferentially visit dandelions over larkspurs in mixed plots.
- (B) In mixed plots, pollinators can transfer pollen from one species to another to augment seed production.
- (C) If left unchecked, nonnative species like dandelions quickly crowd out native species.
- (D) Seed germination is a more reliable measure of a species' fitness than seed production.

(E) Soil disturbances can result in fewer blooms, and hence lower seed production.

122. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

- (A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.
- (B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.
- (C) People who are better at abstract pattern recognition have more energy-efficient neural connections.
- (D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.
- (E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.

123. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called "benchmarking," permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

- (A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.
- (B) Getting "inside" information about the unique practices of competitors is particularly difficult.
- (C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.
- (D) Managers are generally more receptive to new ideas that they find outside their own industry.
- (E) Much of the success of good companies is due to their adoption of

practices that take advantage of the special circumstances of their products or markets.

124. It is widely assumed that people need to engage in intellectual activities such as solving crossword puzzles or mathematics problems in order to maintain mental sharpness as they age. In fact, however, simply talking to other people—that is, participating in social interaction, which engages many mental and perceptual skills—suffices. Evidence to this effect comes from a study showing that the more social contact people report, the better their mental skills.

Which of the following, if true, most seriously weakens the force of the evidence cited?

- (A) As people grow older, they are often advised to keep exercising their physical and mental capacities in order to maintain or improve them.
- (B) Many medical conditions and treatments that adversely affect a person's mental sharpness also tend to increase that person's social isolation.
- (C) Many people are proficient both in social interactions and in solving mathematical problems.
- (D) The study did not itself collect data but analyzed data bearing on the issue from prior studies.
- (E) The tasks evaluating mental sharpness for which data were compiled by the study were more akin to mathematics problems than to conversation.

8.5 Answer Key

1. E
2. C
3. A
4. B
5. C
6. A
7. E
8. A
9. A
10. B
11. C
12. D
13. E
14. D
15. A
16. C
17. D
18. D
19. E
20. E
21. E
22. E
23. C
24. B
25. A
26. E
27. B
28. D
29. A

30. D
31. C
32. D
33. E
34. D
35. E
36. D
37. A
38. C
39. D
40. C
41. E
42. C
43. C
44. B
45. E
46. C
47. D
48. D
49. E
50. A
51. A
52. C
53. C
54. A
55. A
56. C
57. D
58. C
59. D
60. E

61. B
62. B
63. A
64. E
65. D
66. A
67. D
68. A
69. E
70. A
71. C
72. D
73. D
74. D
75. E
76. A
77. A
78. D
79. A
80. A
81. E
82. C
83. E
84. E
85. B
86. D
87. C
88. D
89. D
90. C
91. D

02. B
03. D
04. A
05. D
06. E
07. C
08. C
09. C
10. B
11. E
12. A
13. D
14. E
15. A
16. C
17. C
18. B
19. A
20. B
21. E
22. D
23. B
24. D
25. A
26. C
27. D
28. E
29. E
30. B
31. E
32. C

3. E

4. B

8.6 Answer Explanations

The following discussion is intended to familiarize you with the most efficient and effective approaches to critical reasoning questions. The particular questions in this chapter are generally representative of the kinds of critical reasoning questions you will encounter on the GMAT exam. Remember that it is the problem solving strategy that is important, not the specific details of a particular question.

1. Neuroscientist: Memory evolved to help animals react appropriately to situations they encounter by drawing on the past experience of similar situations. But this does not require that animals perfectly recall every detail of all their experiences. Instead, to function well, memory should generalize from past experiences that are similar to the current one.

The neuroscientist’s statements, if true, most strongly support which of the following conclusions?

- (A) At least some animals perfectly recall every detail of at least some past experiences.
- (B) Perfectly recalling every detail of all their past experiences could help at least some animals react more appropriately than they otherwise would to new situations they encounter.
- (C) Generalizing from past experiences requires clear memories of most if not all the details of those experiences.
- (D) Recalling every detail of all past experiences would be incompatible with any ability to generalize from those experiences.
- (E) Animals can often react more appropriately than they otherwise would to situations they encounter if they draw on generalizations from past experiences of similar situations.

Argument Construction

Situation	A neuroscientist claims that memory evolved to help animals learn how to react appropriately by generalizing from past experiences but that this does not require animals to remember all details of those experiences.
Reasoning	<i>What conclusion would the neuroscientist’s theory about memory most strongly support?</i> The neuroscientist asserts that the evolutionary function of memory is to help animals learn to react appropriately by drawing on generalizations from similar experiences they have had. If memory is to serve this function, drawing on generalizations must actually help animals learn to react more appropriately than they otherwise would, even when

they do not remember all the details of past experiences.

A Even if no animal ever recalls all the details of any past experience, animals could still learn through generalizations, as the neuroscientist claims.

B This statement could be false even if all of what the neuroscientist says is true. Even if it were never helpful for any animal to recall every detail of all its past experiences, animals could still benefit by learning through generalizations.

C Generalizations from experiences might be made while the experiences are occurring, so that only the generalizations and not the details need to be remembered.

D The neuroscientist only claims that remembering perfect details is not required for memory to serve its function, not that such perfect recall is incompatible with memory serving its function.

E Correct. If the evolutionary function of memory is to help animals react more appropriately by drawing on generalizations from past experiences, it follows that animal memories can often successfully serve this function in this manner.

The correct answer is E.

2. Astronomer: Most stars are born in groups of thousands, each star in a group forming from the same parent cloud of gas. Each cloud has a unique, homogeneous chemical composition. Therefore, whenever two stars have the same chemical composition as each other, they must have originated from the same cloud of gas.

Which of the following, if true, would most strengthen the astronomer's argument?

(A) In some groups of stars, not every star originated from the same parent cloud of gas.

(B) Clouds of gas of similar or identical chemical composition may be remote from each other.

(C) Whenever a star forms, it inherits the chemical composition of its parent cloud of gas.

(D) Many stars in vastly different parts of the universe are quite similar in their chemical compositions.

(E) Astronomers can at least sometimes precisely determine whether a star has the same chemical composition as its parent cloud of gas.

Argument Evaluation

Situation	Most stars are born in groups, any one of which forms from a parent gas cloud with a unique, homogenous chemical composition.
Reasoning	What would be additional evidence that any two stars with the same chemical composition originated from the same gas cloud? The implicit reasoning is that since the chemical composition of each gas cloud is unique and homogenous, any two stars that formed from gas with the same chemical composition must have originated from the same cloud. The astronomer then infers that if two stars have the same composition now, they must have originated from the same cloud. This inference requires the assumption that the composition each star has now depends only on the composition of the cloud in which it originated. Any evidence that supports this assumption will strengthen the argument.

A Whether or not stars born in different clouds of gas are ever in the same “group” is not clearly relevant to whether or not they ever have the same chemical composition.

B How remote clouds of similar compositions are from each other is not clearly relevant to whether stars that have the same chemical composition may have formed from different clouds of gas. Also, the suggestion that different gas clouds may have identical compositions conflicts with the astronomer’s premise that the composition of each cloud from which stars form is unique.

C Correct. If each star’s composition is identical to that of its parent cloud, and each cloud’s composition is unique, then any two stars identical in composition must have formed from the same parent cloud.

D If anything, this would suggest that stars with the same composition might have formed from different clouds, so it would weaken rather than strengthen the argument.

E If astronomers could do this, they might be able to obtain additional evidence for or against the position taken in the argument, but this, in itself, provides no reason to suppose that the evidence would support, rather than weaken, that position. They might find that the stars’ compositions do not precisely correlate with the compositions of the stars’ parent gas clouds.

The correct answer is C.

3. A provincial government plans to raise the gasoline tax to give people an incentive to drive less, reducing traffic congestion in the long term. However, skeptics point out that most people in the province live in areas where cars are the only viable transportation to jobs and stores and therefore cannot greatly change their driving

habits in response to higher gasoline prices.

In light of the skeptics' objection, which of the following, if true, would most logically support the prediction that the government's plan will achieve its goal of reducing traffic congestion?

- (A) The revenue from the tax will be used to make public transportation a viable means of transportation to jobs and stores for far more people.
- (B) The tax will encourage many residents to switch to more fuel-efficient cars, reducing air pollution and other problems.
- (C) Because gasoline has been underpriced for decades, the province has many neighborhoods where cars are the only viable means of transportation.
- (D) Most residents who cannot greatly change their driving habits could compensate for high gasoline prices by reducing other expenses.
- (E) Traffic congestion is an especially serious problem for people for whom cars are the only viable means of transportation.

Evaluation of a Plan

Situation	A provincial government plans to raise the gasoline tax in order to reduce traffic congestion by discouraging people from driving. But skeptics point out that most people in the province have no viable form of transportation other than driving.
Reasoning	<i>What would suggest that raising the gasoline tax will reduce traffic congestion even though most people in the province have no viable form of transportation other than driving?</i> The skeptics point out that since most people in the province have no way to reach jobs or stores except by car, they will not be able to reduce their driving much even if the gasoline tax increases. Any evidence that raising the gasoline tax would reduce traffic congestion despite this obstacle would help to support the plan in light of the skeptics' objection.

A Correct. If the tax will fund these public transit improvements, then far more people will have a viable means of transportation other than driving, undermining the basis of the skeptics' objection.

B People switching to fuel-efficient cars would not reduce traffic congestion.

C This essentially only tends to support the skeptics' objection. Unless the plan somehow helps to alleviate the necessity of driving (by, for example, making alternative transportation available), the information provided gives no reason to suppose that the higher costs would significantly reduce traffic congestion.

D If residents cannot greatly change their driving habits, then the tax will not reduce traffic congestion.

E This suggests that many residents in the province could benefit if the plan did reduce traffic congestion, but it does not provide a reason to believe the plan will have that effect.

The correct answer is A.

4. Editorial: The roof of Northtown's municipal equipment-storage building collapsed under the weight of last week's heavy snowfall. The building was constructed recently and met local building-safety codes in every particular, except that the nails used for attaching roof supports to the building's columns were of a smaller size than the codes specify for this purpose. Clearly, this collapse exemplifies how even a single, apparently insignificant departure from safety standards can have severe consequences.

Which of the following, if true, most seriously weakens the editorial's argument?

(A) The only other buildings to suffer roof collapses from the weight of the snowfall were older buildings constructed according to less exacting standards than those in the codes.

(B) The amount of snow that accumulated on the roof of the equipment-storage building was greater than the predicted maximum that was used in drawing up the safety codes.

(C) Because the equipment-storage building was not intended for human occupation, some safety-code provisions that would have applied to an office building did not apply to it.

(D) The municipality of Northtown itself has the responsibility for ensuring that buildings constructed within its boundaries meet the provisions of the building-safety codes.

(E) Because the equipment-storage building was used for storing snow-removal equipment, the building was almost completely empty when the roof collapsed.

Argument Evaluation

Situation	The roof of a recently constructed building collapsed under heavy snowfall. The only way the building did not meet safety standards was that some nails for the roof supports were smaller than prescribed by the building codes.
Reasoning	<i>What would make it less likely that the building's collapse resulted from a single, apparently minor departure from safety standards? The building met safety standards except for the size of the nails. So if the collapse exemplifies how a departure from safety</i>

standards can have severe consequences, as the conclusion claims, then the size of the nails had to be responsible for the collapse. Thus, evidence that a factor other than the size of the nails could fully account for the collapse would weaken the argument.

A This suggests that the snow would not have been heavy enough to collapse the roof if the construction had completely met the safety standards, so it strengthens, rather than weakens, the argument.

B Correct. This suggests that the snow could have collapsed the roof even if the nails had met the safety standards, thus casting doubt on the assumption that the nails' inadequacy was responsible for the collapse.

C The claim that the safety requirements for this building were weaker than some others tends slightly to strengthen, rather than weaken, the hypothesis that the bad consequences resulted partly from a failure to comply. Even if safety-code provisions for an equipment-storage building differ from those for an office building, they may still be adequate to ensure the roof's stability.

D The question of who was responsible for ensuring compliance with the safety codes is irrelevant to whether a failure to comply was responsible for the roof's collapse.

E This suggests that the alleged consequences of failing to meet safety standards were less severe than they could have been, but it is irrelevant to determining the cause of the collapse.

The correct answer is B.

5. Snowmaking machines work by spraying a mist that freezes immediately on contact with cold air. Because the sudden freezing kills bacteria, QuickFreeze is planning to market a wastewater purification system that works on the same principle. The process works only when temperatures are cold, however, so municipalities using it will still need to maintain a conventional system.

Which of the following, if true, provides the strongest grounds for a prediction that municipalities will buy QuickFreeze's purification system despite the need to maintain a conventional purification system as well?

- (A) Bacteria are not the only impurities that must be removed from wastewater.
- (B) Many municipalities have old wastewater purification systems that need to be replaced.
- (C) Conventional wastewater purification systems have not been fully successful in killing bacteria at cold temperatures.
- (D) During times of warm weather, when it is not in use, QuickFreeze's

purification system requires relatively little maintenance.

(E) Places where the winters are cold rarely have a problem of water shortage.

Evaluation of a Plan

Situation	QuickFreeze is planning to market wastewater purification systems that work by spraying a mist that freezes on contact with cold air. The sudden freezing kills bacteria. Because the system works only at cold temperatures, municipalities using it will still need to maintain a conventional system.
Reasoning	<i>Which statement provides the strongest grounds for thinking that at least some municipalities will buy the purification system despite the need to maintain a conventional purification system as well?</i> The passage tells us why a municipality using a QuickFreeze wastewater purification system would still need a conventional system. But why would a municipality want the QuickFreeze system <i>in addition</i> to a conventional system? If conventional systems are not fully effective at cold temperatures, the QuickFreeze system would allow municipalities that sometimes experience cold temperatures to purify their wastewater more effectively.

A There is no basis in the passage for determining whether the QuickFreeze system will help remove impurities other than bacteria from wastewater. If it does not, this answer choice implies that the QuickFreeze system would not be sufficient for purifying wastewater. This would actually undermine the prediction.

B The passage states that municipalities using the QuickFreeze system would still need a conventional system. Thus, the old conventional wastewater systems would still need to be replaced with new conventional systems. This answer choice provides no reason to think municipalities would buy the QuickFreeze system.

C Correct. This statement, if true, would strengthen the prediction, because it provides a valid reason why the QuickFreeze system could be needed alongside conventional ones: it is more effective in cold weather.

D Although this claim does undercut one reason for thinking municipalities might *not* be likely to purchase the QuickFreeze system, it provides little reason to think that they will purchase such a system. Perhaps in times of cold weather, the QuickFreeze system is very expensive to maintain.

E The issue of whether or not there are water shortages in places where winters are cold is not directly relevant. If conventional wastewater systems

are sufficient to purify water in such places, municipalities would not need the QuickFreeze system (as they would still need to maintain a conventional purification system).

The correct answer is C.

6. Homeowners aged 40 to 50 are more likely to purchase ice cream and are more likely to purchase it in larger amounts than are members of any other demographic group. The popular belief that teenagers eat more ice cream than adults must, therefore, be false.

The argument is flawed primarily because the author

- (A) fails to distinguish between purchasing and consuming
- (B) does not supply information about homeowners in age groups other than 40 to 50
- (C) depends on popular belief rather than on documented research findings
- (D) does not specify the precise amount of ice cream purchased by any demographic group
- (E) discusses ice cream rather than more nutritious and healthful foods

Argument Evaluation

Situation	Adults aged 40 to 50 buy more ice cream than does any other demographic group (for example, teenagers). Does this mean that adults consume more ice cream than teenagers do?
Reasoning	<i>A flawed assumption underlies the reasoning: the assumption that the buyers of the ice cream are also the eaters of the ice cream.</i> Although the demographic group homeowners aged 40 to 50 purchases more ice cream than does any other demographic group, it is quite likely that much of the ice cream purchased by those homeowners is for consumption by family members rather than for exclusive consumption by the purchaser. This leaves open the possibility that teenagers may indeed be the largest consumers of ice cream.

A Correct. The failure to make this distinction led to the making of the flawed assumption.

B This is false: The argument tells us (indirectly) that homeowners aged 40 to 50 buy more ice cream than does any other group—which allows us to infer that they buy more than do homeowners aged 30 to 40, for example. But even if the argument had stated such information explicitly, it would not have offered any better support for its conclusion.

C There is nothing in the argument to suggest that the information given is

based on popular belief.

D Providing precise information about the quantity of ice cream purchased by homeowners aged 40 to 50 would not improve the argument at all.

E The subject is ice cream, not nutrition, so this point is irrelevant.

The correct answer is A.

7. Suncorp, a new corporation with limited funds, has been clearing large sections of the tropical Amazon forest for cattle ranching. This practice continues even though greater profits can be made from rubber tapping, which does not destroy the forest, than from cattle ranching, which does destroy the forest.

Which of the following, if true, most helps to explain why Suncorp has been pursuing the less profitable of the two economic activities mentioned above?

(A) The soil of the Amazon forest is very rich in nutrients that are important in the development of grazing lands.

(B) Cattle-ranching operations that are located in tropical climates are more profitable than cattle-ranching operations that are located in cold-weather climates.

(C) In certain districts, profits made from cattle ranching are more heavily taxed than profits made from any other industry.

(D) Some of the cattle that are raised on land cleared in the Amazon are killed by wildcats.

(E) The amount of money required to begin a rubber-tapping operation is twice as high as the amount needed to begin a cattle ranch.

Argument Construction

Situation	Suncorp is a new corporation with limited funds. It has been clearing large sections of the tropical Amazon forest for ranching, even though rubber-tapping would be more profitable.
Reasoning	<i>What would explain why Suncorp is clearing sections of the rain forest for ranching, even though rubber tapping would be more profitable?</i> Because Suncorp has limited funds, if rubber tapping has much higher start-up costs, Suncorp might not have enough money to start rubber-tapping operations. If cattle ranching has much lower start-up costs than rubber tapping, Suncorp might be able to afford such an operation.

A This statement gives a reason why cattle ranching in the Amazon might be more profitable than one might otherwise think it would be. However, we already know from the passage that rubber tapping would be more profitable than cattle ranching. So, this answer choice does not help explain

why cattle ranching might be preferable to rubber tapping.

B The comparison between the profitableness of cattle ranching in tropical climates and in cold-weather climates is irrelevant. The passage only covers cattle ranching in the tropical Amazon forest. This answer choice would at most explain why Suncorp is undertaking cattle ranching in the Amazon rather than in some cold-weather location.

C This statement makes what needs to be explained harder to understand, for it indicates that cattle ranching in the Amazon might be less profitable than one would otherwise think.

D Like answer choice (C), this statement indicates a disadvantage of cattle ranching in the Amazon. So, it does not explain why cattle ranching would be preferred to some other economic activity.

E Correct. Because it costs less to begin cattle ranching than it does to begin rubber tapping, Suncorp—which has limited funds—would have a reason to pursue cattle ranching over a potentially more profitable activity.

The correct answer is E.

8. A newly discovered painting seems to be the work of one of two seventeenth-century artists, either the northern German Johannes Drechen or the Frenchman Louis Birelle, who sometimes painted in the same style as Drechen. Analysis of the carved picture frame, which has been identified as the painting's original seventeenth-century frame, showed that it is made of wood found widely in northern Germany at the time, but rare in the part of France where Birelle lived. This shows that the painting is most likely the work of Drechen.

Which of the following is an assumption that the argument requires?

(A) The frame was made from wood local to the region where the picture was painted.

(B) Drechen is unlikely to have ever visited the home region of Birelle in France.

(C) Sometimes a painting so resembles others of its era that no expert is able to confidently decide who painted it.

(D) The painter of the picture chose the frame for the picture.

(E) The carving style of the picture frame is not typical of any specific region of Europe.

Argument Construction

Situation	The original frame of a seventeenth-century painting that seems to be by either the northern German Johannes Drechen or the Frenchman Louis Birelle is made of a type of wood much more

	common in northern Germany than in France, suggesting that Drechen was the painter.
Reasoning	<i>What must be true in order for the facts presented to support the conclusion that the painting is by Drechen?</i> The argument is that in the seventeenth century, the type of wood in the frame was more common in northern Germany where Drechen was from than in France where Birelle was from, so probably Drechen painted the picture. In order for this inference to be plausible, the argument must implicitly assume that the frame's wood was from the same region the painter was from. And in order to justify this assumed connection between the wood and the region the painter was from, the argument must also assume that the painter painted the picture in that region.

A Correct. If the frame were not made of wood local to the region where the picture was painted, or if that region in turn were not where the painter was from, then the cited fact about where the wood was more common would be irrelevant to the conclusion about who painted the picture.

B The argument is compatible with the plausible hypothesis that Drechen visited France at some point during his lifetime but did not frame this or any painting with French wood.

C Even if experts always felt confident in deciding who painted any picture, examining the wood in the picture frame might help them decide correctly.

D The argument is compatible with the plausible hypothesis that the picture was sold to a local customer who then chose a frame of local wood.

E The argument would be even stronger if this were false and the carving style of the frame were typical of northern Germany specifically.

The correct answer is A.

9. Traverton's city council wants to minimize the city's average yearly expenditures on its traffic signal lights and so is considering replacing the incandescent bulbs currently in use with arrays of light-emitting diodes (LEDs) as the incandescent bulbs burn out. Compared to incandescent bulbs, LED arrays consume significantly less energy and cost no more to purchase. Moreover, the costs associated with the conversion of existing fixtures so as to accept LED arrays would be minimal.

Which of the following would it be most useful to know in determining whether switching to LED arrays would be likely to help minimize Traverton's yearly maintenance costs?

(A) Whether the expected service life of LED arrays is at least as long as that of the currently used incandescent bulbs

(B) Whether any cities have switched from incandescent lights in their traffic signals to lighting elements other than LED arrays

(C) Whether the company from which Traverton currently buys incandescent bulbs for traffic signals also sells LED arrays

(D) Whether Traverton’s city council plans to increase the number of traffic signal lights in Traverton

(E) Whether the crews that currently replace incandescent bulbs in Traverton’s traffic signals know how to convert the existing fixtures so as to accept LED arrays

Evaluation of a Plan

Situation	The city council of Traverton is considering replacing burned-out incandescent traffic signal lights with LED arrays. The LED arrays consume less energy than incandescent bulbs do while costing no more than those bulbs. Further, the cost of converting existing fixtures to accept LED arrays would be minimal.
Reasoning	<i>What would it be most important to know in determining whether the switch to LEDs would minimize the city’s yearly maintenance costs?</i> LEDs cost no more than incandescent bulbs, and they consume less energy. This suggests that the overall cost of LEDs is lower than that of incandescent bulbs. Is there any circumstance under which the costs associated with LEDs might be higher? They might be higher if more LEDs than incandescent bulbs had to be purchased every year—and that would be necessary if LEDs burn out more quickly than incandescent bulbs do.

A Correct. Unless the answer to this question were yes rather than no, the switch to LED arrays would not help minimize Traverton’s yearly maintenance costs. So it is essential to know the answer to this question in order to determine whether switching to LEDs would help.

B The existence of another possible alternative to incandescent lights does not have any bearing on the question of whether switching from incandescent lights to LEDs would help.

C The source from which Traverton acquires its lights, be they incandescent or LEDs, is unimportant.

D Increasing the number of traffic signal lights in Traverton would probably increase the city’s yearly maintenance costs, but it would do so regardless of whether those lights use LEDs or incandescent bulbs.

E Since the goal of switching to LED arrays is to help minimize yearly expenditures on maintenance, a potential one-time cost—that of training

workers to convert the existing fixtures—is not relevant. Further, it is not necessarily the case that the crews that currently replace the incandescent bulbs would be the ones converting the existing fixtures—and even if they were, the account of the plan states that conversion costs would be minimal.

The correct answer is A.

10. In order to reduce the number of items damaged while in transit to customers, packaging consultants recommended that the TrueSave mail-order company increase the amount of packing material so as to fill any empty spaces in its cartons. Accordingly, TrueSave officials instructed the company’s packers to use more packing material than before, and the packers zealously acted on these instructions and used as much as they could. Nevertheless, customer reports of damaged items rose somewhat.

Which of the following, if true, most helps to explain why acting on the consultants’ recommendation failed to achieve its goal?

- (A) The change in packing policy led to an increase in expenditure on packing material and labor.
- (B) When packing material is compressed too densely, it loses some of its capacity to absorb shock.
- (C) The amount of packing material used in a carton does not significantly influence the ease with which a customer can unpack the package.
- (D) Most of the goods that TrueSave ships are electronic products that are highly vulnerable to being damaged in transit.
- (E) TrueSave has lost some of its regular customers as a result of the high number of damaged items they received.

Evaluation of a Plan

Situation	Mail-order company TrueSave wants to reduce the number of items damaged while in transit to customers. Packaging consultants recommended that to achieve this goal, the company should use more packing material to fill empty spaces in its cartons. The company’s packers began using as much packing material as they could, yet reports of damaged items rose rather than fell.
Reasoning	<i>What would help explain why the company’s acting on the recommendation did not achieve its goal?</i> The recommendation involved increasing the amount of packing material, so there must have been something about that increase that led to more damage. More damage would be likely to result if stuffing more packing material into shipping boxes made the packaging less effective.

A An increase in expenditure on packing material and labor might affect the

company's profitability, but it would have no effect on whether items were damaged in transit.

B Correct. This statement adequately explains why more items, rather than fewer, were damaged in transit.

C If customers were able to remove their items just as easily from boxes filled with more packing material as from boxes using less packing material, the items would be unaffected by an increase in the amount of packing material used.

D The kind of goods TrueSave ships most frequently is not relevant to the question of why increasing the amount of packing material failed to reduce the number of items damaged in transit, since they most likely shipped this same kind of goods both before and after making the recommended change.

E The loss of regular customers helps explain why TrueSave turned to the packaging consultants for help, but it does not help explain why those consultants' recommendation failed to reduce the number of items damaged in transit.

The correct answer is B.

11. Parland's alligator population has been declining in recent years, primarily because of hunting. Alligators prey heavily on a species of freshwater fish that is highly valued as food by Parlanders, who had hoped that the decline in the alligator population would lead to an increase in the numbers of these fish available for human consumption. Yet the population of this fish species has also declined, even though the annual number caught for human consumption has not increased.

Which of the following, if true, most helps to explain the decline in the population of the fish species?

(A) The decline in the alligator population has meant that fishers can work in some parts of lakes and rivers that were formerly too dangerous.

(B) Over the last few years, Parland's commercial fishing enterprises have increased the number of fishing boats they use.

(C) The main predator of these fish is another species of fish on which alligators also prey.

(D) Many Parlanders who hunt alligators do so because of the high market price of alligator skins, not because of the threat alligators pose to the fish population.

(E) In several neighboring countries through which Parland's rivers also flow, alligators are at risk of extinction as a result of extensive hunting.

Argument Construction

Situation	Due to hunting, Parland's alligator population has been declining. Parlanders had hoped that the population of a certain prized species of freshwater fish that alligators prey on would have increased as a result, but the population of this freshwater fish has actually declined.
Reasoning	<i>What would explain why the population of the freshwater species has declined?</i> Suppose alligators prey not only on the prized freshwater fish but also on another species of fish that is the main predator of those fish. If there are fewer alligators to prey on the predator fish, there may well be more of the predator fish. An increase in the population of the predator fish could help explain why the population of the prized freshwater fish has declined: there are now more of the predator fish around to prey on them.

A Though this statement suggests that the population of the prized fish species may have declined due to their being caught in greater numbers by fishers, the passage tells us that the number of these fish caught for human consumption has not increased. Therefore this statement cannot explain the species' decline in population.

B The passage tells us that the number of fish caught for human consumption has not increased. This answer choice does not provide any explanation for why the population of these fish has declined.

C Correct. Since alligators prey on the predator fish, a decline in the alligator population could result in an increase in the population of the predator fish, which could lead to an increase in nonhuman consumption of the prized freshwater fish.

D We already know from the passage that hunting has led to a decline in the population of alligators. It is irrelevant what motivated the hunting of alligators.

E The fact that alligators are at risk of extinction due to hunting in neighboring countries does not help explain why the prized freshwater fish species is declining in population. If it is puzzling why the fish population is declining despite the reduction in Parland's alligator population, it would be just as puzzling if the alligator population elsewhere was declining.

The correct answer is C.

12. A company is considering changing its policy concerning daily working hours. Currently, this company requires all employees to arrive at work at 8 a.m. The proposed policy would permit each employee to decide when to arrive—from as early as 6 a.m. to as late as 11 a.m.

The adoption of this policy would be most likely to decrease employees'

productivity if the employees' job functions required them to

- (A) work without interruption from other employees
- (B) consult at least once a day with employees from other companies
- (C) submit their work for a supervisor's eventual approval
- (D) interact frequently with each other throughout the entire workday
- (E) undertake projects that take several days to complete

Evaluation of a Plan

Situation	A company considers changing all employees' starting time from 8 a.m. to individually flexible arrival hours, anytime from 6 to 11 a.m.
Reasoning	<i>Under what conditions could this plan cause employees' productivity to decline?</i> Consider the job functions defined in the answer choices and determine which entails requirements that would most likely be in conflict with the proposed plan. A plan that allows a fivehour range of start times would make it far more difficult for employees to coordinate their schedules. This would make it difficult, if not impossible, for employees to collaborate with each other throughout the workday and could well decrease productivity.

A Working without interruption would likely mean improved productivity.

B Assuming that all employees are in the same time zone (we are not told otherwise), the flexible hours would still leave plenty of time for at least one daily consultation during the regular business hours of the workday.

C *Eventual approval* indicates that the flexibility exists to permit employees' submissions at any time.

D Correct. The wide range of flexibility in regards to working hours would make frequent interaction difficult, if not impossible, and would be likely to decrease employees' productivity.

E We are not told that the projects involve significant interaction; so such projects would be accomplished just as easily on the proposed flexible schedule.

The correct answer is D.

13. The amount of time it takes for most of a worker's occupational knowledge and skills to become obsolete has been declining because of the introduction of advanced manufacturing technology (AMT). Given the rate at which AMT is currently being introduced in manufacturing, the average worker's old skills become obsolete and new skills are required within as little as five years.

Which of the following plans, if feasible, would allow a company to prepare most effectively for the rapid obsolescence of skills described above?

- (A) The company will develop a program to offer selected employees the opportunity to receive training six years after they were originally hired.
- (B) The company will increase its investment in AMT every year for a period of at least five years.
- (C) The company will periodically survey its employees to determine how the introduction of AMT has affected them.
- (D) Before the introduction of AMT, the company will institute an educational program to inform its employees of the probable consequences of the introduction of AMT.
- (E) The company will ensure that it can offer its employees any training necessary for meeting their job requirements.

Evaluation of a Plan

Situation	The introduction of AMT is making workers' occupational skills obsolete within as little as five years.
Reasoning	<i>Which plan will be most effective in helping the company prepare for the expected rapid obsolescence in occupational knowledge and skills?</i> It should be clear that some type of training or retraining will be involved, since (at least in certain types of industry) it is unlikely that any company in that industry can afford to avoid introducing AMT if its market competitors are doing so.

A Providing training only to *selected* employees and only after their skills have already become obsolete is not likely to be an effective response.

B This plan only accelerates the problem and does not address the employees' skills.

C Periodic surveys may provide information to employers but will not be enough to prevent employees' skills from becoming obsolete.

D Having knowledge of the consequences does not prevent those consequences; employees' skills will still become obsolete.

E Correct. This would ensure that all employees have the most current occupational knowledge and skills needed for their jobs

The correct answer is E.

14. While many people think of genetic manipulation of food crops as being aimed at developing larger and larger plant varieties, some plant breeders have in fact concentrated on discovering or producing dwarf varieties, which are roughly half as tall as normal varieties.

Which of the following would, if true, most help to explain the strategy of the plant breeders referred to above?

- (A) Plant varieties used as food by some are used as ornamentals by others.
- (B) The wholesale prices of a given crop decrease as the supply of it increases.
- (C) Crops once produced exclusively for human consumption are often now used for animal feed.
- (D) Short plants are less vulnerable to strong wind and heavy rains.
- (E) Nations with large industrial sectors tend to consume more processed grains.

Evaluation of a Plan

Situation	Some plant breeders have concentrated on discovering or producing certain species of food crop plants to be roughly half as tall as normal varieties.
Reasoning	<i>Why would some plant breeders concentrate on discovering or producing smaller varieties of certain food crops?</i> Presumably these breeders would not seek smaller varieties of plant crops unless the smaller size conveyed some benefit. If short plants were less vulnerable to strong wind and heavy rains, they would be apt to be more productive, other things being equal. Plant breeders would have reason to try to discover or produce such hardier varieties.

A This statement doesn't indicate whether those who use the plants as ornamentals desire shorter varieties.

B At most this suggests that higher productivity is not as much of an advantage as it otherwise would be. But there is nothing in the passage that indicates that smaller varieties would be more productive than normal-sized plants.

C No reason is given for thinking that smaller varieties of plants are more conducive to use for animal feed than are larger varieties.

D Correct. This answer choice is correct because—unlike the other choices—it helps explain why smaller plant varieties could sometimes be preferable to larger varieties. A plant that is less vulnerable to wind and rain is apt to suffer less damage. This is a clear advantage that would motivate plant breeders to try to discover or produce smaller varieties.

E This has no direct bearing on the question posed. Processed grains are not even mentioned in the passage, let alone linked to smaller plant varieties.

The correct answer is D.

15. A certain automaker aims to increase its market share by deeply discounting its vehicles' prices for the next several months. The discounts will cut into profits, but because they will be heavily advertised the manufacturer hopes that they will attract buyers away from rival manufacturers' cars. In the longer term, the automaker envisions that customers initially attracted by the discounts may become loyal customers.

In assessing the plan's chances of achieving its aim, it would be most useful to know which of the following?

- (A) Whether the automaker's competitors are likely to respond by offering deep discounts on their own products
- (B) Whether the advertisements will be created by the manufacturer's current advertising agency
- (C) Whether some of the automaker's models will be more deeply discounted than others
- (D) Whether the automaker will be able to cut costs sufficiently to maintain profit margins even when the discounts are in effect
- (E) Whether an alternative strategy might enable the automaker to enhance its profitability while holding a constant or diminishing share of the market

Evaluation of a Plan

Situation	An automaker is planning to offer deep discounts on its vehicles' prices in order to increase its market share. The automaker's profit margins will be reduced by this action. By advertising the discounts, the automaker hopes to attract customers who might otherwise be inclined to buy rival manufacturers' cars. These customers would ideally then develop loyalty to the automaker's cars.
Reasoning	<i>What would it be most useful to know in assessing whether offering deep discounts will enable the automaker to increase its market share?</i> To achieve an increase in market share, the automaker would have to take customers away from other automakers. Under what circumstances would other automakers be able to retain their customers, if those customers are more likely to purchase cars from automakers that offer deep discounts (and then remain loyal to those automakers)? The other automakers might try to retain their customers by matching the discounts. Thus it would be useful to know whether the other automakers would indeed offer such discounts.

A Correct. If the answer to this question were yes, the plan would probably not achieve its aim of increasing market share. If the answer were no, the

plan would have a good chance of succeeding.

B Since there is no information about the effectiveness of the automaker's current advertising, it would not be useful to know whether the same advertising agency will produce the ads publicizing the discount.

C Knowing whether some models will be more deeply discounted than others might help in assessing which of the automaker's models will sell best, but it would not help in assessing the overall chance of the automaker increasing its market share.

D The discounts the automaker plans to offer will cut into profits, according to the information given, so the question of whether the automaker can maintain profit margins while the discounts are in effect has already been answered.

E While it might be useful to the automaker to know about alternative strategies, such knowledge does not help in assessing the likelihood that the plan under discussion will achieve its aim.

The correct answer is A.

16. In virtually any industry, technological improvements increase labor productivity, which is the output of goods and services per person-hour worked. In Parland's industries, labor productivity is significantly higher than it is in Vergia's industries. Clearly, therefore, Parland's industries must, on the whole, be further advanced technologically than Vergia's are.

The argument is most vulnerable to which of the following criticisms?

(A) It offers a conclusion that is no more than a paraphrase of one of the pieces of information provided in its support.

(B) It presents as evidence in support of a claim information that is inconsistent with other evidence presented in support of the same claim.

(C) It takes one possible cause of a condition to be the actual cause of that condition without considering any other possible causes.

(D) It takes a condition to be the effect of something that happened only after the condition already existed.

(E) It makes a distinction that presupposes the truth of the conclusion that is to be established.

Argument Evaluation

Situation	Technological improvements in nearly every industry increase labor productivity, which is the output of goods and services per person-hour worked. Because labor productivity is significantly higher in Parland than Vergia, Parland's industries are, in general,

	more technologically advanced than Vergia's.
Reasoning	<i>To which criticism is the argument most vulnerable?</i> Though one factor, such as technological advancements, may lead to greater labor productivity, it may not be the only such factor, or even a necessary factor, leading to great labor productivity. Therefore, the mere fact that one region's labor is more productive than another's is not sufficient to establish that the former region is more technologically advanced than the latter region is.

A The conclusion is not merely a paraphrase of the pieces of information provided in its support. Indeed, the problem with the argument is that the conclusion goes too far beyond what the premises merit.

B The premises of the argument are not inconsistent with one another.

C Correct. This accurately describes the flaw in the argument because the reasons given in the argument for its conclusion would be good reasons only if there were no other plausible explanations for Parland's greater labor productivity.

D The argument does not mention how long Parland has had more productive labor, or when technological improvements would have occurred.

E Neither of the premises contains anything that presupposes the conclusion to be true.

The correct answer is C.

17. The Maxilux car company's design for its new luxury model, the Max 100, included a special design for the tires that was intended to complement the model's image. The winning bid for supplying these tires was submitted by Rubco. Analysts concluded that the bid would only just cover Rubco's costs on the tires, but Rubco executives claim that winning the bid will actually make a profit for the company.

Which of the following, if true, most strongly justifies the claim made by Rubco's executives?

(A) In any Maxilux model, the spare tire is exactly the same make and model as the tires that are mounted on the wheels.

(B) Rubco holds exclusive contracts to supply Maxilux with the tires for a number of other models made by Maxilux.

(C) The production facilities for the Max 100 and those for the tires to be supplied by Rubco are located very near each other.

(D) When people who have purchased a carefully designed luxury automobile need to replace a worn part of it, they almost invariably replace it with a part of exactly the same make and type.

(E) When Maxilux awarded the tire contract to Rubco, the only criterion on which Rubco's bid was clearly ahead of its competitors' bids was price.

Argument Construction

Situation	Rubco won a bid for supplying tires for the Max 100, a new luxury model by Maxilux. The bid would barely cover the cost of the tires, but Rubco executives claim that winning the bid will be profitable.
Reasoning	<i>What would support the executives' claim?</i> Rubco is not expected to make a profit from supplying the tires for the new cars, so we must look for some other way that Rubco could derive a profit as a result of winning the bid. If by winning the bid Rubco created an inevitable market for itself in replacement tires—on which Rubco could earn a profit—then the executives' claim may be justified.

A We have already been told that the bid is expected to barely cover the costs of supplying the tires on the new cars, so the analysts mentioned in the passage have presumably already taken into account that there is a spare tire supplied for the Max 100.

B If winning the bid led Rubco to win more exclusive contracts with the Maxilux, that might help support the executives' claim. But this statement indicates only that Rubco already has several exclusive contracts to supply Maxilux with tires, not that winning the bid has led to, or will lead to, more such contracts, which is what would be needed.

C As in answer choice (A), this is relevant to the costs of supplying the tires for the Max 100, but presumably this was taken into account by the analysts when they concluded that the bid would barely cover Rubco's costs on the tires.

D Correct. This indicates that by winning the bid Rubco has created a way to profit from the contract with Maxilux, specifically, by creating a market for replacement tires.

E This is likely one of the reasons that Rubco's bid only just covers the Rubco's costs on the tires; it does nothing to justify the executives' claims that the bid will lead to a profit for Rubco.

The correct answer is D.

18. Which of the following most logically completes the passage?

Most bicycle helmets provide good protection for the top and back of the head, but little or no protection for the temple regions on the sides of the head. A study of head injuries resulting from bicycle accidents showed that a large proportion were caused by blows to the temple area. Therefore, if bicycle helmets protected this area, the risk of serious head injury in bicycle accidents would be greatly reduced,

especially since _____.

(A) among the bicyclists included in the study's sample of head injuries, only a very small proportion had been wearing a helmet at the time of their accident

(B) even those bicyclists who regularly wear helmets have a poor understanding of the degree and kind of protection that helmets afford

(C) a helmet that included protection for the temples would have to be somewhat larger and heavier than current helmets

(D) the bone in the temple area is relatively thin and impacts in that area are thus very likely to cause brain injury

(E) bicyclists generally land on their arm or shoulder when they fall to the side, which reduces the likelihood of severe impacts on the side of the head

Argument Construction

Situation	Bicycle helmets protect the top and back of the head, but not the sides or temples. A study found that a large proportion of head injuries caused by biking accidents were caused by blows to the temple area.
Reasoning	<i>Why would the risk of serious head injury in bicycle accidents be greatly reduced if bicycle helmets protected the temple regions? If for some reason a serious head injury is particularly likely when there is impact to the temple area, then bicycle helmets that protect that area would be apt to reduce the number of serious head injuries from bicycle accidents. One such reason is that the bone in the temple area is relatively thin.</i>

A This point is irrelevant because it gives us no information about the seriousness or the likelihood of injuries due to impact to the temple area.

B Whether bicyclists who regularly wear helmets have a good understanding of what protection their helmets afford is not relevant as to whether serious head injuries are particularly likely to occur from impact to the temple area.

C This point is relevant only to what a helmet that protected the temple area would be like, not to the seriousness of injuries resulting from impact to that area. If anything, this point counts as a reason *against* the conclusion, not *for* it. If such helmets are heavier and larger, they may be used less than they otherwise would be. If fewer helmets are used, then improvements to helmet design will have less of an effect in reducing serious head injuries.

D Correct. This statement provides a reason why the temple area of the rider's head needs protection: impacts to this area are very likely to cause brain injuries.

E This is largely irrelevant. Even if it suggests that head injuries do not generally result from bicyclists falling to the side, it does not indicate that such injuries are rare or that there is not great risk of serious injury in those cases in which there is impact to the temple area.

The correct answer is D.

19. Wood smoke contains dangerous toxins that cause changes in human cells. Because wood smoke presents such a high health risk, legislation is needed to regulate the use of open-air fires and wood-burning stoves.

Which of the following, if true, provides the most support for the argument above?

- (A) The amount of dangerous toxins contained in wood smoke is much less than the amount contained in an equal volume of automobile exhaust.
- (B) Within the jurisdiction covered by the proposed legislation, most heating and cooking is done with oil or natural gas.
- (C) Smoke produced by coal-burning stoves is significantly more toxic than smoke from wood-burning stoves.
- (D) No significant beneficial effect on air quality would result if open-air fires were banned within the jurisdiction covered by the proposed legislation.
- (E) In valleys where wood is used as the primary heating fuel, the concentration of smoke results in poor air quality.

Argument Construction

Situation	Wood smoke is hazardous, so restrictive legislation is needed.
Reasoning	<i>Which point supports the need for legislation?</i> The argument for legislation is based on the position that wood smoke is hazardous to people's health. Any evidence of physical harm resulting from wood smoke supports the argument that legislation is needed. Undoubtedly, poor air quality caused by a high concentration of wood smoke presents just such a health risk.

A If wood smoke were as dangerous as car exhaust, this might support the idea of regulating it just as exhaust emissions are regulated; but this statement tells us it is less dangerous.

B This point suggests less of a need for legislation.

C This information provides no support for the idea that the use of wood-burning stoves should be regulated.

D The lack of benefit from banning open-air fires is a point against the legislation.

E Correct. This supports the argument in favor of legislation.

The correct answer is E.

20. Hunter: **Many people blame hunters alone for the decline in Greenrock National Forest's deer population over the past ten years.** Yet clearly, black bears have also played an important role in this decline. In the past ten years, the forest's protected black bear population has risen sharply, and examination of black bears found dead in the forest during the deer hunting season showed that a number of them had recently fed on deer.

In the hunter's argument, the portion in boldface plays which of the following roles?

- (A) It is the main conclusion of the argument.
- (B) It is a finding that the argument seeks to explain.
- (C) It is an explanation that the argument concludes is correct.
- (D) It provides evidence in support of the main conclusion of the argument.
- (E) It introduces a judgment that the argument opposes.

Argument Construction

Situation	The hunter claims that hunters have been identified by many people as the sole cause of the decline in Greenrock National Forest's deer population. But the hunter argues that black bears have also contributed to the deer population decline. Black bears are protected and have increased in number, and they have been found to have fed recently on deer.
Reasoning	<i>What role in the argument is played by the hunter's statement that many people blame hunters alone for the decline in the national forest's deer population?</i> In this statement, the hunter claims that many people have judged hunters responsible for the decline. The hunter then goes on to offer evidence supporting a different judgment: that hunters are not solely responsible, but that black bears are also to blame.

A The hunter's main conclusion is that black bears have also contributed to the decline in the deer population.

B The argument seeks to offer a reason for the finding that the deer population has declined, not the finding that people blame hunters for that decline.

C The hunter does not conclude that blaming hunters for the decline in the deer population is correct; rather, the hunter suggests that black bears should also be blamed.

D The hunter believes that hunters are *not* solely responsible for the decline in the deer population, so people's suggestion that they *are* responsible does not support the hunter's main conclusion.

E Correct. The boldfaced statement cites a judgment that the hunter attributes to many people, and that the hunter argues is incorrect. The hunter opposes the judgment that hunters alone are responsible for the decline in the deer population.

The correct answer is E.

21. Many agriculturally intensive areas of the world are beginning to encounter water scarcity problems. As a result, many farmers in these areas are likely to reduce their output as the water supply they need in order to maintain production shrinks. However, one group of farmers in such a region plans to increase their production by implementing techniques for water conservation.

Which of the following, if true, would most strongly support the prediction that the group's plan will succeed?

- (A) Farmers who can gain a larger share of the food market in their regions will be better positioned to control more water resources.
- (B) Most agricultural practices in areas with water shortages are water-intensive.
- (C) Other regions of the world not facing water shortages are likely to make up for the reduction in agricultural output.
- (D) Demand for agricultural products in the group's region is not expected to decline.
- (E) More than half the water used for agriculture in the farmers' region is lost to evaporation or leakage from irrigation channels.

Evaluation of a Plan

Situation	Farmers in many agriculturally intensive regions will probably reduce their output because the regions' water supplies are dwindling, but one group of farmers in such a region plans to use water conservation techniques to increase their output.
Reasoning	<i>What would provide evidence that water conservation techniques will help the farmers increase production despite their region's dwindling water supplies?</i> In order for the water conservation techniques to be effective, they must result in significantly more water becoming available for the farmers to use. Because overall supplies are shrinking, rather than growing, that can only happen if the farmers are currently losing or wasting a great deal of water in ways that could be prevented with water conservation techniques.

A This suggests an advantage the farmers will gain if their water conservation plan enables them to increase production, but it provides no evidence that the plan actually will enable them to increase production.

B This suggests that the plan would have to yield quite a lot of conserved water in order for the farmers to increase production, but it offers no evidence that the plan will do so. Thus, it provides some reason to question whether the plan will succeed.

C Whether regions without water shortages will increase production is not directly relevant to the question of whether a particular measure would lead to increased production in one region that does have a water shortage.

D This has some slight, indirect relevance to the question of whether the farmers' plan will succeed: it suggests that if the farmers do manage to increase production, they will continue to have a market for what they produce. However, it does not address the issue of whether they will be able to increase production. Furthermore, even if demand for agricultural products in the group's region were expected to decline, it could still remain high enough to support the farmers' increased output from their water conservation plan.

E Correct. This suggests that the farmers are losing a lot of water in ways that the water conservation techniques might prevent, so it provides evidence that employing some such techniques could enable the farmers to save enough water to increase their output.

The correct answer is E.

22. Physician: The hormone melatonin has shown promise as a medication for sleep disorders when taken in synthesized form. Because the long-term side effects of synthetic melatonin are unknown, however, I cannot recommend its use at this time. Patient: Your position is inconsistent with your usual practice. You prescribe many medications that you know have serious side effects, so concern about side effects cannot be the real reason you will not prescribe melatonin. The patient's argument is flawed because it fails to consider that

(A) the side effects of synthetic melatonin might be different from those of naturally produced melatonin

(B) it is possible that the physician does not believe that melatonin has been conclusively shown to be effective

(C) sleep disorders, if left untreated, might lead to serious medical complications

(D) the side effects of a medication can take some time to manifest themselves

(E) known risks can be weighed against known benefits, but unknown risks cannot

Argument Evaluation

Situation	The physician refuses to prescribe synthetic melatonin to treat sleep disorders despite this medication's promise. The reason the physician offers for this refusal is that the long-term side effects of synthetic melatonin are unknown. The patient responds that because the physician prescribes other medications that are known to have serious side effects, it cannot be a concern for synthetic melatonin's side effects that is prompting the physician's refusal to prescribe that medication.
Reasoning	<i>What does the patient's argument fail to consider?</i> The patient says that the inconsistency in the physician's position lies in the physician's unwillingness to prescribe synthetic melatonin coupled with a willingness to prescribe other medications that are known to have serious side effects. But notice that the physician does not say that synthetic melatonin has <i>serious</i> side effects; rather, the physician points out that the long-term side effects of synthetic melatonin are unknown. The physician most likely prescribes medications that have serious side effects because the medications' benefits outweigh the risks posed by their side effects. In the case of synthetic melatonin, however, this kind of decision cannot be made.

A The patient's argument has to do with whether the physician's refusal to prescribe synthetic melatonin is consistent with the physician's usual prescription practices. The question of whether naturally produced melatonin has different side effects than synthetic melatonin has no bearing on that argument.

B It is quite reasonable for the patient's argument not to mention this possibility, especially since the physician expresses a belief that synthetic melatonin may be effective—but expresses no belief about whether or not it has been conclusively shown to be effective.

C Awareness that sleep disorders can lead to serious medical complications most likely prompts the patient's desire for treatment—but the patient's not mentioning this possible consequence of sleep disorders does not indicate a flaw in the argument.

D The patient makes clear that the physician prescribes medications that have serious side effects; the time those side effects take to manifest themselves is not relevant to the argument.

E Correct. The patient's argument is flawed in failing to consider this key difference between known risks and unknown risks. If the patient had considered this key difference, the patient would have realized that the physician's position is not at all inconsistent, and that the physician's refusal to prescribe is genuinely based on a concern about an unknown risk.

The correct answer is E.

23. Plan: Concerned about the welfare of its senior citizens, the government of Runagia decided two years ago to increase by 20 percent the government-provided pension paid to all Runagians age sixty-five and older. Result: Many Runagian senior citizens are no better off financially now than they were before the increase. Further information: The annual rate of inflation since the pension increase has been below 5 percent, and the increased pension has been duly received by all eligible Runagians.

In light of the further information, which of the following, if true, does most to explain the result that followed implementation of the plan?

- (A) The majority of senior citizens whose financial position has not improved rely entirely on the government pension for their income.
- (B) The Runagian banking system is so inefficient that cashing a pension check can take as much as three weeks.
- (C) The prices of goods and services that meet the special needs of many senior citizens have increased at a rate much higher than the rate of inflation.
- (D) The pension increase occurred at a time when the number of Runagians age sixty-five and older who were living below the poverty level was at an all-time high.
- (E) The most recent pension increase was only the second such increase in the last ten years.

Evaluation of a Plan

Situation	Two years ago, Runagia's government attempted to improve senior citizens' welfare by increasing senior citizens' pensions by 20 percent. Unfortunately, many of those senior citizens' welfare did not improve. This result occurred despite inflation being relatively low—below 5 percent—and all appropriate people receiving their increased pensions.
Reasoning	<i>What would do most to explain why many of Runagia's senior citizens are no better off than they were before their pensions increased?</i> Many of Runagia's senior citizens were not helped by receiving more money. Clearly, these senior citizens used nearly 20

percent more money than they did before to maintain the same standard of living. Usually, this could be explained by high inflation—but the further information informs us that the annual rate of inflation was well below the percentage of the pension increase. The annual rate of inflation is, however, an average calculated over a large number of goods and services. The prices of some goods and services rise more than the prices of other goods and services. It could be the case that the goods and services senior citizens need are those that have risen most in price. If this were the case, their pension increase could have been insufficient to raise their standard of living.

A Regardless of what someone relies on for their income, a 20 percent increase in that income would be expected to raise that person's standard of living.

B The 20 percent increase in pensions occurred two years ago. Whatever problems a three-week delay in the cashing of pension checks caused would be unlikely to persist over two years.

C Correct. This statement properly identifies a reason why the plan's result was that many Runagian senior citizens were no better off than they were before the increase.

D Even if it were true that an all-time high number of Runagians over sixty-five were living below the poverty line at the time of the pension increase, it would still be expected that such an increase would leave them better off financially than they were before the increase.

E Regardless of how many pension increases there were in the past, the current 20 percent increase could reasonably be expected to leave its recipients better off financially than they were before the increase.

The correct answer is C.

24. Hollywood restaurant is replacing some of its standard tables with tall tables and stools. The restaurant already fills every available seat during its operating hours, and the change in seating arrangements will not result in an increase in the restaurant's seating capacity. Nonetheless, the restaurant's management expects revenue to increase as a result of the seating change without any concurrent change in menu, prices, or operating hours.

Which of the following, if true, provides the best reason for the expectation?

- (A) One of the taller tables takes up less floor space than one of the standard tables.
- (B) Diners seated on stools typically do not linger over dinner as long as diners seated at standard tables.

- (C) Since the restaurant will replace only some of its standard tables, it can continue to accommodate customers who do not care for the taller tables.
- (D) Few diners are likely to avoid the restaurant because of the new seating arrangement.
- (E) The standard tables being replaced by tall tables would otherwise have to be replaced with new standard tables at a greater expense.

Argument Construction

Situation	Hollywood restaurant is replacing some of its tables with taller tables and stools, and the management expects this will increase revenue, despite the fact that the restaurant already fills all of its available seats and that this change will not increase seating capacity. Furthermore, there will not be any change in menu, prices, or operating hours.
Reasoning	<i>What would strongly support the management's expectation?</i> Since the new seating will not increase the restaurant's seating capacity, the management's expectations must be based on a belief that the change to taller tables and stools will somehow change diners' behavior, perhaps by leading them to order more food, or to stay at their tables for a shorter time, thereby allowing the restaurant to serve more diners during its operating hours without increasing seating capacity. If diners seated at tall tables and on tall stools spend less time lingering over their dinners, then they will leave sooner, opening up the tables for more diners. Because the restaurant, before the change, already fills every available seat during its operating hours, it is reasonable to think that it will be able to serve more diners than it currently does, thereby selling more food and thus increasing revenue.

A This would be relevant if we could infer from it that seating capacity will increase. However, the passage indicates that the new seating arrangement will not result in greater capacity.

B Correct. Because the restaurant will be able to serve more meals during its operating hours, the restaurant's revenue can be expected to increase.

C This may indicate that the restaurant is less likely to alienate customers who do not care for tall tables and stools, but that only supports the claim that the restaurant will not lose customers and therefore lose revenue; it does not indicate that the restaurant will see revenue increase.

D Again, this merely indicates that there will not be a loss—or much loss—of revenue, not that there will be an increase in revenue.

E Less expensive tables will decrease the restaurant's costs, but it will not

increase the restaurant's revenue.

The correct answer is B.

25. A major network news organization experienced a drop in viewership in the week following the airing of a controversial report on the economy. The network also received a very large number of complaints regarding the report. The network, however, maintains that negative reactions to the report had nothing to do with its loss of viewers.

Which of the following, if true, most strongly supports the network's position?

- (A) The other major network news organizations reported similar reductions in viewership during the same week.
- (B) The viewers who registered complaints with the network were regular viewers of the news organization's programs.
- (C) Major network news organizations publicly attribute drops in viewership to their own reports only when they receive complaints about those reports.
- (D) This was not the first time that this network news organization has aired a controversial report on the economy that has inspired viewers to complain to the network.
- (E) Most network news viewers rely on network news broadcasts as their primary source of information regarding the economy.

Argument Construction

Situation	A major network news organization aired a controversial report on the economy, and the following week the network's viewership declined. The network claims that the loss of viewers was not connected with negative reactions to the report.
Reasoning	<i>Which statement most strongly supports the network's position?</i> If other major news network organizations had similar drops in viewership, it is implausible to think that the controversial report accounted for the other organizations' drops in viewership. On the other hand, it is not implausible to suppose that whatever did cause the drop in the viewership experienced by other network news organizations—e.g., holidays, weather, popular non-news programming—also had that effect on the organization that ran the controversial report. This would give some reason to believe that it was not the report that accounts for the organization's drop in viewership.

A Correct. This statement indicates that something other than the airing of the report could account for the subsequent drop in the organization's viewership.

B If anything, this statement tends to undermine the network’s claim, because it suggests that the report offended people who otherwise might have continued to watch the organization’s programming.

C Since the network did in fact receive complaints about the report, this statement is irrelevant.

D The fact that the network has received complaints before about controversial reports on the economy that the network’s news organization has aired tells us nothing about whether this recent report caused a subsequent drop in viewership.

E The fact that viewers turn to network news broadcasts as their primary source of information about the economy tells us nothing about whether viewers might stop watching a particular network news organization’s programs as a result of its airing a controversial report on the economy.

The correct answer is A.

26. Only a reduction of 10 percent in the number of scheduled flights using Greentown’s airport will allow the delays that are so common there to be avoided. Hevelia airstrip, 40 miles away, would, if upgraded and expanded, be an attractive alternative for fully 20 percent of the passengers using Greentown airport. Nevertheless, experts reject the claim that turning Hevelia into a full-service airport would end the chronic delays at Greentown.

Which of the following, if true, most helps to justify the experts’ position?

- (A) Turning Hevelia into a full-service airport would require not only substantial construction at the airport itself, but also the construction of new access highways.
- (B) A second largely undeveloped airstrip close to Greentown airport would be a more attractive alternative than Hevelia for many passengers who now use Greentown.
- (C) Hevelia airstrip lies in a relatively undeveloped area but would, if it became a full-service airport, be a magnet for commercial and residential development.
- (D) If an airplane has to wait to land, the extra jet fuel required adds significantly to the airline’s costs.
- (E) Several airlines use Greentown as a regional hub, so that most flights landing at Greentown have many passengers who then take different flights to reach their final destinations.

Evaluation of a Plan

Situation	To avoid the delays now common at Greentown’s airport, the

	number of scheduled flights there would need to be reduced by 10 percent. If the nearby Hevelia airstrip were expanded and upgraded, it would be an attractive alternative for 20 percent of Greentown airport's passengers. Still, experts do not believe that the delays at Greentown would end even if Hevelia were turned into a full-service airport.
Reasoning	<i>Which statement most supports the experts' position?</i> If the number of flights at Greentown's airport did not drop by at least 10 percent, despite the fact that 20 percent of the passengers who currently use Greentown's airport would find nearby Hevelia airstrip an attractive alternative, then the delays would not be avoided. Airlines generally use certain airports as regional hubs—an airport through which an airline routes most of its traffic—so, even if many passengers would be willing to use Hevelia airstrip, the number of flights at Greentown may not decline significantly, or at all.

A The experts' position concerns what would happen to the flight delays at Greentown airport if the Hevelia airstrip were converted into a full-service airport. So the fact that there are great costs involved in making such a conversion—possibly making such a conversion unlikely—has no bearing on the effects such a conversion would have on flight delays at Greentown if the conversion were to be carried out.

B This statement indicates that the undeveloped airstrip near Greentown might be a better way to alleviate flight delays at Greentown, but it tells us nothing about the effects that converting the Hevelia airstrip to a full-service airport would have were it to be carried out.

C This in no way explains why converting the Hevelia airstrip into a full-service airport would not alleviate the problem with flight delays at Greentown.

D This provides a reason to think that reducing the number of flights at Greentown might make the airport more efficient. But that has no bearing on the effect that converting the Hevelia airstrip to a full-service airport might have on flight delays at Greentown.

E Correct. This statement provides support for the experts' position because it gives a reason for thinking that the number of scheduled flights at Greentown would not be reduced, even if Hevelia airstrip became an attractive alternative for some 20 percent of Greentown's passengers.

The correct answer is E.

27. For similar cars and comparable drivers, automobile insurance for collision damage has always cost more in Greatport than in Fairmont. Police studies,

however, show that cars owned by Greatport residents are, on average, slightly less likely to be involved in a collision than cars in Fairmont. Clearly, therefore, insurance companies are making a greater profit on collision-damage insurance in Greatport than in Fairmont.

In evaluating the argument, it would be most useful to compare

- (A) the level of traffic congestion in Greatport with the level of traffic congestion in Fairmont
- (B) the cost of repairing collision damage in Greatport with the cost of repairing collision damage in Fairmont
- (C) the rates Greatport residents pay for other forms of insurance with the rates paid for similar insurance by residents of Fairmont
- (D) the condition of Greatport's roads and streets with the condition of Fairmont's roads and streets
- (E) the cost of collision-damage insurance in Greatport and Fairmont with that in other cities

Argument Evaluation

Situation	A particular kind of insurance, that for collision damage, costs more in Greatport than in Fairmont. The cars of Greatport residents are, however, less likely to be involved in collisions than are cars of Fairmont residents. So insurance companies must be making a greater profit on collision-damage insurance in Greatport than in Fairmont.
Reasoning	<i>What would it help to consider in evaluating the argument?</i> Insurance companies would make greater profits on collision-damage insurance in Greatport than they make in Fairmont if they pay out less money in response to Greatport residents' claims than they do in response to Fairmont's residents' claims. That Greatport residents' cars are involved in fewer collisions than are Fairmont's residents' cars supports this—if there are fewer collisions overall, then the insurance companies might pay out less money overall. But the number of collisions is only one factor contributing to how much money an insurance company pays out in response to claims; another factor is the amount of damage inflicted on the cars involved in collisions and how much it costs to repair that damage. These costs would need to be considered before concluding that insurance companies' profits on collision-damage insurance are greater in Greatport than in Fairmont.

A The level of traffic congestion probably contributes to the frequency of collisions in each town. The information given, however, includes the

statement that Greatport cars are less likely to be involved in collisions than are Fairmont cars. Why this occurs—whether, for example, traffic congestion is a contributory factor—is not relevant.

B Correct. This is clearly a factor that would affect the profitability of insurance in the two towns—and is therefore highly relevant to evaluating the argument, especially its conclusion.

C The argument's conclusion is about insurance companies' profits on collision-damage insurance alone, so other types of insurance, and the rates paid for them, are not relevant.

D The condition of the roads and streets in each town probably contributes to the frequency of collisions in each town. The information given, however, includes the statement that Greatport cars are less likely to be involved in collisions than are Fairmont cars. Why this is so—whether, for example, the condition of the roads is a contributory cause—is not relevant.

E Since the argument is concerned solely with collision-insurance costs and profits in Greatport and Fairmont, comparing the cost of insurance in those towns with the cost of insurance elsewhere would provide no useful insight.

The correct answer is B.

28. The tulu, a popular ornamental plant, does not reproduce naturally, and is only bred and sold by specialized horticultural companies. Unfortunately, the tulu is easily devastated by a contagious fungal rot. The government ministry plans to reassure worried gardeners by requiring all tulu plants to be tested for fungal rot before being sold. However, infected plants less than 30 weeks old have generally not built up enough fungal rot in their systems to be detected reliably. And many tulu plants are sold before they are 24 weeks old.

Which of the following, if performed by the government ministry, could logically be expected to overcome the problem with their plan to test for the fungal rot?

- (A) Releasing a general announcement that tulu plants less than 30 weeks old cannot be effectively tested for fungal rot
- (B) Requiring all tulu plants less than 30 weeks old to be labeled as such
- (C) Researching possible ways to test tulu plants less than 24 weeks old for fungal rot
- (D) Ensuring that tulu plants not be sold before they are 30 weeks old
- (E) Quarantining all tulu plants from horticultural companies at which any case of fungal rot has been detected until those tulu plants can be tested for fungal rot

Evaluation of a Plan

Situation	There is a contagious fungal rot that devastates the tulu, a popular ornamental plant. To reassure worried gardeners, the government ministry plans to require that tulu plants be tested for the rot before being sold. However, many tulu plants are sold before they are 24 weeks old, yet fungal rot in plants less than 30 weeks old generally cannot be detected reliably.
Reasoning	<i>What could the government ministry do to overcome the problem?</i> The problem arises from the fact that tulu plants are frequently sold before they are 24 weeks old, which is too soon for any fungal rot that is present to have built up enough in their root systems to be detected. Since the goal of the testing is to ensure that infected tulu plants not be sold, an obvious solution would be to make sure that no plants are sold before they are old enough for fungal rot to have built up to a detectable level. Thus, tulu plants should not be sold before they are 30 weeks old.

A Releasing such an announcement would help overcome the problem if it guaranteed that no one would buy or sell tulu plants before the plants were 30 weeks old, but it is far from certain that such an announcement would guarantee this.

B Since some people may not be aware of the significance of such labeling, such labeling might have very little effect.

C There is no guarantee that such research will be successful at reducing the age at which tulu plants can be reliably tested.

D Correct. If the government ensures that no tulu plants less than 30 weeks of age are sold, then the specific problem mentioned in the passage would be overcome.

E This will not help overcome the problem. Such a quarantine program might lead horticultural companies to start selling tulu plants only if they are less than 24 weeks old, thereby minimizing the chance of quarantine by minimizing the chance of detection.

The correct answer is D.

29. Last year a record number of new manufacturing jobs were created. Will this year bring another record? Well, a new manufacturing job is created either within an existing company or by the start-up of a new company. Within existing firms, new jobs have been created this year at well below last year's record pace. At the same time, there is considerable evidence that the number of new companies starting up will be no higher this year than it was last year, and surely **the new companies starting up this year will create no more jobs per company than did last year's start-ups**. Clearly, it can be concluded that **the number of new jobs created this year will fall short of last year's record**.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is that main conclusion.
- (B) The first is a prediction that, if accurate, would provide support for the main conclusion of the argument; the second is a conclusion drawn in order to support that main conclusion.
- (C) The first is an objection that the argument rejects; the second is the main conclusion of the argument.
- (D) The first is an objection that the argument rejects; the second presents a conclusion that could be drawn if that objection were allowed to stand.
- (E) The first is a claim that has been advanced in support of a position that the argument opposes; the second is a claim advanced in support of the main conclusion of the argument.

Argument Construction

Situation	The question posed is whether this year will, like last year, see a record number of new manufacturing jobs. Among the evidence presented is the assertion that any new manufacturing job is created by an existing company or as part of the start-up of a new company. New jobs have been created by existing firms at a slower pace than last year. It is unlikely that more new companies will be started up this year than were started last year; further, the argument suggests that this year's new companies are unlikely to create more jobs per company than did last year's new companies. For all these reasons, the argument concludes, this year's job creation will not equal that of last year.
Reasoning	<i>What roles do the two portions in boldface play in the argument?</i> The first boldfaced portion states that this year's new companies will create no more jobs per company than did last year's new companies. The speaker does not know this for a fact, since it has not yet happened; it is thus a prediction. If it turns out to be the case, it would support the idea that job creation this year will fall short of last year's—which is, in turn, the conclusion that the argument reaches.

A Correct. This statement properly identifies the roles played in the argument by the two portions in boldface.

B This properly identifies the role played in the argument by the first portion in boldface. The second is, of course, a conclusion, but it is not drawn in order to support the main conclusion; rather, it is the main

conclusion.

C This properly identifies the role played by the second portion in boldface. The first portion in boldface, however, states that companies starting up this year will create no more jobs than last year's start-ups. The argument does not reject this idea; rather, it relies on it.

D The first portion in boldface states that companies starting up this year will create no more jobs than last year's start-ups. The argument does not reject this idea; rather, it relies on it. The second portion in boldface does present a conclusion, but since the first portion is not an objection, any description that relies on that mischaracterization is in error.

E The second portion in boldface is not merely a claim; it is, rather, the main conclusion of the argument. The first portion in boldface is a claim, but it is not advanced in support of a position that the argument opposes; rather, it supports the argument's main conclusion.

The correct answer is A.

30. People who do regular volunteer work tend to live longer, on average, than people who do not. It has been found that "doing good," a category that certainly includes volunteer work, releases endorphins, the brain's natural opiates, which induce in people a feeling of well-being. Clearly, there is a connection: Regular releases of endorphins must in some way help to extend people's lives.

Which of the following, if true, most seriously undermines the force of the evidence given as support for the hypothesis that endorphins promote longevity?

- (A) People who do regular volunteer work are only somewhat more likely than others to characterize the work they do for a living as "doing good."
- (B) Although extremely high levels of endorphins could be harmful to health, such levels are never reached as a result of the natural release of endorphins.
- (C) There are many people who have done some volunteer work but who do not do such work regularly.
- (D) People tend not to become involved in regular volunteer work unless they are healthy and energetic to begin with.
- (E) Releases of endorphins are responsible for the sense of well-being experienced by many long-distance runners while running.

Argument Evaluation

Situation	People who volunteer regularly live longer on average than people who do not. Doing good work, including volunteer work, releases endorphins, which induce a feeling of well-being.

Reasoning	<i>What additional findings would suggest that the cited evidence does not indicate that endorphins increase longevity?</i> The argument implicitly assumes that the reason regular volunteers tend to live longer is that volunteering lengthens their lives. It further assumes that no factor that is correlated with volunteering, other than the endorphin release, would plausibly explain how volunteering could have this effect. Findings that cast doubt on either of these assumptions would undermine the connection between the cited evidence and the conclusion that endorphins promote longevity.

A Volunteering might greatly boost volunteers' endorphin levels even if the work the volunteers do for a living is no different from other people's work.

B Even if unnaturally high endorphin levels could harm health, the levels attainable through volunteer work may promote health.

C The argument is about an observed correlation in a certain group of people (those who regularly do volunteer work). How many people are outside that group (i.e., do not regularly do volunteer work) is independent of the question of what causes the observed correlation. Even if some people volunteer only occasionally, volunteering regularly may promote longevity by causing regular releases of endorphins.

D Correct. This suggests that the initially better health of people who choose to volunteer could fully explain the cited correlation between volunteering and longevity.

E Unless we are also given evidence that long-distance runners tend not to live longer than other people, this does not undermine the purported evidence in the argument. Endorphins might promote longevity in both regular volunteers and long-distance runners.

The correct answer is D.

31. The Eurasian ruffe, a fish species inadvertently introduced into North America's Great Lakes in recent years, feeds on the eggs of lake whitefish, a native species, thus threatening the lakes' natural ecosystem. To help track the ruffe's spread, government agencies have produced wallet-sized cards about the ruffe. The cards contain pictures of the ruffe and explain the danger they pose; the cards also request anglers to report any ruffe they catch.

Which of the following, if true, would provide most support for the prediction that the agencies' action will have its intended effect?

(A) The ruffe has spiny fins that make it unattractive as prey.

(B) Ruffe generally feed at night, but most recreational fishing on the Great Lakes is done during daytime hours.

(C) Most people who fish recreationally on the Great Lakes are interested in the preservation of the lake whitefish because it is a highly prized game fish.

(D) The ruffe is one of several nonnative species in the Great Lakes whose existence threatens the survival of lake whitefish populations there.

(E) The bait that most people use when fishing for whitefish on the Great Lakes is not attractive to ruffe.

Evaluation of a Plan

Situation	The Eurasian ruffe, a species not native to the Great Lakes, is threatening the native lake whitefish. Government agencies hope that wallet-sized cards identifying the ruffe, explaining the danger they pose, and asking anglers to report their ruffe catches will help them track the ruffe's spread.
Reasoning	<i>What point would support the idea that the agencies' action will have its intended effect?</i> The cards are intended to help government agencies track the ruffe's spread. They will be useful for this purpose only if anglers actually report the ruffe they catch. Thus anything that increases the odds of anglers' doing such reporting would make it more likely that the cards will have their intended effect.

A If ruffe are unattractive as prey, they will probably spread more quickly in the Great Lakes. This will most likely have little effect on whether the wallet-sized cards will help government agencies track the ruffe.

B If ruffe feed at night, while fishing is done in the daytime, it is unlikely that anglers would catch ruffe. Thus few catches would be reported to government agencies, making it more difficult for those agencies to track the spread of ruffe.

C Correct. This statement properly identifies a point that supports the prediction that the agencies' action will have its intended effect—that is, those who are interested in preserving the lake whitefish will be likely to report catches of ruffe, which threaten whitefish, thus enabling the agencies' tracking of the spread of ruffe.

D That the ruffe is one of several nonnative species threatening the Great Lakes lessens the odds that the whitefish will survive, but this has no effect on the question of whether the wallet-sized cards will help government agencies track the ruffe's spread.

E This would make it likely that anglers would catch few ruffe. If anglers do not catch many ruffe, there will not be many to report to government agencies, which would in turn make it more difficult for those agencies to track the ruffe's spread.

The correct answer is C.

32. Which of the following most logically completes the argument?

Ferber's syndrome, a viral disease that frequently affects cattle, is transmitted to these animals through infected feed. Even though chickens commercially raised for meat are often fed the type of feed identified as the source of infection in cattle, Ferber's syndrome is only rarely observed in chickens. This fact, however, does not indicate that most chickens are immune to the virus that causes Ferber's syndrome, since _____.

- (A) chickens and cattle are not the only kinds of farm animal that are typically fed the type of feed liable to be contaminated with the virus that causes Ferber's syndrome
- (B) Ferber's syndrome has been found in animals that have not been fed the type of feed liable to be contaminated with the virus that can cause the disease
- (C) resistance to some infectious organisms such as the virus that causes Ferber's syndrome can be acquired by exposure to a closely related infectious organism
- (D) chickens and cattle take more than a year to show symptoms of Ferber's syndrome, and chickens commercially raised for meat, unlike cattle, are generally brought to market during the first year of life
- (E) the type of feed liable to be infected with the virus that causes Ferber's syndrome generally constitutes a larger proportion of the diet of commercially raised chickens than of commercially raised cattle

Argument Construction

Situation	Certain feed given to cows and to chickens commercially raised for meat is infected with the virus that causes Ferber's syndrome. Cows are frequently affected by this disease, while it is rarely observed in chickens. But (for a reason the argument omits) this does not suggest that chickens are immune to the virus.
Reasoning	<i>What point would most logically complete the argument?</i> How could it be the case that chickens are infected, yet Ferber's syndrome is only rarely observed in them? The important point here is that Ferber's syndrome is not <i>observed</i> in chickens. A disease is usually observed to be present on the basis of its symptoms. Those symptoms might not be present, or might not <i>yet</i> be present, in chickens that are infected with the virus. If the chickens were used for meat before they began showing symptoms, then they would not be observed to have Ferber's syndrome, but this would not indicate that they were immune to the virus.

A That other animals are fed the potentially contaminated feed is not relevant to the question of whether chickens are immune to the virus.

B The idea that there could be a source of the virus other than contaminated feed does not have any bearing on whether chickens are immune to the virus.

C The idea that there is a way for animals to acquire a resistance to the virus that causes Ferber's syndrome suggests that some animals, possibly chickens, might be immune to the virus. This is the opposite of what the argument is trying to establish.

D Correct. This statement properly identifies a point that logically completes the argument: It provides a reason why infected chickens would fail to show symptoms of Ferber's syndrome.

E If chickens' diets contain proportionally more of the potentially infected feed than cattle's diets do, it is even more surprising that Ferber's syndrome is not observed in chickens—far from providing a reason not to conclude that chickens are immune to the virus; this makes it seem even more likely that they are immune.

The correct answer is D.

33. Which of the following most logically completes the argument below?

Although the number of large artificial satellites orbiting the Earth is small compared to the number of small pieces of debris in orbit, the large satellites interfere more seriously with telescope observations because of the strong reflections they produce. Because many of those large satellites have ceased to function, the proposal has recently been made to eliminate interference from nonfunctioning satellites by exploding them in space. This proposal, however, is ill conceived, since _____.

(A) many nonfunctioning satellites remain in orbit for years

(B) for satellites that have ceased to function, repairing them while they are in orbit would be prohibitively expensive

(C) there are no known previous instances of satellites' having been exploded on purpose

(D) the only way to make telescope observations without any interference from debris in orbit is to use telescopes launched into extremely high orbits around the Earth

(E) a greatly increased number of small particles in Earth's orbit would result in a blanket of reflections that would make certain valuable telescope observations impossible

Evaluation of a Plan

Situation	Many large artificial satellites orbiting earth no longer function. Reflections from these satellites interfere with telescope observations. A proposal has been made to eliminate this interference by exploding these satellites in space.
Reasoning	<i>Why is the proposal ill conceived?</i> If exploding the large artificial satellites—thereby creating a large amount of debris—would result in an increase in interference with telescope observation, the proposal would be self-defeating, and therefore would be ill conceived.

A The fact that many nonfunctioning satellites remain in orbit for years would seem to make the proposal *more* attractive. If large nonfunctioning artificial satellites generally do not remain in orbit for years—e.g., if they fall out of orbit—then there might be no need to explode the satellites. Therefore this statement is not correct.

B This statement, too, makes the proposal more attractive—the opposite of what is called for. If nonfunctioning satellites cannot be repaired, then that eliminates one possible reason for not blowing them up.

C The fact that there are no known instances of intentional explosions of satellites does not show that the plan is ill conceived. At most this might suggest that the consequences of such an explosion are not well understood, but even that is not very strongly suggested. For instance, if large artificial satellites have accidentally blown up, scientists may have studied the results and have good reason to believe that no ill-effects will result from exploding the satellites.

D This is not a cogent reason for thinking the proposal to be ill conceived. Even if the proposal would not eliminate *all interference* with ground based telescopes, it might still greatly reduce interference.

E Correct. If exploding large nonfunctioning satellites would lead to more interference, then we have a reason to think that the proposal is ill conceived.

The correct answer is E.

34. Thyrian lawmaker: Thyria's Cheese Importation Board inspects all cheese shipments to Thyria and rejects shipments not meeting specified standards. Yet only 1 percent is ever rejected. Therefore, since the health consequences and associated economic costs of not rejecting that 1 percent are negligible, whereas the board's operating costs are considerable, for economic reasons alone the board should be disbanded.

Consultant: I disagree. The threat of having their shipments rejected deters many cheese exporters from shipping substandard product.

The consultant responds to the lawmaker's argument by

- (A) rejecting the lawmaker's argument while proposing that the standards according to which the board inspects imported cheese should be raised
- (B) providing evidence that the lawmaker's argument has significantly overestimated the cost of maintaining the board
- (C) objecting to the lawmaker's introducing into the discussion factors that are not strictly economic
- (D) pointing out a benefit of maintaining the board, which the lawmaker's argument has failed to consider
- (E) shifting the discussion from the argument at hand to an attack on the integrity of the cheese inspectors

Argument Construction

Situation	The Thyrian lawmaker argues that the Cheese Importation Board should be disbanded, because its operating costs are high and it rejects only a small percentage of the cheese it inspects. The consultant disagrees, pointing out that the board's inspections deter those who export cheese to Thyria from shipping substandard cheese.
Reasoning	<i>What strategy does the consultant use in the counterargument?</i> The consultant indicates to the lawmaker that there is a reason to retain the board that the lawmaker has not considered. The benefit the board provides is not that it identifies a great deal of substandard cheese and rejects it (thus keeping the public healthy), but that the possibility that their cheese could be found substandard is what keeps exporters from attempting to export low-quality cheese to Thyria.

A The consultant does reject the lawmaker's argument, but the consultant does not propose higher standards. Indeed, in suggesting that the board should be retained, the consultant implies that the board's standards are appropriate.

B The consultant does not provide any evidence related to the board's cost.

C The only point the lawmaker raises that is not strictly economic is about the health consequences of disbanding the board, but the consultant does not address this point at all.

D Correct. This statement properly identifies the strategy the consultant employs in his or her counterargument. The consultant points out that the board provides a significant benefit that the lawmaker did not consider.

E The consultant does not attack the integrity of the cheese inspectors; to the contrary, the consultant says that their inspections deter the cheese exporters from shipping substandard cheese.

The correct answer is D.

35. The growing popularity of computer-based activities was widely expected to result in a decline in television viewing, since it had been assumed that people lack sufficient free time to maintain current television-viewing levels while spending increasing amounts of free time on the computer. That assumption, however, is evidently false: In a recent mail survey concerning media use, a very large majority of respondents who report increasing time spent per week using computers report no change in time spent watching television.

Which of the following would it be most useful to determine in order to evaluate the argument?

- (A) Whether a large majority of the survey respondents reported watching television regularly
- (B) Whether the amount of time spent watching television is declining among people who report that they rarely or never use computers
- (C) Whether the type of television programs a person watches tends to change as the amount of time spent per week using computers increases
- (D) Whether a large majority of the computer owners in the survey reported spending increasing amounts of time per week using computers
- (E) Whether the survey respondents' reports of time spent using computers included time spent using computers at work

Argument Evaluation

Situation	The argument is intended to debunk the assumption that people lack sufficient free time to maintain television-viewing levels while spending increasing amounts of free time on the computer. To do so, it cites a survey of media use in which a large majority of respondents who spend increasing amounts of time using computers also claim to have not altered the amount of time they spend watching television.
Reasoning	<i>What would it be most useful to know in order to evaluate the argument?</i> The argument uses the survey results to claim that people have enough free time to both maintain their television viewing levels and spend increasing amounts of free time on the computer. But the survey, as reported here, did not address whether people are spending their <i>free time</i> on the computer; the respondents reported increasing <i>time</i> spent per week using

computers. Since the argument is about free time, it is important to know whether this is actually what the respondents were reporting.

A The argument is concerned with the *change* in the amount of television watched by those whose computer use increased, so whether the survey's respondents reported watching television regularly is irrelevant.

B The argument is concerned with the change in the amount of television watched by those whose computer use has increased, so it does not matter whether the amount of time spent watching television among people who do not use computers is declining, remaining the same, or increasing.

C The argument is concerned with the *amount* of television watched by those whose computer use has increased, not the type of television programs such a person does or does not watch.

D The argument here is concerned with people who report spending increasing amounts of time on the computer; what computer owners do is a separate question.

E Correct. This statement properly identifies something that would be useful to know in evaluating the argument: whether the survey data included time spent using computers at work—if it did, this would make the data misleading as evidence for the argument's conclusion.

The correct answer is E.

36. Crowding on Mooreville's subway frequently leads to delays, because it is difficult for passengers to exit from the trains. Subway ridership is projected to increase by 20 percent over the next 10 years. The Mooreville Transit Authority plans to increase the number of daily train trips by only 5 percent over the same period. Officials predict that this increase is sufficient to ensure that the incidence of delays due to crowding does not increase.

Which of the following, if true, provides the strongest grounds for the officials' prediction?

- (A) By changing maintenance schedules, the Transit Authority can achieve the 5 percent increase in train trips without purchasing any new subway cars.
- (B) The Transit Authority also plans a 5 percent increase in the number of bus trips on routes that connect to subways.
- (C) For most commuters who use the subway system, there is no practical alternative public transportation available.
- (D) Most of the projected increase in ridership is expected to occur in off-peak hours when trains are now sparsely used.

(E) The 5 percent increase in the number of train trips can be achieved without an equal increase in Transit Authority operational costs.

Argument Construction

Situation	Ridership on the Mooreville subway, which often experiences delays due to crowding, is expected to increase 20 percent over the next 10 years. Despite plans to increase the number of daily trains only 5 percent during those 10 years, officials predict that delays due to crowding will not increase.
Reasoning	<i>What would provide the strongest grounds for the officials' prediction that delays due to crowding will not increase?</i> Delays due to crowding probably would increase if the extra 20 percent total ridership occurred at typically busy times, even if the total 5 percent increase in the number of daily trains were to occur at those typically busy times. The increases in daily trains would clearly not be enough to absorb the extra ridership. If the increase in ridership were to occur at other times of day, however, perhaps when the subway trains were less crowded overall, the system would be able to absorb the extra passengers without an increase in delays due to crowding.

A While this supports the idea that the Transit Authority can economically increase the number of train trips, it provides no information about whether the trains will be crowded.

B Increasing the number of bus trips on routes that connect to subways would be likely to lead to more people to ride the subways. This makes it less likely that the officials' prediction—that delays due to overcrowding will not increase—will turn out to have been accurate.

C This suggests that subway ridership will remain high, and thus that delays caused by overcrowding will continue.

D Correct. This statement properly identifies a situation in which the officials' prediction is likely to turn out to have been accurate. The ridership will be increasing during times when more passengers will not create delays, since they will merely fill empty seats on existing trains.

E While this supports the idea that the Transit Authority can economically increase the number of train trips, it provides no information about whether the trains will be crowded.

The correct answer is D.

37. Although the school would receive financial benefits if it had soft drink vending machines in the cafeteria, we should not allow them. Allowing soft drink machines there would not be in our students' interest. If our students start drinking more

soft drinks, they will be less healthy.

The argument depends on which of the following?

- (A) If the soft drink vending machines were placed in the cafeteria, students would consume more soft drinks as a result.
- (B) The amount of soft drinks that most students at the school currently drink is not detrimental to their health.
- (C) Students are apt to be healthier if they do not drink soft drinks at all than if they just drink small amounts occasionally.
- (D) Students will not simply bring soft drinks from home if the soft drink vending machines are not placed in the cafeteria.
- (E) The school's primary concern should be to promote good health among its students.

Argument Construction

Situation	Allowing soft drink vending machines in a school cafeteria would financially benefit the school, but students who drink more soft drinks would become less healthy.
Reasoning	<i>What must be true in order for the claim that students drinking more soft drinks would cause them to become less healthy to justify the conclusion that soft drink vending machines should not be allowed in the cafeteria?</i> The argument is that because drinking more soft drinks would be unhealthy for the students, allowing the vending machines would not be in the students' interest, so the vending machines should not be allowed. This reasoning depends on the implicit factual assumption that allowing the vending machines would result in the students drinking more soft drinks. It also depends on the implicit value judgment that receiving financial benefits should be less important to the school than preventing a situation that would make the students less healthy.

A Correct. If the cafeteria vending machines would not result in students consuming more soft drinks, then allowing the machines would not harm the students' health in the way the argument assumes.

B Even if the amount of soft drinks the students currently drink were unhealthy, enabling the students to drink more could make them even less healthy.

C Even if drinking small amounts of soft drinks occasionally would not harm the students, vending machines in the cafeteria could lead the students to drink excessive amounts.

D Even if students who cannot buy soft drinks in the cafeteria sometimes bring them from home instead, adding vending machines in the cafeteria could increase the students' overall soft drink consumption.

E A concern does not have to be the primary one in order to be valid and important. It could be held that promoting students' good health should not be the schools' primary concern but should still be a more important concern than the financial benefits from the vending machines.

The correct answer is A.

38. Which of the following most logically completes the argument?

Sviatovin is a medieval Moringian text whose author and exact date of composition are unknown. However, the events in the life of Prince Sviatov that the text describes occurred in 1165, and in the diagram of Sviatov's family that accompanies the text his father, who died in 1167, is identified as still living. Thus *Sviatovin* must have been written between 1165 and 1167, assuming that _____.

(A) the life of Prince Sviatov is not the subject of any other medieval Moringian texts

(B) the author of *Sviatovin* intended it to provide as accurate a report about Prince Sviatov's exploits as possible

(C) the diagram accurately represents the composition of Sviatov's family at the time *Sviatovin* was written

(D) *Sviatovin* is the earliest Moringian text whose composition can be dated to within a few years

(E) *Sviatovin* was not written by Sviatov's father himself

Argument Construction

Situation	A medieval Moringian text was written about Prince Sviatov. It is not known exactly when the text was written, but the events described in it occurred in 1165 and a diagram in the text indicates that Sviatov's father—who died in 1167—was alive at the time it was composed.
Reasoning	<i>What completion of the blank would provide the best reason for believing the argument's conclusion?</i> The argument's conclusion is that the book <i>Sviatovin</i> was written between 1165 and 1167. The reasoning given is this: It could not have been written before 1165 because it includes events that took place in that year. It could not have been written after 1167 because Sviatov's father died in that year. A diagram in the book suggests he was alive when the book was written. Was the diagram correct in that suggestion? The argument depends on assuming that it was.

A The argument focuses on one text and its date of composition. The argument does not need to make any assumptions about other texts.

B The argument does not assume this. Issues about the accurate reporting of Sviatov's exploits (or about the author's intention to report them accurately) are irrelevant to the argument, which hinges on the accuracy of the diagram that accompanies the text. The diagram does not report Sviatov's exploits.

C Correct. The reasoning in the argument assumes that the diagram was correct in representing the Prince's father as still living when the text was composed. If his father was not living when the text was written, then the information that his father actually died in 1167 is no guarantee that the text was composed by then.

D See the explanation for answer choice (A) above. The degree of precision with which scholars have succeeded in dating other Moringian texts is entirely irrelevant.

E The conclusion concerns when *Sviatovin* was written and not by whom it was written. If, contrary to answer choice (E), it were known that the author was Sviatov's father, this would actually provide strong support for the argument's conclusion. Thus answer choice (E) does not provide a good reason for the argument's conclusion.

The correct answer is C.

39. A study of ticket sales at a summer theater festival found that people who bought tickets to individual plays had a no-show rate of less than 1 percent, while those who paid in advance for all ten plays being performed that summer had a no-show rate of nearly 30 percent. This may be at least in part because the greater the awareness customers retain about the cost of an item, the more likely they are to use it.

Which of the following would, if true, best serve as an alternative explanation of the results of the study?

(A) The price per ticket was slightly cheaper for those who bought all ten tickets in advance.

(B) Many people who attended the theater festival believed strongly that they should support it financially.

(C) Those who attended all ten plays became eligible for a partial refund.

(D) Usually, people who bought tickets to individual plays did so immediately prior to each performance that they attended.

(E) People who arrived just before the performance began could not be assured of obtaining seats in a preferred location.

Argument Construction

Situation	People who bought tickets to individual plays at a theater festival had a much lower no-show rate than did people who paid in advance for all ten plays.
Reasoning	<i>What factor other than greater awareness of the ticket costs could explain why people who bought tickets individually were more likely to attend the plays?</i> The passage suggests that people who bought tickets individually were more likely to attend the plays because they were more vividly aware of what they had paid for each ticket. But there are other possible explanations—perhaps the people who bought the tickets individually were more eager to attend each play for its own sake, or had other characteristics or incentives that made them more likely to attend the plays.

A A slight price difference would not plausibly explain why the no-show rate was thirty times greater among those who bought all the tickets in advance than among those who bought them individually.

B This could be true of many people who bought their tickets individually as well as many who bought them in advance.

C This would provide an added incentive for those who bought tickets in advance to attend all the plays.

D Correct. If people who bought individual tickets usually did so right before each performance, they would have much less time after buying the tickets to change their minds about whether to attend than would people who bought all the tickets in advance.

E If anything, this might present an additional difficulty for those who bought individual tickets without advance planning, so it would not help to explain the lower no-show rate among buyers of individual tickets.

The correction answer is D.

40. If the county continues to collect residential trash at current levels, landfills will soon be overflowing and parkland will need to be used in order to create more space. Charging each household a fee for each pound of trash it puts out for collection will induce residents to reduce the amount of trash they create; this charge will therefore protect the remaining county parkland.

Which of the following is an assumption made in drawing the conclusion above?

- (A) Residents will reduce the amount of trash they put out for collection by reducing the number of products they buy.
- (B) The collection fee will not significantly affect the purchasing power of most residents, even if their households do not reduce the amount of trash

they put out.

(C) The collection fee will not induce residents to dump their trash in the parklands illegally.

(D) The beauty of county parkland is an important issue for most of the county's residents.

(E) Landfills outside the county's borders could be used as dumping sites for the county's trash.

Argument Construction

Situation	Landfills will overflow and parkland will have to be used instead if current trash collection levels continue. Charging fees per pound of trash collected will inhibit trash growth and protect parkland.
Reasoning	<i>What assumption underlies the conclusion?</i> The assumption will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. To reach the conclusion that the plan will protect the parkland, the argument must assume that county residents will comply with the new fee, reducing both the trash they generate and the need to convert parkland to landfills. It is assumed that residents will not resort to some illegal means of avoiding the new fee, and it is certainly assumed that they will not contribute to the destruction of parklands by dumping trash in them illegally.

A Even though the fee may indirectly have this effect, the argument need not assume that it will; perhaps residents will continue to buy as much, but will make longer use of the product, or recycle it.

B The argument would be stronger if this were assumed NOT to be true.

C Correct. This statement properly identifies the fact that the argument rests on the assumption that the fee will not create illegal dumping.

D The argument need not assume this, and nothing in the argument indicates that it does. Financial incentives could be enough to make the desired outcome happen even if residents are indifferent to the parkland's beauty.

E The argument assumes that residents will reduce the amount of trash that they create, not that they will find other places to dispose of it.

The correct answer is C.

41. Although there is no record of poet Edmund Spenser's parentage, we do know that as a youth Spenser attended the Merchant Tailors' School in London for a period between 1560 and 1570. Records from this time indicate that the Merchant Tailors'

Guild then had only three members named Spenser: Robert Spenser, listed as a gentleman; Nicholas Spenser, elected the Guild's Warden in 1568; and John Spenser, listed as a "journeyman cloth-maker." Of these, the last was likely the least affluent of the three—and most likely Edmund's father, since school accounting records list Edmund as a scholar who attended the school at a reduced fee.

Which of the following is an assumption on which the argument depends?

- (A) Anybody in sixteenth century London who made clothing professionally would have had to be a member of the Merchant Tailors' Guild.
- (B) The fact that Edmund Spenser attended the Merchant Tailors' School did not necessarily mean that he planned to become a tailor.
- (C) No member of the Guild could become Guild warden in sixteenth century London unless he was a gentleman.
- (D) Most of those whose fathers were members of the Merchant Tailors' Guild were students at the Merchant Tailors' School.
- (E) The Merchant Tailors' School did not reduce its fees for the children of the more affluent Guild members.

Argument Construction

Situation	Records indicate that the poet Edmund Spenser attended the Merchant Tailors' School for a reduced fee as a youth. There is no record of his parentage, but at the time the Merchant Tailors' Guild had only three members named Spenser, of whom the least affluent was probably John Spenser.
Reasoning	<i>What must be true in order for the cited facts to support the conclusion that John Spenser was probably Edmund Spenser's father?</i> The implicit reasoning is that since Edmund Spenser attended the Merchant Tailors' School at a reduced fee, his father must have been poor. And since John Spenser was probably the poorest of the three men named Spenser in the Merchant Tailors' Guild, he was probably Edmund Spenser's father. This reasoning assumes that only the children of poor parents had reduced fees at the Merchant Tailors' School, that the children at the school generally had fathers in the Merchant Tailors' Guild, that children in that time and place generally shared their fathers' surnames, and that the two other Spensers in the Merchant Tailors' Guild were not poor enough for their children to qualify for reduced fees.

A John Spenser, as a tailor and member of the guild, could have been Edmund Spenser's father even if some other professional tailors did not belong to the guild and did not have children at the school.

B Although Edmund Spenser became a poet as an adult, he and all his classmates might have attended the school as children because they planned to become tailors.

C The argument assumes that a Guild's Warden probably would have been wealthier than a journeyman cloth-maker, but that might have been probable even if the Guild's Warden were not a "gentleman."

D Even if most children of fathers in the guild did not attend the school, all the children who did attend the school might have had fathers in the guild.

E Correct. If the school reduced its fees for children of wealthier guild members, then the fact that Edmund Spenser's fees were reduced would not provide evidence that his father was the poorest of the three Spensers in the guild, as the argument requires.

The correct answer is E.

42. Trancorp currently transports all its goods to Burland Island by truck. The only bridge over the channel separating Burland from the mainland is congested, and trucks typically spend hours in traffic. Trains can reach the channel more quickly than trucks, and freight cars can be transported to Burland by barges that typically cross the channel in an hour. Therefore, to reduce shipping time, Trancorp plans to switch to trains and barges to transport goods to Burland.

Which of the following would be most important to know in determining whether Trancorp's plan, if implemented, is likely to achieve its goal?

- (A) Whether transportation by train and barge would be substantially less expensive than transportation by truck
- (B) Whether there are boats that can make the trip between the mainland and Burland faster than barges can
- (C) Whether loading the freight cars onto barges is very time consuming
- (D) Whether the average number of vehicles traveling over the bridge into Burland has been relatively constant in recent years
- (E) Whether most trucks transporting goods into Burland return to the mainland empty

Evaluation of a Plan

Situation	Transporting goods to Burland Island by truck takes many hours, because the trucks must take the congested single bridge that reaches the island. Trains can get goods to the channel separating Burland from the mainland more quickly than trucks can, and the freight cars can then be loaded onto barges that can cross the

	channel in an hour. Trancorp plans to reduce shipping time by switching from trucks to trains and barges.
Reasoning	<i>What would it be most important to know in determining whether Trancorp will achieve its goal of reducing shipping time?</i> Trancorp's plan could fail to reduce shipping time if there were some aspect of the new shipping process, involving the trains and the barges, that took more time than anticipated.

A The goal of Trancorp's plan is to reduce shipping time. This might lower costs—but whether or not it does so is not directly relevant to whether or not the plan's goal is achieved.

B Trancorp's plan involves the use of barges. If some boats can make the trip between the mainland and Burland faster than barges can, that might be something to consider for the future, but it has nothing to do with whether the current plan will reduce shipping time.

C Correct. This statement properly identifies something that would be important in determining whether Trancorp's plan for reducing shipping time will achieve its goal—that is, whether loading the freight cars onto the barges will use up all the time saved by not using trucks.

D Regardless of variation in traffic, the bridge, according to the information provided in the passage, is congested and typically causes trucking delays. Given this information, the degree of variation is not helpful in evaluating Trancorp's plan.

E The state of the trucks returning to the mainland has nothing to do with whether Trancorp's plan for reducing shipping time will achieve its goal.

The correct answer is C.

43. Which of the following most logically completes the argument below?

NowNews, although still the most popular magazine covering cultural events in Kalopolis, has recently suffered a significant drop in advertising revenue because of falling circulation. Many readers have begun buying a competing magazine that, at 50 cents per copy, costs less than *NowNews* at \$1.50 per copy. In order to boost circulation and thus increase advertising revenue, *NowNews*'s publisher has proposed making it available at no charge, but this proposal has a serious drawback, since _____.

(A) Those Kalopolis residents with the greatest interest in cultural events are regular readers of both magazines.

(B) One reason *NowNews*'s circulation fell was that its competitor's reporting on cultural events was superior.

(C) The newsstands and stores that currently sell *NowNews* will no longer

carry it if it is being given away for free.

(D) At present, 10 percent of the total number of copies of each issue of *NowNews* are distributed free to students on college campuses in the Kalopolis area.

(E) *NowNews*'s competitor would begin to lose large amounts of money if it were forced to lower its cover price.

Argument Construction

Situation	<i>NowNews</i> is suffering declines in circulation and advertising revenue due to competition from a lower-priced magazine. The publisher proposes offering <i>NowNews</i> for free to reverse these declines.
Reasoning	<i>What would suggest that the publisher's proposal will fail to increase circulation and advertising revenue?</i> The proposal's intended effect is simply to increase advertising revenue by increasing circulation. Any evidence that offering the magazine for free will not result in more copies being circulated or will not attract advertisers would therefore be evidence of a drawback in the proposal. So a statement offering such evidence would logically complete the argument.

A The fact that certain highly motivated Kalopolis residents still read *NowNews* even at a cost of \$1.50 per issue leaves open the possibility that providing the magazine free might still boost readership.

B This suggests that improving its cultural reporting might help *NowNews* increase its circulation, not that the publisher's proposal will fail to do so.

C Correct. If the proposal leads newsstands and stores to stop carrying *NowNews*, circulation and advertising revenue would probably decline as a result.

D Even if 10 percent of the copies of *NowNews* are already distributed for free, distributing the remaining 90 percent for free could still increase circulation and advertising revenue as the publisher intends.

E Forcing a competing magazine to lower its cover price and lose lots of money would be an advantage rather than a drawback of the proposal, as far as the publisher of *NowNews* was concerned.

The correct answer is C.

44. Which of the following best completes the passage below?

The computer industry's estimate that it loses millions of dollars when users illegally copy programs without paying for them is greatly exaggerated. Most of the

illegal copying is done by people with no serious interest in the programs. Thus, the loss to the industry is quite small, because _____.

- (A) many users who illegally copy programs never find any use for them
- (B) most people who illegally copy programs would not purchase them even if purchasing them were the only way to obtain them
- (C) even if the computer industry received all the revenue it claims to be losing, it would still be experiencing financial difficulties
- (D) the total market value of all illegal copies is low in comparison to the total revenue of the computer industry
- (E) the number of programs that are frequently copied illegally is low in comparison to the number of programs available for sale

Argument Construction

Situation	The computer industry's estimate of its losses due to illegally copied programs is exaggerated—and actually quite small—because most of the illegal copying is done by people who are not greatly interested in the programs.
Reasoning	<i>Why would the loss to the industry be said to be small?</i> The industry's loss due to illegal copying of programs must be evaluated in terms of the sales lost; the actual loss to the industry is directly related to the legitimate sales opportunities that have been lost. Would the people illegally copying the programs buy them if they could not otherwise obtain them? If it were true that most of them have <i>no serious interest in the programs</i> , they would be unlikely to purchase them. In this case, few sales would be lost and the loss to the industry could be considered small.

A What users do (or do not do) with programs once they have them does not help to show that the loss to the industry is small.

B Correct. This information provides a reason supporting the claim that the industry has not lost potential sales.

C The greater financial difficulties of the industry do not help to show that the loss incurred because of the illegally copied programs is small.

D This comparison is faulty: The loss is not being considered in the context of total industry revenues but in the context of total sales of programs.

E This information does not provide a good reason for the claim that the loss to the industry is small. Even if the number of programs frequently copied is low, the number of copies made from each program might be huge (for the most popular programs).

The correct answer is B.

45. In the last decade there has been a significant decrease in coffee consumption. During this same time, there has been increasing publicity about the adverse long-term effects on health of the caffeine in coffee. Therefore, the decrease in coffee consumption must have been caused by consumers' awareness of the harmful effects of caffeine.

Which of the following, if true, most seriously calls into question the explanation above?

- (A) On average, people consume 30 percent less coffee today than they did 10 years ago.
- (B) Heavy coffee drinkers may have mild withdrawal symptoms, such as headaches, for a day or so after significantly decreasing their coffee consumption.
- (C) Sales of specialty types of coffee have held steady as sales of regular brands have declined.
- (D) The consumption of fruit juices and caffeine-free herbal teas has increased over the past decade.
- (E) Coffee prices increased steadily in the past decade because of unusually severe frosts in coffee-growing nations.

Argument Evaluation

Situation	The decrease in coffee consumption in the last decade can be explained by consumers' increased awareness of the detrimental effects of the caffeine in coffee.
Reasoning	<i>What point weakens this explanation?</i> A conclusion offering an explanation for some occurrence may be weakened when another explanation at least as compelling as the original is offered. Coffee consumption may have decreased over the decade for some reason other than consumers' awareness of the adverse health effects of caffeine. If the price of coffee has increased in the same period that consumption has decreased, then the decrease may well be the result of consumers' attention to price rather than their attention to health. Higher prices would offer a good alternative explanation that would weaken the original explanation.

A This point merely tells us how much coffee consumption has decreased; it does not make the explanation offered in the conclusion any less likely to be correct.

B Withdrawal symptoms would occur only after decreased consumption has occurred and so cannot explain why the decrease occurred.

C Suppose that the specialty coffees that had their sales hold steady were all caffeine-free coffees; note that nothing rules this out. If this were the case, the explanation would remain plausible.

D An increase in the consumption of these drinks could plausibly be the result of some coffee drinkers switching to these drinks to avoid the negative effects of caffeine.

E Correct. This statement properly identifies a plausible alternative explanation and therefore undermines the given explanation.

The correct answer is E.

46. Which of the following best completes the passage below?

When the products of several competing suppliers are perceived by consumers to be essentially the same, classical economics predicts that price competition will reduce prices to the same minimal levels and all suppliers' profits to the same minimal levels. Therefore, if classical economics is true, and given suppliers' desire to make as much profit as possible, it should be expected that _____.

(A) in a crowded market widely differing prices will be charged for products that are essentially the same as each other

(B) as a market becomes less crowded as suppliers leave, the profits of the remaining suppliers will tend to decrease

(C) each supplier in a crowded market will try to convince consumers that its product differs significantly from its competitors' products.

(D) when consumers are unable to distinguish the products in a crowded market, consumers will judge that the higher-priced products are of higher quality

(E) suppliers in crowded markets will have more incentive to reduce prices and thus increase sales than to introduce innovations that would distinguish their product from their competitors' products

Argument Construction

Situation	Classical economics holds that prices and profits are minimal when consumers perceive the products of competing suppliers to be the same.
Reasoning	<i>According to classical economics, what strategy are suppliers most likely to use to maximize profits in such a situation?</i> The given information states that the force driving prices and profits down in this case is the consumers' perception that the competing products are <i>essentially</i> the same. It is reasonable to assume that, with prices already at <i>minimal levels</i> , it is not possible to lower them any more. What can be done? The suppliers' most likely strategy

would then be to change the consumers' perception of their products. It can be expected that an individual supplier would try to convince consumers that its product greatly differs from (and is certainly preferable to) the products of its competitors.

A According to classical economics, *prices* will be reduced by competition *to the same minimal levels* as long as the products *are perceived by consumers to be essentially the same*, and nothing indicates that they will not be; therefore there is no reason to believe that prices will differ widely.

B The passage discusses the conditions of a crowded market, not a market that is becoming less crowded.

C Correct. This statement properly suggests that the most likely strategy for any one supplier in a crowded market is convincing consumers that its product is very different from those of its competitors.

D According to classical economics, *prices* will be reduced *to the same minimal levels* when consumers are unable to distinguish among the products; therefore none of the products will be priced higher than any others.

E The passage gives no indication of what classical economics says about the attractiveness to suppliers of reducing prices versus introducing innovations.

The correct answer is C.

47. Installing scrubbers in smokestacks and switching to cleaner-burning fuel are the two methods available to Northern Power for reducing harmful emissions from its plants. Scrubbers will reduce harmful emissions more than cleaner-burning fuels will. Therefore, by installing scrubbers, Northern Power will be doing the most that can be done to reduce harmful emissions from its plants.

Which of the following is an assumption on which the argument depends?

- (A) Switching to cleaner-burning fuel will not be more expensive than installing scrubbers.
- (B) Northern Power can choose from among various kinds of scrubbers, some of which are more effective than others.
- (C) Northern Power is not necessarily committed to reducing harmful emissions from its plants.
- (D) Harmful emissions from Northern Power's plants cannot be reduced more by using both methods together than by the installation of scrubbers alone.
- (E) Aside from harmful emissions from the smokestacks of its plants, the

activities of Northern Power do not cause significant air pollution.

Argument Construction

Situation	A power plant can reduce emissions by installing scrubbers and also by switching to cleaner-burning fuel; installing scrubbers reduces emissions more than switching fuels. By installing scrubbers, the company is doing the most that it can do.
Reasoning	<i>What assumption does the argument depend on?</i> The assumption will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. Here, the conclusion that the company is doing the most that it can do is based on believing that choosing one or the other of the two options will be more effective than choosing both options together. This argument assumes, then, that installing the scrubbers alone is just as effective as both installing scrubbers <i>and</i> switching to cleaner-burning fuel.

A The relative costs of the two options indicate nothing about whether by installing scrubbers the company will have done the most that it can to reduce harmful emissions.

B Even if the company installs the most efficient scrubbers, it may be that there is more that Northern Power could do to reduce harmful emissions.

C Even if the company is fully committed to reducing harmful emissions, it could be that installing scrubbers is the most it can do to reduce harmful emissions.

D Correct. If harmful emissions could be reduced even more by using both methods, then installing scrubbers alone will not be the most that the company can do to reduce harmful emissions.

E Even if this were not assumed and the company's other activities did cause significant air pollution, it could still be that installing scrubbers is the most that the company can do to reduce harmful emissions *from its plants*; perhaps any of its other activities that do cause significant air pollution have nothing to do with its plants—for example, pollution coming from trucks the company uses.

The correct answer is D.

48. Archaeologist: Researchers excavating a burial site in Cyprus found a feline skeleton lying near a human skeleton. Both skeletons were in the same sediment at the same depth and equally well-preserved, suggesting that the feline and human were buried together about 9,500 years ago. This shows that felines were domesticated around the time farming began, when they would have been useful in protecting stores of grain from mice.

Which of the following, if true, would most seriously weaken the archaeologist's argument?

- (A) Archaeologists have not found any remains of stores of grain in the immediate vicinity of the burial site.
- (B) The burial site in Cyprus is substantially older than any other known burial site in which a feline skeleton and a human skeleton appear to have been buried together.
- (C) Paintings found near the burial site seem to show people keeping felines as domestic companions, but do not show felines hunting mice.
- (D) In Cyprus, there are many burial sites dating from around 9,500 years ago in which the remains of wild animals appear to have been buried alongside human remains.
- (E) Before felines were domesticated, early farmers had no effective way to protect stores of grain from mice.

Argument Evaluation

Situation	A human skeleton and a feline skeleton were apparently buried together in Cyprus about 9,500 years ago.
Reasoning	<i>What would most strongly suggest that the skeletons do not show that felines were domesticated around the time farming began?</i> The argument implicitly assumes that farming in Cyprus began around 9,500 years ago, so evidence against that assumption would weaken the argument. The argument could also be weakened by evidence that felines were domesticated much earlier, that the feline skeleton was not from a domesticated cat, or that the two skeletons were not actually buried together around 9,500 years ago.

A Even if archaeologists searched for evidence of a grain store, the fact that no such evidence was found near the burial site is at best only weak evidence that no grain store existed there or slightly farther away.

B The lack of corroborating evidence from other burial sites would weaken the argument slightly but would still be compatible with the hypothesis that this site revealed one of the very first burials of a domesticated cat.

C This would cast doubt on the hypothesis that cats were domesticated mainly to protect stores of grain, but not on the argument's conclusion that cats were domesticated around the time farming began.

D Correct. If many wild animals were buried alongside humans in Cyprus around 9,500 years ago, then the feline skeleton is just as likely to be that of a wild animal than that of a domesticated cat.

E Since this would provide an additional reason why early farmers might have domesticated the local cats, it would strengthen rather than weaken the argument.

The correct answer is D.

49. Economist: The most economically efficient way to reduce emissions of air pollutants is to tax them in proportion to the damage they are likely to cause. But in Country Y, many serious pollutants are untaxed and unregulated, and policy makers strongly oppose new taxes. Therefore, the best way to achieve a reduction in air pollutant emissions in Country Y would be to institute fixed upper limits on them.

Which of the following is an assumption of the economist's argument?

- (A) Policy makers in Country Y oppose all new taxes equally strongly, regardless of any benefits they may provide.
- (B) Country Y's air pollutant emissions would not fall significantly if they were taxed in proportion to the damage they are likely to cause.
- (C) Policy makers in Country Y strongly favor reductions in air pollutant emissions.
- (D) Country Y's policy makers believe that air pollutant emissions should be reduced with maximum economic efficiency.
- (E) Policy makers in Country Y do not oppose setting fixed upper limits on air pollutant emissions as strongly as they oppose new taxes.

Argument Construction

Situation	Although taxing air pollution emissions in proportion to the damage they cause is the most economically efficient way to reduce those emissions, many serious pollutants in Nation Y are untaxed and unregulated, and the nation's policymakers strongly oppose new taxes. Therefore, fixed upper limits on such emissions would more effectively reach this goal.
Reasoning	<i>What must be true in order for the factors the economist cites to support the claim that fixing upper limits on air pollutant emissions in Nation Y would be the best way to reduce those emissions?</i> Political opposition to taxation in Nation Y is the only factor the economist cites to support the argument's conclusion that it would be best to institute fixed upper limits on air pollutants. In order for the premise to support the conclusion, there must be less political opposition in Nation Y to instituting such limits than there would be to the proportional taxation approach the economist prefers.

A Even if the policymakers oppose some new taxes less than others, they could still oppose the proportional taxation approach strongly enough for it to be utterly infeasible.

B Even if the proportional taxation scheme would significantly reduce emissions, it still might not be the best approach for Nation Y if it would generate too much political opposition to be viable there.

C Even if policymakers in Nation Y do not strongly favor reducing emissions, fixing upper limits on emissions might still be a better and more politically feasible way to reduce emissions than any alternative is.

D Since fixing upper emissions limits would be no more economically efficient than the proportional taxation scheme, the policymakers' support for economic efficiency would not make the former approach any more politically feasible than the latter.

E Correct. If the policymakers opposed fixing upper emissions limits as strongly as they oppose new taxes, then their opposition to new taxes would no longer support the conclusion that fixing the emissions limits is a better way to reduce emissions.

The correct answer is E.

50. Some anthropologists study modern-day societies of foragers in an effort to learn about our ancient ancestors who were also foragers. A flaw in this strategy is that forager societies are extremely varied. Indeed, any forager society with which anthropologists are familiar has had considerable contact with modern, non-forager societies.

Which of the following, if true, would most weaken the criticism made above of the anthropologists' strategy?

- (A) All forager societies throughout history have had a number of important features in common that are absent from other types of societies.
- (B) Most ancient forager societies either dissolved or made a transition to another way of life.
- (C) All anthropologists study one kind or another of modern-day society.
- (D) Many anthropologists who study modern-day forager societies do not draw inferences about ancient societies on the basis of their studies.
- (E) Even those modern-day forager societies that have not had significant contact with modern societies are importantly different from ancient forager societies.

Argument Evaluation

Situation	Studying contemporary foraging societies in order to understand

	ancient foragers is flawed because forager societies are so widely varied and also because the contemporary foragers have had so much contact with modern societies.
Reasoning	<i>Which point weakens this argument?</i> The argument rejects the comparison of modern-day foraging societies to ancient ones because of the variety of existing forager societies and because the modern-day foragers have been in contact with other modern cultures. What situation would support making this comparison? What if modern-day foragers remain similar to ancient foragers because of nonchanging features of foraging societies throughout history? If these are features that are not shared with other cultures, then the argument that anthropologists cannot learn about ancient foragers by studying their modern counterparts is weakened.

A Correct. This statement properly identifies the factor that weakens the argument: A comparison could well be a valuable source of understanding if all foraging societies are shown to share certain features not found in other societies.

B This point slightly strengthens, rather than weakens, the argument.

C This point does not address the issue of comparing a modern society to an ancient society.

D The reason for this could be that these anthropologists know that such a comparison is not useful; thus this point does not weaken the argument.

E This point strengthens, rather than weakens, the argument.

The correct answer is A.

51. Contrary to earlier predictions, demand for sugarcane has not increased in recent years. Yet, even though prices and production amounts have also been stable during the last three years, sugarcane growers last year increased their profits by more than 10 percent over the previous year's level.

Any of the following statements, if true about last year, helps to explain the rise in profits EXCEPT:

(A) Many countries that are large consumers of sugarcane increased their production of sugarcane-based ethanol, yet their overall consumption of sugarcane decreased.

(B) Sugarcane growers have saved money on wages by switching from paying laborers an hourly wage to paying them by the amount harvested.

(C) The price of oil, the major energy source used by sugarcane growers in harvesting their crops, dropped by over 20 percent.

(D) Many small sugarcane growers joined together to form an association of sugarcane producers and began to buy supplies at low group rates.

(E) Rainfall in sugarcane-growing regions was higher than it had been during the previous year, allowing the growers to save money on expensive artificial irrigation.

Argument Construction

Situation	Even though demand for sugar cane has not increased, and although prices and production amounts have been stable, sugarcane growers experienced a 10 percent rise in profits last year.
Reasoning	<i>Which piece of information does NOT help to explain the rise in profits?</i> All the answer choices will show a reason that profits rose except one. Consider each one to determine which situation would NOT be likely to contribute to increased profits. Any changes that lowered costs for the sugarcane growers WOULD be able to contribute to a rise in their profits. On the other hand, if it is true that many historically large consumers of sugarcane reduced their overall consumption last year, then the lower demand for sugarcane would be unlikely to drive increases in profits. Such a decrease in total consumption would be more likely to drive prices and profits down than up.

A Correct. This statement properly identifies a factor that does not explain a rise in profits; it indicates a drop in consumption among certain countries without indicating a corresponding increase in consumption elsewhere or any decreases in costs for growers.

B Saving money on wages would lower costs and thus contribute to a rise in profits.

C Saving money on oil would lower costs and thus contribute to a rise in profits.

D Saving money on supplies bought at a lower rate would lower costs and thus contribute to a rise in profits.

E Saving money on irrigation would lower costs and thus contribute to a rise in profits.

The correct answer is A.

52. Although computers can enhance people's ability to communicate, computer games are a cause of underdeveloped communication skills in children. After-school hours spent playing computer games are hours not spent talking with people. Therefore, children who spend all their spare time playing these games have less experience in interpersonal communication than other children have.

The argument depends on which of the following assumptions?

- (A) Passive activities such as watching television and listening to music do not hinder the development of communication skills in children.
- (B) Most children have other opportunities, in addition to after-school hours, in which they can choose whether to play computer games or to interact with other people.
- (C) Children who do not spend all of their after-school hours playing computer games spend at least some of that time talking with other people.
- (D) Formal instruction contributes little or nothing to children's acquisition of communication skills.
- (E) The mental skills developed through playing computer games do not contribute significantly to children's intellectual development.

Argument Construction

Situation	Spending after-school hours playing computer games does not enhance communication skills because children are not talking with other people during this time. Children who spend all their spare time playing computer games do not have as much interpersonal communication as other children do.
Reasoning	<i>What assumption does this argument depend on?</i> The unstated assumption in an argument will be a statement that has to be true in order for the argument's premises to provide a solid reason for believing its conclusion. Here, playing computer games is said to replace talking with people. Thus the argument assumes that children who do not spend all their spare time playing computer games instead spend at least some of that time talking with people.

A This need not be assumed. The argument is not committed to any claim about the effects that watching television or listening to music may have on the development of communication skills in children.

B The argument is limited to after-school hours or spare time.

C Correct. This statement properly identifies the assumption on which the argument is based.

D This could be false and the argument could still be sound; perhaps children who spend all their spare time playing computer games receive no formal instruction.

E This could be false and the argument could still be sound as long as the intellectual development the games contribute to does not contribute to the development of communication skills.

The correct answer is C.

53. Humans get Lyme disease from infected ticks. Ticks get infected by feeding on animals with Lyme disease, but the ease of transmission from host animal to tick varies. With most species of host animal, transmission of Lyme disease to ticks is extremely rare, but white-footed mice are an exception, readily passing Lyme disease to ticks. And white-footed mouse populations greatly expand, becoming the main food source for ticks, in areas where biodiversity is in decline.

The information in the passage most strongly supports which of the following?

- (A) In areas where many humans are infected with Lyme disease, the proportion of ticks infected with Lyme disease is especially high.
- (B) Very few animals that live in areas where there are no white-footed mice are infected with Lyme disease.
- (C) Humans are less at risk of contracting Lyme disease in areas where biodiversity is high.
- (D) Ticks feed on white-footed mice only when other host species are not available to them.
- (E) The greater the biodiversity of an area, the more likely any given host animal in that area is to pass Lyme disease to ticks.

Argument Construction

Situation	White-footed mice readily pass Lyme disease to ticks, which pass it to humans. White-footed mouse populations expand where biodiversity is declining.
Reasoning	<i>What conclusion do the stated facts support?</i> Since declining biodiversity causes white-footed mouse populations to increase, and white-footed mice are especially likely to pass Lyme disease to ticks, and ticks pass it to humans, declining biodiversity could reasonably be expected to increase the incidence of Lyme disease in both ticks and humans.

A In areas where many humans are infected with Lyme disease, the total number of ticks may be unusually high, so even if the number of infected ticks is unusually high, the proportion of infected ticks may not be unusually high

B Most animals with Lyme disease may get it from sources other than ticks that have fed on infected mice.

C Correct. If biodiversity is high, then any biodiversity decline that has already begun has likely not yet reached a point where white-footed mouse populations have greatly expanded, so the risk of people contracting Lyme

disease is still relatively less than in areas where biodiversity is low and where significant decline in biodiversity has likely already occurred.

D Even if ticks feed on white-footed mice when few other species are available for them to feed on, they may also sometimes feed on white-footed mice when there are many other species for them to feed on.

E The passage suggests that the overall incidence of Lyme disease is probably lower in more biodiverse areas, so any given host animal in those areas would probably be less likely to pass Lyme disease to a tick.

The correct answer is C.

54. Which of the following most logically completes the argument below?

Davison River farmers are currently deciding between planting winter wheat this fall or spring wheat next spring. Winter wheat and spring wheat are usually about equally profitable. Because of new government restrictions on the use of Davison River water for irrigation, per acre yields for winter wheat, though not for spring wheat, would be much lower than average. Therefore, planting spring wheat will be more profitable than planting winter wheat, since _____.

(A) the smaller-than-average size of a winter wheat harvest this year would not be compensated for by higher winter wheat prices

(B) new crops of spring wheat must be planted earlier than the time at which standing crops of winter wheat are ready to be harvested

(C) the spring wheat that farmers in the Davison River region plant is well adapted to the soil of the region

(D) spring wheat has uses that are different from those of winter wheat

(E) planting spring wheat is more profitable than planting certain other crops, such as rye

Argument Construction

Situation	Farmers in the Davison River region must choose between planting winter wheat in the fall and planting spring wheat next spring. The crops tend to be equally profitable. This year's winter wheat crop yield is likely to be lower than average. The spring wheat yield should not be lower than average. Thus, for these reasons (plus one that the argument omits), spring wheat will be more profitable than winter wheat.
Reasoning	<i>Which point would logically complete the argument?</i> What would ensure spring wheat's profitability over winter wheat? Since the yield per acre of winter wheat is likely to be lower than usual, there will most likely be less winter wheat to sell. Winter wheat could match its usual profitability if the price farmers receive for it were

to rise. If its price does not rise, however, it is unlikely to match its usual profitability. It would thus be unlikely to match spring wheat's profitability.

A Correct. If this is true, it would mean that smaller-than-average winter wheat yields would translate into lower-than-usual profits on winter wheat (while spring wheat would be as profitable as winter wheat would normally be). This would justify the conclusion that spring wheat will be more profitable than winter wheat.

B This provides support for the idea that farmers must choose between planting winter wheat and planting spring wheat, but it does not help determine which would be more profitable to plant.

C This does not help explain why spring wheat is likely to be more profitable than winter wheat, because it gives no information about how well winter wheat is adapted to the soil of the region.

D That spring wheat and winter wheat have different uses is not helpful in supporting a conclusion about which kind of wheat will be more profitable. It might help to know which of their uses are more profitable than others.

E Since the question is whether it will be more profitable to plant winter wheat or to plant spring wheat, the fact that spring wheat is more profitable than nonwheat crops is not relevant.

The correct answer is A.

55. Advertisement: When your car's engine is running at its normal operating temperature, any major brand of motor oil will protect it about as well as Tuff does. When the engine is cold, it is a different story: Tuff motor oil flows better at lower temperatures than its major competitors do. So, if you want your car's engine to have maximum protection, you should use Tuff.

Which of the following, if true, most strengthens the argument in the advertisement?

- (A) Tuff motor oil provides above-average protection for engines that happen to overheat.
- (B) Tuff motor oil is periodically supplied free of charge to automobile manufacturers to use in factory-new cars.
- (C) Tuff motor oil's share of the engine oil market peaked three years ago.
- (D) Tuff motor oil, like any motor oil, is thicker and flows less freely at cold temperatures than at hot temperatures.
- (E) Tuff motor oil is manufactured at only one refinery and shipped from there to all markets.

Argument Evaluation

Situation	An advertisement argues that since Tuff motor oil flows better than its major competitors at low temperatures and works about as well as they do at normal temperatures, it provides <i>maximum protection</i> for car engines.
Reasoning	<i>What additional evidence would suggest that Tuff motor oil provides the best available protection for car engines?</i> The argument requires the assumptions that no type of motor oil other than the “major brands” provides superior protection, that flowing better at lower temperatures ensures superior protection at those temperatures, and that Tuff protects car engines at least as well as its competitors do at above-normal temperatures. Any evidence supporting any of these assumptions would strengthen the argument.

A Correct. If Tuff provides above-average protection when engines overheat, in addition to the solid protection it provides at normal and low temperatures, it may well provide the best available protection overall.

B The company that makes Tuff might give automobile manufacturers free motor oil as a promotional gimmick even if Tuff is an inferior product.

C Tuff’s sales might have declined over the past three years because consumers have realized that Tuff is an inferior product.

D The similar responses of Tuff and other motor oils to temperature changes do not suggest that Tuff provides better protection overall than those other motor oils do.

E Even if Tuff is manufactured at only one refinery, it may still be an inferior product.

The correct answer is A.

56. Certain genetically modified strains of maize produce a powerful natural insecticide. The insecticide occurs throughout the plant, including its pollen. Maize pollen is dispersed by the wind and frequently blows onto milkweed plants that grow near maize fields. Caterpillars of monarch butterflies feed exclusively on milkweed leaves. When these caterpillars are fed milkweed leaves dusted with pollen from modified maize plants, they die. Therefore, by using genetically modified maize, farmers put monarch butterflies at risk.

Which of the following would it be most useful to determine in order to evaluate the argument?

(A) Whether the natural insecticide is as effective against maize-eating insects as commercial insecticides typically used on maize are

(B) Whether the pollen of genetically modified maize contains as much insecticide as other parts of these plants

(C) Whether monarch butterfly caterpillars are actively feeding during the part of the growing season when maize is releasing pollen

(D) Whether insects that feed on genetically modified maize plants are likely to be killed by insecticide from the plant's pollen

(E) Whether any maize-eating insects compete with monarch caterpillars for the leaves of milkweed plants growing near maize fields

Argument Evaluation

Situation	Monarch butterfly caterpillars die when fed milkweed leaves dusted with the pollen of certain genetically modified strains of maize. A natural insecticide occurs throughout the maize plant and in its pollen, which blows onto milkweed growing near maize fields. Caterpillars of monarch butterflies eat only milkweed leaves, so farmers who use this genetically modified maize are endangering monarch butterflies.
Reasoning	<i>What would it be most useful to know in evaluating the argument?</i> We know that the caterpillars eat only milkweed leaves, but we do not know when, in the course of their development, they do so. Monarch butterflies would be at risk only if the caterpillars were to eat the milkweed leaves when those leaves had maize pollen on them. So it would be useful to know if the caterpillars eat milkweed leaves when maize pollen is likely to be present.

A The argument addresses whether farmers put monarch butterflies at risk by using genetically modified maize. The effectiveness of the natural insecticide that maize produces, relative to other insecticides, is not relevant to determining whether monarch butterflies are being endangered.

B The amount of insecticide in the rest of the plant, as opposed to in its pollen, has nothing to do with whether the use of the maize puts monarch butterflies at risk. All that matters is the amount of insecticide in the pollen, and we know that this is sufficient to kill the caterpillars.

C Correct. This question properly identifies something that it would be useful to know in evaluating whether monarch butterflies are actually at risk—that is, whether caterpillars will be eating milkweed leaves when those leaves are likely to have pollen on them.

D Since the issue at hand is whether farmers are endangering monarch butterflies, the question of the maize pollen's impact on other insects—that is, those that feed on maize—is irrelevant.

E Competition from maize-eating insects attracted to the area by the planting of maize might affect the monarch butterfly population, but simply knowing that such insects might compete with the caterpillars for milkweed leaves does not give any information on whether they would be able to compete successfully for those leaves.

The correct answer is C.

57. *The Testament of William Thorpe* was published around 1530 as an appendix to Thorpe’s longer *Examination*. Many scholars, however, doubt the attribution of the *Testament* to Thorpe because, whereas the *Examination* is dated 1406, the *Testament* is dated 1460. One scholar has recently argued that the 1460 date be amended to 1409, based on the observation that when these numbers are expressed as Roman numerals, MCCCCLX and MCCCCIX, it becomes easy to see how the dates might have become confused through scribal error.

Which of the following, if true, would most support the scholar’s hypothesis concerning the date of the *Testament*?

- (A) The sole evidence that historians have had that William Thorpe died no earlier than 1460 was the presumed date of publication of the *Testament*.
- (B) In the preface to the 1530 publication, the editor attributes both works to William Thorpe.
- (C) Few writers in fifteenth-century England marked dates in their works using only Roman numerals.
- (D) The *Testament* alludes to a date, “Friday, September 20,” as apparently contemporaneous with the writing of the *Testament*, and September 20 fell on a Friday in 1409 but not in 1460.
- (E) The *Testament* contains few references to historical events that occurred later than 1406.

Argument Construction

Situation	<i>The Testament of William Thorpe</i> , dated 1460, was published around 1530 as an appendix to Thorpe’s <i>Examination</i> , dated 1406. But when expressed in Roman numerals, 1460 could easily be confused with 1409.
Reasoning	<i>Given the facts cited, what would provide additional evidence that Thorpe’s Testament dates from 1409 rather than 1460?</i> The scholar’s hypothesis that the work dates from 1409 is based on the observation that in Roman numerals, 1409 might easily have been improperly transcribed as 1460. This hypothesis could be supported by evidence that the manuscripts were dated in Roman numerals, or by any independent evidence that 1409 is a more likely date for

A This suggests that scholars have no biographical evidence that the *Testament* was published in 1460, but they could still have abundant evidence of other types to support that date, such as the text's cultural allusions or references to other works.

B The editor of the 1530 publication could easily have been mistaken about the authorship of one or both works. And even if the editor were correct, Thorpe might have lived long enough to write one work in 1406 and the other in 1460.

C This would cast doubt on the scholar's argument by providing evidence that the original manuscripts were not dated only in Roman numerals.

D Correct. This provides strong evidence directly supporting the hypothesis that the *Testament* dates from 1409 specifically.

E Even if the *Testament* contained only one reference to a historical event that occurred later than 1406 (for example, one event in 1459), that reference alone could provide strong evidence that the work dates from 1460 rather than 1409.

The correct answer is D.

58. To reduce productivity losses from employees calling in sick, Corporation X implemented a new policy requiring employees to come into work unless they were so sick that they had to go to a doctor. But a year after the policy was implemented, a study found that Corporation X's overall productivity losses due to reported employee illnesses had increased.

Which of the following, if true, would best explain why the policy produced the reverse of its intended effect?

(A) After the policy was implemented, employees more frequently went to the doctor when they felt sick.

(B) Before the policy was implemented, employees who were not sick at all often called in sick.

(C) Employees coming into work when sick often infect many of their coworkers.

(D) Unusually few employees became genuinely sick during the year after the policy was implemented.

(E) There are many other factors besides employee illness that can adversely affect productivity.

Evaluation of a Plan

Situation	After a company started requiring employees to come to work unless they were sick enough to have to go to a doctor, the company's productivity losses from reported employee illness increased.
Reasoning	<i>What would explain why the policy increased productivity losses from reported employee illness?</i> Any factors that could have plausibly caused the policy to increase employee absenteeism from reported illness or to reduce the employees' productivity at work as a result of reported illness could explain why the policy increased productivity losses from reported illness.

A Even though the policy required sick employees to consult a doctor, there is no reason to think that employees' doing so would have made them less productive than they would otherwise have been when absent from work.

B This suggests that the policy made it more difficult for employees to falsely claim illness as an excuse for a work absence. Reduction in absences should result in productivity gains rather than losses.

C Correct. This could have been a result of the policy and would have led to productivity losses possibly greater than those seen before the policy was introduced.

D This would help to explain lower productivity losses from reported illness after the policy was implemented, not higher productivity losses.

E The question is what could explain how the policy increased productivity losses from reported employee illness specifically, not productivity losses from any other factors.

The correct answer is C.

59. Rye sown in the fall and plowed into the soil in early spring leaves a residue that is highly effective at controlling broad-leaved weeds, but unfortunately for only about forty-five days. No major agricultural crop matures from seed in as little as forty-five days. Synthetic herbicides, on the other hand, although not any longer-lasting, can be reapplied as the crop grows. Clearly, therefore, for major agricultural crops, plowing rye into the soil can play no part in effective weed control.

The argument is most vulnerable to the objection that it fails to

- (A) consider that there might be minor, quick-growing crops that do mature in forty-five days or less
- (B) identify any alternative method of weed control that could be used instead of the method it rejects
- (C) distinguish among the various kinds of synthetic herbicides
- (D) allow for the possibility of combining the two weed-control methods it

mentions

(E) allow for the possibility that plants other than rye, handled the same way, might have the same effect

Argument Evaluation

Situation	Broad-leaved weeds can be controlled in the spring for forty-five days by plowing falls own rye into the soil. But major agricultural crops take more than forty-five days to mature, and the rye-sowing process cannot be repeated. Synthetic herbicides last no longer than forty-five days, but they can be reapplied as necessary. Based on these facts, it is concluded that plowing rye into the soil cannot be part of effective weed control for major crops.
Reasoning	<i>To what objection is the argument vulnerable?</i> Note that the conclusion of the argument is emphatic: Plowing rye into the soil can play <i>no</i> part in effective weed control. Does the argument support this strong a conclusion? The argument fails to address whether it would be feasible to use plowed-in rye to control weeds for the first forty-five days of crop growth, and use applications of herbicide for the rest of the growing season. This might not be the case, but it should be addressed before it is concluded that plowing rye into the soil <i>cannot</i> be part of effective weed control.

A The argument is concerned with whether plowing rye into the soil can be used in weed control for major crops, so the existence of minor crops for which rye could be used, because its weed controlling qualities would last throughout their maturation, is irrelevant.

B The argument *does* identify a method of weed control that can be used instead of rye: synthetic herbicides.

C That there are many types of synthetic herbicides is not important to the argument; what is important is that at least some of them can be reapplied as crops grow.

D Correct. This statement properly identifies a possibility that the argument fails to consider.

E The argument is concerned with whether rye can be used to control weeds. That there might be other plants that could have the same effect is not relevant.

The correct answer is D.

60. Advertising by mail has become much less effective, with fewer consumers responding. Because consumers are increasingly overwhelmed by the sheer amount of junk mail they receive, most discard almost all offers without

considering them. Thus, an effective way for corporations to improve response rates would be to more carefully target the individuals to whom they mail advertising, thereby cutting down on the amount of junk mail each consumer receives.

Which of the following, if true, would most support this recommendation?

- (A) There are cost-effective means by which corporations that currently advertise by mail could improve response rates.
- (B) Many successful corporations are already carefully targeting the individuals to whom they mail advertising.
- (C) Any consumer who, immediately after receiving an advertisement by mail, merely glances at it is very likely to discard it.
- (D) Improvements in the quality of the advertising materials used in mail that is carefully targeted to individuals can improve the response rate for such mail.
- (E) Response rates to carefully targeted advertisements by mail are considerably higher, on average, than response rates to most other forms of advertising.

Evaluation of a Plan

Situation	Advertising by mail has become less effective because consumers overwhelmed with the amount of junk mail they receive discard almost all of it without considering it.
Reasoning	<i>What would most help to support the claim that making mail advertising more carefully targeted would improve response rates?</i> The passage recommends targeted advertising, reasoning that since targeted advertising would reduce the total amount of junk mail consumers receive, it would generate higher response rates. Any additional evidence for the claim that carefully targeted advertising would improve response rates would support this recommendation.

A Even if targeted advertising and every other means of improving response rates were too expensive to be cost-effective, targeted advertising could still be effective for any corporation willing to pay the expense.

B If many corporations already mail targeted advertising, and mail advertising is nonetheless yielding declining response rates, that suggests that targeted mail is an ineffective way to increase response rates.

C This could be equally true for targeted and untargeted mail advertising, so it does not suggest that the former is more effective.

D The question under consideration is whether more carefully targeted mail advertising would in itself increase response rates, not whether higher quality advertising would do so.

E Correct. This provides some evidence that carefully targeted mail advertising is associated with higher response rates than untargeted mail advertising is, and therefore that targeting mail advertising more carefully would improve response rates.

The correct answer is E.

61. One variety of partially biodegradable plastic beverage container is manufactured from small bits of plastic bound together by a degradable bonding agent such as cornstarch. Since only the bonding agent degrades, leaving the small bits of plastic, no less plastic refuse per container is produced when such containers are discarded than when comparable nonbiodegradable containers are discarded.

Which of the following, if true, most strengthens the argument above?

- (A) Both partially biodegradable and nonbiodegradable plastic beverage containers can be crushed completely flat by refuse compactors.
- (B) The partially biodegradable plastic beverage containers are made with more plastic than comparable nonbiodegradable ones in order to compensate for the weakening effect of the bonding agents.
- (C) Many consumers are ecology-minded and prefer to buy a product sold in the partially biodegradable plastic beverage containers rather than in nonbiodegradable containers, even if the price is higher.
- (D) The manufacturing process for the partially biodegradable plastic beverage containers results in less plastic waste than the manufacturing process for nonbiodegradable plastic beverage containers.
- (E) Technological problems with recycling currently prevent the reuse as food or beverage containers of the plastic from either type of plastic beverage container.

Argument Evaluation

Situation	One kind of partially biodegradable beverage container produces as much plastic refuse per container as a nonbiodegradable container does because only the bonding agent, not the plastic, degrades once the container is discarded.
Reasoning	<i>Which point strengthens the argument?</i> The information that strengthens the argument will help rule out a possible objection to the argument. In this case, one possible objection would be that the partially biodegradable containers might contain less plastic given that the container is made up in part of the degradable bonding

agent. So, discovering that the partially biodegradable containers actually use more plastic than comparable nonbiodegradable ones in order to compensate for the weakness of the biodegradable bonding agent would strengthen the argument.

A Nonbiodegradable plastic containers can be crushed completely flat. To say that biodegradable ones can be completely crushed also is perfectly compatible with saying that they contain less plastic.

B Correct. This statement properly identifies a point that strengthens the argument by saying that the container actually produces more plastic refuse.

C Consumers' preferences are not relevant to the argument about residual plastic.

D The argument is not concerned with waste from manufacturing processes, but only with the product itself.

E No reason is given to indicate that the inability to reuse the plastic from either type of container is related to the amount of plastic in either container.

The correct answer is B.

62. Most employees in the computer industry move from company to company, changing jobs several times in their careers. However, Summit Computers is known throughout the industry for retaining its employees. Summit credits its success in retaining employees to its informal, nonhierarchical work environment.

Which of the following, if true, most strongly supports Summit's explanation of its success in retaining employees?

- (A) Some people employed in the computer industry change jobs if they become bored with their current projects.
- (B) A hierarchical work environment hinders the cooperative exchange of ideas that computer industry employees consider necessary for their work.
- (C) Many of Summit's senior employees had previously worked at only one other computer company.
- (D) In a nonhierarchical work environment, people avoid behavior that might threaten group harmony and thus avoid discussing with their colleagues any dissatisfaction they might have with their jobs.
- (E) The cost of living near Summit is relatively low compared to areas in which some other computer companies are located.

Argument Evaluation

Situation	A computer company attributes its success in retaining employees

	to its informal, nonhierarchical work environment.
Reasoning	<i>Which point most supports the company's explanation?</i> The company says that employees stay at the company for one reason: its work environment. The explanation can therefore be supported only by a point that relates to the specific work environment. If employees feel that a more formal, hierarchical structure would interfere with their ability to do their jobs, the argument is strengthened.

A Neither this point nor the passage indicates that an informal, nonhierarchical work environment would be less boring than others.

B Correct. This statement properly identifies a point that strengthens the company's argument, relating the work environment to job satisfaction and therefore to employees' remaining at the company.

C The previous work experience of senior employees is irrelevant.

D While this point shows how the work environment might reduce discussion of job dissatisfaction, it does not indicate that there will be less dissatisfaction.

E This point presents an alternate explanation—employees stay due to low cost of living—and so tends to weaken the company's argument.

The correct answer is B.

63. Politician: Hybrid cars use significantly less fuel per kilometer than nonhybrids. And fuel produces air pollution, which contributes to a number of environmental problems. Motorists can save money by driving cars that are more fuel efficient, and they will be encouraged to drive hybrid cars if we make them aware of that fact. Therefore, we can help reduce the total amount of pollution emitted by cars in this country by highlighting this advantage of hybrid cars.

Which of the following, if true, would most indicate a vulnerability of the politician's argument?

- (A) People with more fuel-efficient cars typically drive more than do those with less fuel-efficient cars.
- (B) Not all air pollution originates from automobiles.
- (C) Hybrid cars have already begun to gain popularity.
- (D) Fuel-efficient alternatives to hybrid cars will likely become available in the future.
- (E) The future cost of gasoline and other fuel cannot be predicted with absolute precision or certainty.

Argument Evaluation

Situation	According to a politician, hybrid cars use less fuel per kilometer than nonhybrids, and fuel produces air pollution. Motorists can save money by driving fuel-efficient cars, and will be encouraged to do so if made aware of the fact. The politician concludes that highlighting this fact will result in a reduction in air pollution.
Reasoning	<i>What would suggest that telling motorists they can save money by driving fuel-efficient cars would not reduce automotive air pollution, despite the facts cited by the politician?</i> The politician's implicit reasoning is that since hybrid cars use less fuel per kilometer, and fuel produces air pollution, motorists who drive hybrid cars must produce less air pollution than those who drive nonhybrids. The politician concludes that encouraging motorists to drive hybrid cars by telling them they would save money on fuel will therefore reduce automotive air pollution. Evidence that motorists who drive hybrid cars produce just as much automotive air pollution as those who drive nonhybrids would undermine this argument.

A Correct. If drivers of hybrid cars tend to drive more kilometers than drivers of nonhybrids, then they may consume just as much fuel and produce just as much air pollution as the nonhybrid car drivers do, despite their lower fuel use per kilometer.

B The politician's argument is only about air pollution from cars specifically, not air pollution from all sources.

C Even if hybrid cars are beginning to gain popularity, informing motorists of the cost savings from fuel efficiency could help these cars become more popular than they would otherwise be.

D Encouraging motorists to switch to hybrid cars now could reduce fuel use and automotive air pollution in the near future even if other, more fuel-efficient vehicles will become available further in the future.

E Even if the future cost of fuel cannot be predicted accurately, encouraging motorists to switch to hybrid cars could reduce air pollution as the politician argues.

The correct answer is A.

64. Which of the following most logically completes the passage?

A recent government study links the high rates of respiratory ailments in Groverston to airborne pollutants released by the Woodco plywood manufacturing plant there. To address the problem, the government imposed strict regulations on emissions which will go into effect in four years. Although Woodco plans to cut its emissions in half two years ahead of schedule, it is unlikely that the rate of

- respiratory ailments will decline before the regulations go into effect, since _____.
- (A) the number of facilities capable of treating respiratory ailments is not likely to increase
 - (B) reducing emissions even further than planned would necessitate decreasing production at Woodco
 - (C) it is difficult to make accurate, long-term predictions about emissions
 - (D) not all respiratory ailments are caused by airborne pollutants
 - (E) three new plywood manufacturing plants are about to go into production in Groverston

Argument Construction

Situation	A government study linked high rates of respiratory illness in Groverston to air pollutants released by a plywood manufacturing plant. A government-imposed restriction on emissions will go into effect in four years. But the Woodco manufacturing plant plans to cut its emissions in half two years ahead of schedule.
Reasoning	<i>Which of the possible completions of the passage will provide the most support for the argument's conclusion?</i> The argument's conclusion is that the rate of respiratory illness is unlikely to decline before the regulations go into effect four years from now. That is a surprising claim, given that the existing plywood factory is going to <i>halve</i> its emissions two years from now—so this claim requires additional support (to be provided by completing the blank). Such additional support is provided by the information that three new plywood manufacturing plants will soon be starting production in Groverston. This suggests that even if Groverston reduces its emissions by half over the next two years—and even if each of the three new plants have only, let's say, <i>one quarter</i> of the emissions of the existing plant as currently operated—the <i>total amount</i> of airborne pollutants from plywood manufacture in the Groverston area will not decline. Since the total airborne pollution from the plants will not decline, we should not expect that the rate of respiratory illnesses from such pollution would decline either.

A The argument focuses on the incidence of respiratory ailments in Groverston, not on the availability of treatment facilities for such ailments once they occur. So this statement is largely irrelevant to the argument.

B This information provides no support for the argument's conclusion. It merely indicates a practical difficulty Woodco would have in making more than a 50 percent reduction in its emissions. However, even with the 50 percent emissions reduction that Woodco plans to implement in two years,

the rate of respiratory ailments should decline.

C First, it is not clear that a prediction about levels of emissions in Groverston three or four years from now is a *long-term prediction*. More to the point, if it would be very difficult to predict the emissions even two years from now, that would not support a conclusion that rates of respiratory ailments are unlikely to decline. Rather, it would support the conclusion that we do not know whether rates will decline.

D This information raises the possibility that within the next four years, an increase in the occurrence of factors *other than* airborne pollutants might make a decline in respiratory ailments unlikely. However, the passage provides no information whatsoever that implies an increase in the occurrence of such “other” factors.

E Correct. This helps to support the conclusion that rates of respiratory ailments in Groverston are unlikely to decline before the new government regulations go into effect.

The correct answer is E.

65. One summer, floods covered low-lying garlic fields situated in a region with a large mosquito population. Since mosquitoes lay their eggs in standing water, flooded fields would normally attract mosquitoes, yet no mosquitoes were found in the fields. Diallyl sulfide, a major component of garlic, is known to repel several species of insects, including mosquitoes, so it is likely that diallyl sulfide from the garlic repelled the mosquitoes.

Which of the following, if true, most strengthens the argument?

- (A) Diallyl sulfide is also found in onions but at concentrations lower than in garlic.
- (B) The mosquito population of the region as a whole was significantly smaller during the year in which the flooding took place than it had been in previous years.
- (C) By the end of the summer, most of the garlic plants in the flooded fields had been killed by waterborne fungi.
- (D) Many insect species not repelled by diallyl sulfide were found in the flooded garlic fields throughout the summer.
- (E) Mosquitoes are known to be susceptible to toxins in plants other than garlic, such as marigolds.

Argument Evaluation

Situation	When summer floods covered garlic fields in an area with many mosquitoes, no mosquitoes were found in the fields, even though

	flooded fields would normally attract mosquitoes to lay their eggs in the water. Diallyl sulfide, which is found in garlic, repels mosquitoes and some other insect species, and likely accounts for the lack of mosquitoes in the area.
Reasoning	<i>Given the facts cited, what would provide additional evidence that diallyl sulfide from the garlic made mosquitoes avoid the flooded fields?</i> The argument would be strengthened by any independent evidence suggesting that diallyl sulfide pervaded the flooded fields or excluding other factors that might explain the absence of mosquitoes in the fields.

A This could strengthen the argument if mosquitoes also avoid flooded onion fields, but we do not know whether they do.

B This would weaken the argument by suggesting that the general mosquito population decline, rather than the diallyl sulfide, could explain the absence of mosquitoes from the fields.

C It is not clear how this would affect the amount of diallyl sulfide in the flooded fields, so this does not provide evidence that the diallyl sulfide repelled the mosquitoes.

D Correct. This provides evidence that there was no factor other than diallyl sulfide that reduced insect populations in the flooded garlic fields.

E If anything, this would weaken the argument, since it is at least possible that some of these toxins were present in the flooded fields.

The correct answer is D.

66. Which of the following most logically completes the passage?

Pecan growers get a high price for their crop when pecans are comparatively scarce, but the price drops sharply when pecans are abundant. Thus, in high-yield years, growers often hold back part of their crop in refrigerated warehouses for one or two years, hoping for higher prices in the future. This year's pecan crop was the smallest in five years. It is nonetheless quite possible that a portion of this year's crop will be held back, since _____.

(A) each of the last two years produced record-breaking pecan yields

(B) the quality of this year's pecan crop is no worse than the quality of the pecan crops of the previous five years

(C) pecan prices have not been subject to sharp fluctuations in recent years

(D) for some pecan growers, this year's crop was no smaller than last year's

(E) the practice of holding back part of one year's crop had not yet become widespread the last time the pecan crop was as small as it was this year

Argument Construction

Situation	The price of pecans tends to drop sharply in years when pecans are abundant. So in highyield years, growers often hold back part of the harvest in refrigerated warehouses. This year's harvest was the smallest in five years.
Reasoning	<i>What would provide the best completion of the argument?</i> The argument's conclusion is that some of this year's crop might be held back. The blank to be completed should provide a reason in support of that conclusion. What would lead us to believe that some of this year's crop might go into cold storage even though the crop was unusually small? Only in high-yield years does this usually happen. But suppose there is <i>already</i> a large quantity of pecans in cold storage from previous harvests. Given this information, it would make perfect sense to expect that the pecans already in cold storage would be marketed first, while some of the latest crop would be stored. This would avoid the market oversupply and lower producer prices that might result if both all of this year's crop and all of the already stored pecans were marketed this year.

A Correct. This answer choice provides information that makes it more probable that the conclusion is true.

B The argument provides no information whatsoever that would suggest the decision to store or not to store pecans is based on evaluation of the crop's quality.

C This information is of little or no relevance. It is reasonable to think that predictions about pecan prices this year would affect the decision to store or not to store. But the information in this answer choice sheds little or no light on what this year's pecan prices might be, given that, as the passage tells us, this year's crop is exceptionally small.

D It is not surprising that some growers had crops this year that were as big as their crops the year before. But what matters, what affects the price of pecans, is the overall size of total pecan production and the abundance or scarcity of pecans at the time.

E This piece of history about marketing and storage practices explains why pecans were not placed in storage in previous small-yield years, but it provides no reason to believe that some of the new pecan crop will be stored this year.

The correct answer is A.

67. Coffee shop owner: A large number of customers will pay at least the fair market

value for a cup of coffee, even if there is no formal charge. Some will pay more than this out of appreciation of the trust that is placed in them. And our total number of customers is likely to increase. We could therefore improve our net cash flow by implementing an honor system in which customers pay what they wish for coffee by depositing money in a can.

Manager: We're likely to lose money on this plan. Many customers would cheat the system, paying a very small sum or nothing at all.

Which of the following, if true, would best support the owner's plan, in light of the manager's concern?

- (A) The new system, if implemented, would increase the number of customers.
- (B) By roasting its own coffee, the shop has managed to reduce the difficulties (and cost) of maintaining an inventory of freshly roasted coffee.
- (C) Many customers stay in the cafe for long stretches of time.
- (D) The shop makes a substantial profit from pastries and other food bought by the coffee drinkers.
- (E) No other coffee shop in the area has such a system.

Evaluation of a Plan

Situation	The owner and the manager of a coffee shop disagree about whether allowing customers to pay for coffee on an honor system would increase or decrease profits.
Reasoning	<i>What would be the best evidence that the honor-system plan would increase profits even if many customers cheated the system?</i> The owner argues that profits would increase because many customers will choose to pay as much or more than before and the total number of customers will likely increase. But the manager points out that many customers would also choose to pay little or nothing. Assuming that the manager is correct about that, what further support could the owner present for the claim that the plan would still be profitable?

A Since the owner has already basically asserted this, asserting it again would not provide any significant additional support for the plan.

B This suggests that the shop is already profitable, not that the honor-system plan would make it more profitable.

C Customers who stay in the cafe for long stretches would not necessarily pay any more per cup on the honor-system plan than other customers would.

D Correct. If the customer base increases (as both the owner and the manager seem to agree), more customers will likely purchase highly profitable pastries and other foods, thus boosting profits.

E The reason no other coffee shop in the area has an honor system may be that their owners and managers have determined that it would not be profitable.

The correct answer is D.

68. Which of the following most logically completes the argument?

By competing with rodents for seeds, black ants help control rodent populations that pose a public health risk. However, a very aggressive species of black ant, the Loma ant, which has recently invaded a certain region, has a venomous sting that is often fatal to humans. Therefore, the planned introduction into that region of ant flies, which prey on Loma ants, would benefit public health, since _____.

(A) ant flies do not attack black ants other than Loma ants

(B) Loma ants are less effective than many bird species in competing with rodents for seeds

(C) certain other species of black ants are more effective than Loma ants in competing with rodents for seeds

(D) the sting of Loma ants can also be fatal to rodents

(E) some pesticides that could be used to control Loma ants are harmful to the environment

Argument Construction

Situation	Black ants help to control populations of rodents by competing with them for seeds. But a very aggressive species of black ant, the Loma ant, has a sting that can be fatal to humans. Ant flies prey on Loma ants and their presence can thereby benefit public health.
Reasoning	<i>Which of the possible completions of the passage provides the most support for the conclusion?</i> The argument's conclusion is that introducing ant flies into the region where Loma ants have recently invaded would benefit public health. We know from the passage that black ants, generally, benefit public health by keeping down rodent populations. However, the sting of Loma ants, a species of black ant, can be fatal to humans. Ant flies prey on Loma ants. To that extent their introduction in the region would tend to benefit public health by making fatal Loma stinging of humans less likely. But if these ant flies also prey on black ants other than the Loma ants, then to that extent they would undermine another public health benefit associated with controlling rodents. Thus, the

information that ant flies do not prey on black ants other than Loma ants would provide strong logical support for the conclusion.

A Correct. This most logically completes the argument because it addresses a potential downside of introducing the ant flies into the region. The potential downside is that it might reduce the desirable effect that other species of black ants have in keeping down the rodent populations.

B We have no idea whether the bird species that are more effective than Loma ants at competing with rodents for seeds are even present in the region in question.

C This does not help the conclusion very much because we do not know *from the passage* whether ant flies prey on other species of black ants besides Loma ants.

D If anything, this is a reason *not to introduce ant flies* into the region. This answer choice at least suggests that Loma ants might have some positive effect on public health because they might keep down rodent populations by reducing their survival chances.

E This provides very little support for the conclusion. It does not exclude the possibility that there are pesticides—perhaps several—that would control Loma ants effectively without harming the environment. So it is not a strong reason for introducing ant flies.

The correct answer is A.

69. Journalist: In physics journals, the number of articles reporting the results of experiments involving particle accelerators was lower last year than it had been in previous years. Several of the particle accelerators at major research institutions were out of service the year before last for repairs, so it is likely that the low number of articles was due to the decline in availability of particle accelerators.

Which of the following, if true, most seriously undermines the journalist's argument?

(A) Every article based on experiments with particle accelerators that was submitted for publication last year actually was published.

(B) The average time scientists must wait for access to a particle accelerator has declined over the last several years.

(C) The number of physics journals was the same last year as in previous years.

(D) Particle accelerators can be used for more than one group of experiments in any given year.

(E) Recent changes in the editorial policies of several physics journals have

decreased the likelihood that articles concerning particle-accelerator research will be accepted for publication.

Argument Evaluation

Situation	A journalist attributes the low number of articles about particle accelerators in physics journals to the fact that several accelerators at major research institutions had been out of service the previous year.
Reasoning	<i>What point undermines the journalist's argument?</i> The journalist assumes that the researchers' lack of access to the accelerators is responsible for the decline in the number of articles. What else could explain fewer articles? What if the decline is due, not to the availability of the accelerators for experiments, but to policies regarding publishing articles related to such experiments? An alternate explanation is that changes in the editorial policies of physics journals, rather than the effect of the out-of-service accelerators, could well be responsible for the lower number of published articles about particle-accelerator research.

A This statement rules out the possibility that submitted articles were not published, and eliminating this alternate explanation tends to support the argument.

B A decline in waiting time would seem to promote more articles about accelerator research being written and published, not fewer.

C While the decline in articles could be explained by a decline in the number of journals, this statement eliminates that alternate explanation.

D If the accelerators can be used for multiple experiments, then it is reasonable to expect more articles related to them, not fewer.

E Correct. This statement properly identifies a point that undermines the journalist's reasoning.

The correct answer is E.

70. City council member: Demand for electricity has been increasing by 1.5 percent a year, and there simply is no more space to build additional power plants to meet future demand increases. We must therefore begin to curtail usage, which is why I propose passing ordinances requiring energy-conservation measures in all city departments.

The city council member's proposal assumes which of the following?

(A) Existing power plants do not have the capacity to handle all of the projected increase in demand for electricity.

(B) No city departments have implemented energy-conservation measures voluntarily.

(C) Passing ordinances designed to curtail electricity usage will not have negative economic consequences for the city.

(D) Residential consumers are not responsible for the recent increases in demand for electricity.

(E) City departments that successfully conserve energy will set a good example for residential and industrial consumers of electricity.

Argument Construction

Situation	A city council member proposes energy-conservation measures for all city government departments because there is no room to build new power plants to meet future increases in the demand for electricity.
Reasoning	<i>What must be true in order for the factors the city council member cites to help justify the proposal?</i> The city council member says electricity usage must be curtailed on account of an increasing demand for electricity and a lack of space for new power plants that could meet future demand increases. In order for this reasoning to help justify the proposal, the cited factors must actually establish a need to curtail electricity usage.

A Correct. If current power plants could satisfy the projected increased demand for electricity, then the increasing demand and the lack of room to build new plants would not establish a need to curtail electricity usage.

B The proposed ordinances could still be necessary even if one city department had voluntarily implemented energy-conservation measures.

C Passing the ordinances could still be necessary even if they would have some negative economic effects.

D No matter who is responsible for the recent increases in demand, curtailing the city government's electricity usage could still help to reduce demand.

E Ordinances to curtail the city government's energy usage could be economically necessary regardless of whether or not departments that obey the ordinances set a good example.

The correct answer is A.

71. Which of the following most logically completes the argument below?

Using broad-spectrum weed killers on weeds that are competing with crops for sunlight, water, and nutrients presents a difficulty: how to keep the crop from

being killed along with the weeds. For at least some food crops, specially treated seed that produces plants resistant to weed killers is under development. This resistance wears off as the plants mature. Therefore, the special seed treatment will be especially useful for plants that _____.

- (A) produce their crop over an extended period of time, as summer squash does
- (B) produce large seeds that are easy to treat individually, as corn and beans do
- (C) provide, as they approach maturity, shade dense enough to keep weeds from growing
- (D) are typically grown in large tracts devoted to a single crop
- (E) are cultivated specifically for the seed they produce rather than for their leaves or roots

Argument Construction

Situation	A difficulty in using broad-spectrum weed killers is keeping them from killing the food crops along with the weeds. Specially treated seed is being developed that will protect certain food crop plants in their earlier stages of growth.
Reasoning	<i>Which is the best completion for the conclusion?</i> The conclusion is incompletely stated as “Therefore, the special seed treatment will be especially useful for plants that.” The question is what sorts of plants does the passage suggest the seed treatment would be especially useful for. We have been told that this treatment makes the plants resistant to weed killer, but that this resistance wears off when the plant matures. So the treatment will be most useful with plants that are not harmed by weed killer and that suffer no significant disadvantage when the resistance wears off as the plant matures. Choice (C) is the correct answer choice because it describes a sort of plant that can combat weeds and requires no weed killer once the plant matures.

A Given that the seed treatment wears off as the plant matures, it would not be especially useful for plants that produce their crops over an extended period.

B We have not been told whether small seeds are more difficult to treat, and so we have no basis to conclude that the special seed treatment would be *especially useful* for plants that have large seeds that are easy to treat individually. We have also been given no reason to think that it is better to treat seeds individually.

C Correct. Plants that, as they approach maturity, produce shade dense enough to keep weeds from growing, would benefit from resistance to weed killer when young and would not need weed killer when they have matured and lost their resistance.

D We have been given no reason to think that the seed treatment would be especially useful for plants grown in a large tract devoted to a single crop. For example, why would it be less useful for small tracts with a variety of crops?

E A plant harvested for its roots, fruits, or leaves, rather than for its seeds, would derive no less an advantage from resistance to weed killers in earlier stages of growth.

The correct answer is C.

72. Which of the following most logically completes the argument given below?

People in isolated rain-forest communities tend to live on a largely vegetarian diet, and they eat little salt. Few of them suffer from high blood pressure, and their blood pressure does not tend to increase with age, as is common in industrialized countries. Such people often do develop high blood pressure when they move to cities and adopt high-salt diets. Though suggestive, these facts do not establish salt as the culprit in high blood pressure, however, because _____.

(A) genetic factors could account for the lack of increase of blood pressure with age among such people

(B) people eating high-salt diets and living from birth in cities in industrialized societies generally have a tendency to have high blood pressure

(C) it is possible to have a low-salt diet while living in a city in an industrialized country

(D) there are changes in other aspects of diet when such people move to the city

(E) salt is a necessity for human life, and death can occur when the body loses too much salt

Argument Construction

Situation	People in isolated communities who eat low-salt diets tend not to have high blood pressure or to experience age-related increases in blood pressure. When these people move to industrialized areas and adopt high-salt diets, many do develop high blood pressure. Nevertheless, (for a reason the argument omits) one cannot conclude that salt causes high blood pressure.
Reasoning	<i>What idea would logically complete the argument?</i> It may seem

reasonable to say that salt causes high blood pressure when it is observed that when people who eat little salt begin eating salt, they develop high blood pressure. But look more closely at the circumstances under which these people began eating more salt: They moved from isolated rain-forest communities, where they ate vegetarian diets, to cities. It is most likely the case that such a move would entail dietary changes other than just an increase in salt consumption, and so it is possible that those changes contribute to their developing high blood pressure.

A If genetic factors accounted for such people's lack of increase of blood pressure with age, then their blood pressure would not increase when they moved to cities and adopted high-salt diets.

B If people who eat high-salt diets tend to have high blood pressure, it would support the idea that salt is indeed the culprit in high blood pressure.

C The argument is concerned with what happens when people from rain-forest communities move to cities *and adopt high-salt diets*, so the fact that it is possible to have a low-salt diet in a city is not relevant.

D Correct. This statement properly identifies a reason why salt might not be responsible for high blood pressure: There could be some other dietary factor that, when adopted, causes high blood pressure.

E The argument is concerned with the effects of high-salt diets. The fact that consuming too little salt can cause death says nothing about whether consuming too much salt is harmful.

The correct answer is D.

73. Which of the following most logically completes the argument?

The attribution of the choral work *Lacrimae* to the composer Pescard (1400–1474) has been regarded as tentative, since it was based on a single treatise from the early 1500s that named Pescard as the composer. Recently, several musical treatises from the late 1500s have come to light, all of which name Pescard as the composer of *Lacrimae*. Unfortunately, these newly discovered treatises lend no support to the attribution of *Lacrimae* to Pescard, since.

(A) the treatise from the early 1500s misidentifies the composers of some of the musical works it considers

(B) the author of the treatise from the early 1500s had no very strong evidence on which to base the identification of Pescard as the composer of *Lacrimae*

(C) there are works that can conclusively be attributed to Pescard that are not even mentioned in the treatise from the early 1500s

(D) the later treatises probably had no source for their attribution other than the earlier treatise

(E) no known treatises from the 1600s identify Pescard as the composer of *Lacrimae*

Argument Construction

Situation	A choral work has been tentatively attributed to Pescard based on a single treatise from the early 1500s. But several treatises from the late 1500s have recently been discovered, and all of them attribute the work to Pescard.
Reasoning	<i>Which of the answer choices provides the strongest reason for the conclusion?</i> The argument's conclusion is that the newly discovered late-1500 treatises lend no support to the attribution of <i>Lacrimae</i> to Pescard. It is worth noting that prior to the conclusion the passage provides information which suggests that these newly discovered treatises <i>do</i> lend support to the attribution. So the question is: Why don't they? A good reason for thinking they do not is that the newly discovered treatises probably derive solely from the attribution given in the earlier text. Thus the attributions in the later treatises are only as reliable as the attribution in the earlier treatise—and the argument suggests that that reliability has not been conclusively established.

A This makes the treatise from the early 1500s less reliable, but it does not explain why the newly discovered treatises are unreliable.

B Like answer choice (A), this is irrelevant. The question is not why the treatise from the early 1500s fails to lend support to the attribution but why the treatises from the late 1500s fail to do so.

C This is irrelevant because it does not refer to the newly discovered treatises whose attribution of *Lacrimae* is at issue.

D Correct. The question is whether these newly discovered treatises lend *additional* support. *Lacrimae* has already been tentatively attributed to Pescard based on the text from the early 1500s. So, if the later treatises base their attribution solely on the earlier treatise, then they provide no additional support beyond that already provided by the earlier treatise.

E This leaves open the possibility that there was no treatise at all in the 1600s that discussed Pescard or *Lacrimae*. Also, it fails to provide significant evidence either for or against Pescard's having composed *Lacrimae*. But even if it did provide such evidence, it would be irrelevant because the issue is why the late-1500 treatises fail to provide significant support for the attribution of *Lacrimae* to Pescard, not whether Pescard composed the

work.

The correct answer is D.

74. When trying to identify new technologies that promise to transform the marketplace, market researchers survey the managers of those companies that are developing new technologies. Such managers have an enormous stake in succeeding, so they invariably overstate the potential of their new technologies. Surprisingly, however, market researchers typically do not survey a new technology's potential buyers, even though it is the buyers—not the producers—who will ultimately determine a technology's commercial success.

Which of the following, if true, best accounts for the typical survey practices among market researchers?

- (A) If a new technology succeeds, the commercial benefits accrue largely to the producers, not to the buyers, of that technology.
- (B) People who promote the virtues of a new technology typically fail to consider that the old technology that is currently in use continues to be improved, often substantially.
- (C) Investors are unlikely to invest substantial amounts of capital in a company whose own managers are skeptical about the commercial prospects of a new technology they are developing.
- (D) The potential buyers for not-yet-available technologies can seldom be reliably identified.
- (E) The developers of a new technology are generally no better positioned than its potential buyers to gauge how rapidly the new technology can be efficiently mass-produced.

Argument Construction

Situation	Market researchers seeking to identify new technologies that have the potential to transform the marketplace survey managers of companies developing new technologies, but typically not the potential buyers of new technologies, even though managers tend to overstate the potential of their new technologies and it is the buyers who determine the products' commercial success.
Reasoning	<i>What best explains why it is managers, not buyers, that the market researchers survey? Why, despite the information in the passage, are managers of technology companies surveyed while potential buyers are typically not? A partial explanation would be that it is difficult to reliably determine who the potential buyers of new technologies will be. If market researchers cannot identify who the potential buyers of as-yet unavailable technologies will be, that explains why they are not typically surveyed—and why the next best alternative may be to survey managers.</i>

A This answer choice tells us who would benefit from commercial success of

new technologies. But it says nothing about whose opinion would be most valuable in predicting the commercial success of new technologies.

B At most, this could help explain why managers overstate the potential of their new technologies. But it does not explain the motives of market researchers in relying on the managers' rather than buyers' opinions about new technologies.

C Given that managers of technology companies will want to attract investors, this helps to explain why the managers would tend to overstate the potential of their new technologies. But it does not help to explain the survey practices.

D Correct. This accounts for why potential buyers of new technologies are not typically sought out in surveys by market researchers: It is difficult to determine in advance who they are.

E This, like answer choice (C), tends to make the practices of market researchers more difficult rather than easier to understand. If developers of new technologies are no better at gauging how rapidly a new technology can be mass-produced (a factor affecting commercial success), then all the more reason to survey potential buyers rather than the managers.

The correct answer is D.

75. In order to withstand tidal currents, juvenile horseshoe crabs frequently burrow in the sand. Such burrowing discourages barnacles from clinging to their shells. When fully grown, however, the crabs can readily withstand tidal currents without burrowing, and thus they acquire substantial populations of barnacles. Surprisingly, in areas where tidal currents are very weak, juvenile horseshoe crabs are found not to have significant barnacle populations, even though they seldom burrow.

Which of the following, if true, most helps to explain the surprising finding?

- (A) Tidal currents do not themselves dislodge barnacles from the shells of horseshoe crabs.
- (B) Barnacles most readily attach themselves to horseshoe crabs in areas where tidal currents are weakest.
- (C) The strength of the tidal currents in a given location varies widely over the course of a day.
- (D) A very large barnacle population can significantly decrease the ability of a horseshoe crab to find food.
- (E) Until they are fully grown, horseshoe crabs shed their shells and grow new ones several times a year.

Argument Construction

Situation	Juvenile horseshoe crabs withstand tidal currents by burrowing in the sand. This action makes barnacles less likely to cling to their shells. Adult horseshoe crabs can withstand currents, so they do not burrow, and barnacles become more likely to cling to their shells. Surprisingly, however, juvenile horseshoe crabs that do not burrow, because tidal currents do not threaten them, do not have significant numbers of barnacles clinging to their shells.
Reasoning	<i>What would most help explain the finding that nonburrowing juvenile horseshoe crabs do not have significant barnacle populations?</i> The finding suggests that there is some way in which nonburrowing juvenile horseshoe crabs either discourage barnacles from clinging to their shells, or get rid of the barnacles that do cling to their shells. Identifying how this is accomplished will explain the finding.

A This gives a reason why juvenile horseshoe crabs that do not burrow *would* have significant barnacle populations.

B If barnacles in areas of weak tidal currents readily attach themselves to horseshoe crabs, then it would be more likely for juvenile horseshoe crabs in such areas to have significant barnacle populations.

C The areas under discussion are those where tidal currents are very weak. The strength of currents may vary widely there, but presumably they are still weak compared to other areas.

D The surprising finding under discussion is why certain juvenile horseshoe crabs do not have significant barnacle populations, despite failing to engage in behavior that dislodges barnacles. That a very large barnacle population can hurt a horseshoe crab does not help explain such a finding.

E Correct. This statement properly identifies something that helps explain the surprising finding: If juvenile horseshoe crabs regularly shed their shells, they also regularly shed the barnacles that cling to those shells. Thus juvenile horseshoe crabs would most likely be found not to have significant barnacle populations.

The correct answer is E.

76. Voters commonly condemn politicians for being insincere, but politicians often must disguise their true feelings when they make public statements. If they expressed their honest views—about, say, their party’s policies—then achieving politically necessary compromises would be much more difficult. Clearly, the very insincerity that people decry shows that our government is functioning well.

Which of the following, if true, most seriously undermines this reasoning?

(A) Achieving political compromises is not all that is necessary for the

proper functioning of a government.

(B) Some political compromises are not in the best long-term interest of the government.

(C) Voters often judge politicians by criteria other than the sincerity with which they express their views.

(D) A political party's policies could turn out to be detrimental to the functioning of a government.

(E) Some of the public statements made by politicians about their party's policies could in fact be sincere.

Argument Evaluation

Situation	Politicians must often make insincere public statements because expressing their true feelings would make it harder for them to achieve politically necessary compromises.
Reasoning	<i>What would suggest that the argument's premises do not establish that politicians' insincerity shows our government is functioning well?</i> The implicit reasoning is that insincerity helps politicians achieve politically necessary compromises, and these compromises help our government to function well, so insincerity must show that our government is functioning well. Evidence that these necessary compromises do not ensure that our government functions well would undermine the argument's reasoning, as would evidence that politicians' insincerity has other substantial effects that hinder the government's functioning.

A Correct. If governments may function poorly even when insincerity allows necessary political compromises to be made, then the argument's premises do not establish that politicians' insincerity shows our government is functioning well.

B The argument does not require that all political compromises help government to function well, only that politically necessary compromises do.

C Even if voters often judge politicians by criteria other than their sincerity, they may also often decry politicians' insincerity, not realizing or caring that such insincerity helps the government function well.

D Even if a political party's policies impair the government's functioning, politically necessary compromises by politicians in that party could improve the government's functioning.

E Even if politicians sometimes speak sincerely about their party's policies, their general willingness to be insincere as needed to achieve politically

necessary compromises could be a sign that the government is functioning well.

The correct answer is A.

77. To reduce waste of raw materials, the government of Sperland is considering requiring household appliances to be broken down for salvage when discarded. To cover the cost of salvage, the government is planning to charge a fee, which would be imposed when the appliance is first sold. Imposing the fee at the time of salvage would reduce waste more effectively, however, because consumers tend to keep old appliances longer if they are faced with a fee for discarding them.

Which of the following, if true, most seriously weakens the argument?

- (A) Increasing the cost of disposing of an appliance properly increases the incentive to dispose of it improperly.
- (B) The fee provides manufacturers with no incentive to produce appliances that are more durable.
- (C) For people who have bought new appliances recently, the salvage fee would not need to be paid for a number of years.
- (D) People who sell their used, working appliances to others would not need to pay the salvage fee.
- (E) Many nonfunctioning appliances that are currently discarded could be repaired at relatively little expense.

Evaluation of a Plan

Situation	A government is considering requiring household appliances to be broken down for salvage when discarded. To cover the salvage costs, the government plans to charge a fee on appliance sales.
Reasoning	<i>What would suggest that charging the fee at the time of salvage would less effectively reduce waste than charging the fee at the time of sale would?</i> The argument is that charging the fee at the time of salvage would reduce waste of raw materials because it would encourage consumers to keep their appliances longer before salvaging them. This argument could be weakened by pointing out other factors that might increase waste if the fee is charged at the time of salvage or reduce waste if the fee is charged at the time of sale.

A Correct. This suggests that charging the fee at the time of salvage rather than the time of sale would encourage consumers to discard their appliances illegally, thereby increasing waste of raw materials by reducing the proportion of discarded appliances that are salvaged.

B This factor would remain the same regardless of whether the fee were charged at the time of sale or the time of salvage.

C This might be a reason for consumers to prefer the fee be charged at the time of salvage rather than the time of sale, but it does not suggest that charging the fee at the time of salvage would reduce waste less effectively.

D This provides an additional reason to expect that charging the fee at the time of salvage would help reduce waste, so it strengthens rather than weakens the argument.

E This would give consumers an additional reason to keep using their old appliances and postpone paying a fee at the time of salvage, so it strengthens rather than weakens the argument.

The correct answer is A.

78. When there is less rainfall than normal, the water level of Australian rivers falls and the rivers flow more slowly. Because algae whose habitat is river water grow best in slow-moving water, the amount of algae per unit of water generally increases when there has been little rain. By contrast, however, following a period of extreme drought, algae levels are low even in very slow-moving river water.

Which of the following, if true, does most to explain the contrast described above?

(A) During periods of extreme drought, the populations of some of the species that feed on algae tend to fall.

(B) The more slowly water moves, the more conducive its temperature is to the growth of algae.

(C) When algae populations reach very high levels, conditions within the river can become toxic for some of the other species that normally live there.

(D) Australian rivers dry up completely for short intervals in periods of extreme drought.

(E) Except during periods of extreme drought, algae levels tend to be higher in rivers in which the flow has been controlled by damming than in rivers that flow freely.

Argument Construction

Situation	When Australian rivers flow slowly due to little rain, algae populations in those rivers increase. But after periods of extreme drought, algae levels are low even in water moving at speeds that would normally show population increases.
Reasoning	<i>What would explain the contrast between algae levels in slow-moving water resulting from little rain and slow-moving water</i>

after a drought? There must be some difference between what happens during periods in which there is simply less rainfall than normal and periods in which there is extreme drought, a difference that affects the algae population.

A This indicates one of the consequences of drought, and slightly suggests that this might be due to a lower algae level. But it does nothing to explain why algae levels might be lower after a drought.

B This could explain why some rivers that are slow-moving and have little water might have a high algae level—but not why the algae level is low in such rivers after a period of drought.

C This explains why levels of other species might be low when algae populations are high, not why algae populations are high when there is little rain, but low following a period of extreme drought.

D Correct. This statement properly identifies something that helps explain the contrast. According to the information given, the habitat of the algae under discussion is river water. If the river dries up, the algae will probably not survive. Then after the drought, algae population levels would likely take a while to rise again.

E This emphasizes that there is a contrast between what happens to algae during periods of extreme drought and what happens to them at other times, but it does not help explain that contrast.

The correct answer is D.

79. Increased use of incineration is sometimes advocated as a safe way to dispose of chemical waste. But opponents of incineration point to the 40 incidents involving unexpected releases of dangerous chemical agents that were reported just last year at two existing incinerators commissioned to destroy a quantity of chemical waste material. Since designs for proposed new incinerators include no additional means of preventing such releases, leaks will only become more prevalent if use of incineration increases.

Which of the following, if true, most seriously weakens the argument?

- (A) At the two incinerators at which leaks were reported, staff had had only cursory training on the proper procedures for incinerating chemical waste.
- (B) Other means of disposing of chemical waste, such as chemical neutralization processes, have not been proven safer than incineration.
- (C) The capacity of existing incinerators is sufficient to allow for increased incineration of chemical waste without any need for new incinerators.
- (D) The frequency of reports of unexpected releases of chemical agents at newly built incinerators is about the same as the frequency at older

incinerators.

(E) In only three of the reported incidents of unexpected chemical leaks did the releases extend outside the property on which the incinerators were located.

Argument Evaluation

Situation	Last year, at two chemical waste incinerators, there were forty reported incidents involving unexpected releases of dangerous chemicals. Designs for proposed new incinerators include no additional safeguards against such releases. Therefore, increased use of incineration will likely make such releases more prevalent.
Reasoning	<i>What would undermine the support provided for the conclusion that leaks will become more prevalent if more chemical waste is disposed of through incineration?</i> The argument draws a general conclusion about chemical waste incineration from evidence about only two particular incinerators. This reasoning would be undermined by any evidence that the leaks at those two incinerators were the result of something other than insufficient safeguards against such releases.

A Correct. If the staff training at the two incinerators was cursory, then the leaks may have been the results of staff not knowing how to use safeguards with which the incinerators are equipped that, if properly used, would have prevented the released of dangerous chemicals. Therefore, if staff at newer incinerators will be better trained, leaks might not become more prevalent even if chemical waste incineration becomes more common.

B Other chemical waste disposal methods may be safer than incineration even if no one has proven so; and even if they're not safer overall, they may involve fewer leaks.

C Continuing to use existing incinerators might well produce just as many leaks as switching to new incinerators would.

D This suggests that new incinerators produce as many leaks as older incinerators do, a finding that provides additional evidence that increased incineration even with proposed new incinerators would lead to more leaks.

E The argument is not about how far the releases from leaks extend, only about how many of them are likely to occur.

The correct answer is A.

80. To protect certain fledgling industries, the government of Country Z banned imports of the types of products those industries were starting to make. As a direct result, the cost of those products to the buyers, several export-dependent

industries in Z, went up, sharply limiting the ability of those industries to compete effectively in their export markets.

Which of the following conclusions about Country Z's adversely affected export-dependent industries is best supported by the passage?

- (A) Profit margins in those industries were not high enough to absorb the rise in costs mentioned above.
- (B) Those industries had to contend with the fact that other countries banned imports from Country Z.
- (C) Those industries succeeded in expanding the domestic market for their products.
- (D) Steps to offset rising materials costs by decreasing labor costs were taken in those industries.
- (E) Those industries started to move into export markets that they had previously judged unprofitable.

Argument Construction

Situation	Country Z bans the importation of products that would compete with those that some of its new industries are beginning to make. Consequently, the export-dependent local industries that buy these products must pay more for them, and these exporters are now less competitive in their markets.
Reasoning	<i>What conclusion can be drawn about the export-dependent industries?</i> Any conclusion must be supported by the facts in the passage. The export-dependent industries could no longer compete effectively when they had to purchase necessary products at greater expense from local industries. The export-dependent industries' inability to adjust successfully to the rise in costs suggests that staying competitive in their markets required tight cost control to maintain their profit margins. It is reasonable to conclude then that their profit margins were not high enough for them to be able to absorb the increased costs caused by their new need to purchase domestically made products.

A Correct. This statement properly identifies the conclusion that the export-dependent industries were low-margin businesses that could not successfully accommodate the higher prices of the domestically made products.

B No information about other countries' ban of imports from Country Z is given in the passage.

C Not enough information is given in the passage to support this conclusion.

D No information about cutting labor costs is given in the passage.

E No information about the industries' moving into different markets is given in the passage.

The correct answer is A.

81. Public health expert: **Increasing the urgency of a public health message may be counterproductive.** In addition to irritating the majority who already behave responsibly, **it may undermine all government pronouncements on health by convincing people that such messages are overly cautious.** And there is no reason to believe that those who ignore measured voices will listen to shouting.

The two sections in boldface play which of the following roles in the public health expert's argument?

- (A) The first is a conclusion for which support is provided, but is not the argument's main conclusion; the second is an unsupported premise supporting the argument's main conclusion.
- (B) The first is a premise supporting the only explicit conclusion; so is the second.
- (C) The first is the argument's main conclusion; the second supports that conclusion and is itself a conclusion for which support is provided.
- (D) The first is a premise supporting the argument's only conclusion; the second is that conclusion.
- (E) The first is the argument's only explicit conclusion; the second is a premise supporting that conclusion.

Argument Construction

Situation	A public health expert argues against increasing the urgency of public health messages by pointing out negative effects that may arise from such an increase, as well as by questioning its efficacy.
Reasoning	<i>What roles are played in the argument by the two claims in boldface?</i> The first claim in boldface states that increasing the urgency of public health messages may be counterproductive. After making this claim, the public health expert mentions two specific reasons this could be so: it could irritate people who already behave responsibly, and it could convince people that all public health messages are too cautious. (The latter reason in the second claim in boldface). The phrase <i>in addition to</i> indicates that neither claim in the second sentence is intended to support or explain the other. However, since each claim in the second sentence gives a reason to believe the claim in the first sentence, each independently supports

the first sentence as a conclusion. The word *[a]nd* beginning the third sentence reveals that its intended role in the argument is the same as that of the two claims in the second sentence.

A Everything stated after the first sentence is intended to help support it, so the first sentence is the argument's main conclusion.

B Everything stated after the first sentence is intended to help support it, so the first sentence is a conclusion, not a premise.

C Each of the three claims in the second and third sentences is presented as an independent reason to accept the general claim in the first sentence. Therefore, nothing in the passage is intended to support the second statement in boldface as a conclusion.

D Everything stated after the first sentence is intended to help support it, so the first sentence is a conclusion, not a premise.

E Correct. Each of the three claims in the second and third sentences is presented as an independent reason to accept the general claim in the first sentence. Thus, each of those claims is a premise supporting the claim in the first sentence as the argument's only conclusion.

The correct answer is E.

82. A prominent investor who holds a large stake in the Burton Tool Company has recently claimed that **the company is mismanaged**, citing as evidence the company's failure to slow production in response to a recent rise in its inventory of finished products. It is doubtful whether an investor's sniping at management can ever be anything other than counterproductive, **but in this case it is clearly not justified**. It is true that an increased inventory of finished products often indicates that production is outstripping demand, but in Burton's case it indicates no such thing. Rather, the increase in inventory is entirely attributable to products that have already been assigned to orders received from customers.

In the argument given, the two boldfaced portions play which of the following roles?

(A) The first states the position that the argument as a whole opposes; the second provides evidence to undermine the support for the position being opposed.

(B) The first states the position that the argument as a whole opposes; the second is evidence that has been used to support the position being opposed.

(C) The first states the position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.

(D) The first is evidence that has been used to support a position that the

argument as a whole opposes; the second provides information to undermine the force of that evidence.

(E) The first is evidence that has been used to support a position that the argument as a whole opposes; the second states the conclusion of the argument as a whole.

Argument Evaluation

Situation	An investor states that Burton Tool must be mismanaged because it has failed to slow production in response to increasing inventory of finished products. This criticism is unjustified because the finished inventory has already been assigned to orders received.
Reasoning	<i>Which option identifies the roles played by the boldfaced portions?</i> The first boldfaced portion expresses the investor's claim that the company is mismanaged. The argument asserts, in the second boldfaced portion, that this claim by the investor is unjustified. The passage then goes on to support this assertion.

A The second boldfaced portion does not provide evidence to undermine the support for the position being opposed; instead, it states that this position is unjustified.

B The second boldfaced portion is not said to have been used as evidence for the position being opposed; instead, it states that this position is unjustified.

C Correct. This option correctly identifies the roles played in the argument by the boldfaced portions.

D The first boldfaced portion is not *evidence for* the position being opposed; it *is* that position.

E Again, first is not *evidence for* the position being opposed; it *is* that position.

The correct answer is C.

83. Several industries have recently switched at least partly from older technologies powered by fossil fuels to new technologies powered by electricity. It is thus evident that less fossil fuel is being used as a result of the operations of these industries than would have been used if these industries had retained their older technologies.

Which of the following, if true, most strengthens the argument above?

(A) Many of the industries that have switched at least partly to the new technologies have increased their output.

(B) Less fossil fuel was used to manufacture the machinery employed in the new technologies than was originally used to manufacture the machinery

employed in the older technologies.

(C) More electricity is used by those industries that have switched at least partly to the new technologies than by those industries that have not switched.

(D) Some of the industries that have switched at least partly to the new technologies still use primarily technologies that are powered by fossil fuels.

(E) The amount of fossil fuel used to generate the electricity needed to power the new technologies is less than the amount that would have been used to power the older technologies.

Argument Evaluation

Situation	Several industries have now switched, at least partly, to technologies using electricity rather than fossil fuels. Thus, less fossil fuel will be consumed as a result of the operation of these industries than otherwise would have been.
Reasoning	<i>Which option most strengthens the argument?</i> One way to strengthen an argument is to eliminate or minimize one of its flaws or weaknesses. Because the conclusion is stated in terms of “fossil fuel consumed <i>as a result</i> of the operation of these industries,” the claim would encompass even any fossil fuel that might be used to generate the electricity that the newer technologies use. Yet the premise of the argument does not address this issue. So the argument is strengthened if it turns out that less fossil fuel was used to produce the electricity than would have been used to power the older technologies.

A In an indirect way, this option slightly weakens rather than strengthens the argument. For *if* fossil fuels are used to produce the electricity now used by the industries and *if* it is because of these newer technologies that output has increased, the argument’s conclusion is *less* likely.

B It does not matter how much fossil fuel was used to manufacture the older technologies *originally*. That has no bearing on whether more fossil fuel would have been expended as a result of the *continued operation* of the industries if the partial switch to newer technologies had not occurred.

C This is what we would expect, but it in no way strengthens the argument.

D This may seem to weaken the argument by indicating that the switch from older technologies will have less of an impact on fossil fuel consumption by these industries than we might have assumed. But since the conclusion makes no claim about how much consumption has been reduced, it is not clear that this option has any bearing on the strength of the argument one way or the other.

E Correct. This is the option that most strengthens the argument.

The correct answer is E.

84. Proposed new safety rules for the Beach City airport would lengthen considerably the minimum time between takeoffs from the airport. In consequence, the airport would be able to accommodate 10 percent fewer flights than currently use the airport daily. The city's operating budget depends heavily on taxes generated by tourist spending, and most of the tourists come by plane. Therefore, the proposed new safety rules, if adopted, will reduce the revenue available for the operating budget.

The argument depends on assuming which of the following?

- (A) There are no periods of the day during which the interval between flights taking off from the airport is significantly greater than the currently allowed minimum.
- (B) Few, if any, of the tourists who use the Beach City airport do so when their main destination is a neighboring community and not Beach City itself.
- (C) If the proposed safety rules are adopted, the reduction in tourist numbers will not result mainly from a reduction in the number of tourists who spend relatively little in Beach City.
- (D) Increasing the minimum time between takeoffs is the only way to achieve necessary safety improvements without a large expenditure by the city government on airport enhancements.
- (E) The response to the adoption of the new safety rules would not include an increase in the number of passengers per flight.

Argument Construction

Situation	Proposed safety rules for a city airport would reduce the number of daily flights the airport can accommodate. The city's operating budget depends heavily on taxes generated by tourists, who mostly come by plane. Therefore, adopting the safety rules will result in lower revenue available for the operating budget.
Reasoning	<i>What must be true in order for the cited facts to support the conclusion that the proposed rules would reduce the revenue for the operating budget?</i> The implicit reasoning is that since the rules would reduce the number of flights that can be accommodated, they would thereby reduce the number of tourists arriving by plane, which in turn would reduce the tax revenue that tourist spending generates for the operating budget. This assumes that the actual number of daily flights would fall along with the number that the

airport can accommodate; that fewer daily flights would mean fewer people flying into the airport; that fewer people flying into the airport would mean fewer tourists flying into the airport; that fewer tourists flying into the airport would mean fewer tourists visiting the city; that fewer tourists visiting the city would mean less taxable spending by tourists; and that less taxable spending by tourists would mean less revenue overall for the operating budget.

A Even if flights depart the airport less frequently during some periods of the day, increasing the minimum time between flights at busy times of day could reduce the total number of daily flights from the airport.

B Even if half the tourists flying into the airport were bound for other nearby towns, the other half could still spend enough in town to generate lots of revenue for the operating budget.

C It is possible that most tourists spend relatively little in the city, but a few spend a lot. In that case, even if a reduction in tourist numbers resulted mainly from a declining number of tourists who spend relatively little, it could also greatly reduce the already small number of tourists who spend a lot.

D This suggests that the proposed rules might be financially better for the city than any alternative way to improve safety, whereas the argument's conclusion is that the proposed rules are financially disadvantageous.

E Correct. If adopting the proposed rules would result in a large increase in the number of passengers per flight, fewer daily flights would not necessarily mean fewer passengers or fewer tourists overall.

The correct answer is E.

85. As a construction material, bamboo is as strong as steel and sturdier than concrete. Moreover, in tropical areas bamboo is a much less expensive construction material than either steel or concrete and is always readily available. In tropical areas, therefore, building with bamboo makes better economic sense than building with steel or concrete, except where land values are high.

Which of the following, if true, most helps to explain the exception noted above?

(A) Buildings constructed of bamboo are less likely to suffer earthquake damage than are steel and concrete buildings.

(B) Bamboo is unsuitable as a building material for multistory buildings.

(C) In order to protect it from being damaged by termites and beetles, bamboo must be soaked, at some expense, in a preservative.

(D) In some tropical areas, bamboo is used to make the scaffolding that is used during large construction projects.

(E) Bamboo growing in an area where land values are increasing is often cleared to make way for construction.

Argument Construction

Situation	Bamboo is as strong as steel and sturdier than concrete when used as a construction material. In tropical areas, bamboo is much less expensive and is always readily available.
Reasoning	<i>What explains the exception specified in the conclusion?</i> The argument's conclusion is that in tropical areas bamboo is a more economical building material than steel or concrete, <i>except where land values are high</i> . The information in the passage makes clear why bamboo is a more economical building material in tropical areas than are concrete or steel. So the question is: Why must an exception be made for areas where land values are high? Multistory buildings are particularly desirable in areas where land values are high, but bamboo may not be suitable for such buildings.

A This explains why bamboo would be preferable to steel or concrete in tropical areas especially prone to earthquakes. However, there is no clear connection to be made between areas where land values are high and areas especially prone to earthquakes.

B Correct. Multistory buildings provide a greater area of floor space for a given site area, and in that sense are more economical. A single-story building with the same floor space will occupy a much bigger site, so the higher the land values, the more likely it is that a multistory building will be built on that land. Thus, given this information, bamboo is less suitable for areas where land values are high.

C This undermines, to some extent, the claim that bamboo is an economical building material. But it does nothing to explain why it would be less economical specifically in areas where land values are high.

D This is irrelevant. Bamboo is used to build scaffolding for construction projects and as a building material for permanent structures. There is no way to infer from this that bamboo is less economical specifically in areas where land values are high.

E The fact that bamboo is cleared from an area to make room for construction in no way implies that bamboo would not be a suitable and economical building material for the area once it has been cleared.

The correct answer is B.

86. Scientists have modified feed corn genetically, increasing its resistance to insect pests. Farmers who tried out the genetically modified corn last season applied less insecticide to their corn fields and still got yields comparable to those they would

have gotten with ordinary corn. Ordinary corn seed, however, costs less, and what these farmers saved on insecticide rarely exceeded their extra costs for seed. Therefore, for most feed-corn farmers, switching to genetically modified seed would be unlikely to increase profits.

Which of the following would it be most useful to know in order to evaluate the argument?

- (A) Whether there are insect pests that sometimes reduce feed-corn yields, but against which commonly used insecticides and the genetic modification are equally ineffective
- (B) Whether the price that farmers receive for feed corn has remained steady over the past few years
- (C) Whether the insecticides typically used on feed corn tend to be more expensive than insecticides typically used on other crops
- (D) Whether most of the farmers who tried the genetically modified corn last season applied more insecticide than was actually necessary
- (E) Whether, for most farmers who plant feed corn, it is their most profitable crop

Argument Evaluation

Situation	Farmers who grew feed corn genetically engineered to be pest resistant got yields comparable to those of farmers growing ordinary feed corn, but did so while using less pesticide. Since the amount saved on pesticide was rarely in excess of the extra costs for the genetically modified corn, most farmers will probably not increase profits by choosing the genetically engineered variety.
Reasoning	<i>Which would be most useful to know in evaluating the argument?</i> To answer a question such as this, one should look for information that would strengthen or weaken the argument. If one had information that the farmers growing the genetically modified corn could have increased their yields last year at lower cost, this would be helpful in evaluating the argument, because this would show that the argument is weak.

A It does not matter to the argument whether there are pests against which pesticides and genetic resistance are equally ineffective, because that is compatible with there being pests against which they are not equally effective.

B Whether prices of feed corn go up or down affects the comparison groups equally.

C The relative cost of insecticides for other crops has no bearing on the

argument because the argument is concerned with only feed corn.

D Correct. This option provides the information that it would be most useful to know in evaluating the argument. It shows that farmers growing genetically modified corn last year could have attained higher profits than they in fact did.

E The argument concerns only the relative profitability of growing one variety of feed corn versus another.

The correct answer is D.

87. Community activist: If Morganville wants to keep its central shopping district healthy, it should prevent the opening of a huge SaveAll discount department store on the outskirts of Morganville. Records from other small towns show that whenever SaveAll has opened a store outside the central shopping district of a small town, within five years the town has experienced the bankruptcies of more than a quarter of the stores in the shopping district.

The answer to which of the following would be most useful for evaluating the community activist’s reasoning?

- (A) Have community activists in other towns successfully campaigned against the opening of a SaveAll store on the outskirts of their towns?
- (B) Do a large percentage of the residents of Morganville currently do almost all of their shopping at stores in Morganville?
- (C) In towns with healthy central shopping districts, what proportion of the stores in those districts suffer bankruptcy during a typical five-year period?
- (D) What proportion of the employees at the SaveAll store on the outskirts of Morganville will be drawn from Morganville?
- (E) Do newly opened SaveAll stores ever lose money during their first five years of operation?

Argument Evaluation

Situation	Morganville should stop SaveAll from opening a store on its outskirts if it wants to keep its shopping district healthy. Other small towns have experienced bankruptcies in 25 percent of the stores in their central shopping district within five years after such openings.
Reasoning	<i>Which option provides the information that it would be most useful to know in evaluating the argument?</i> The argument contends that if SaveAll opens a store in Morganville, then that will somehow undermine the health of the shopping district. Two basic questions arise when evaluating the bankruptcy data from other small towns: (1) Did the opening of SaveAlls cause any of these

bankruptcies? No information is given about bankruptcy rates in small towns without SaveAlls. (2) Is a 25 percent bankruptcy rate over five years *unhealthy*?

A This has to do with the likelihood that the SaveAll will open; and not with what will happen if it does.

B The conclusion would be supported just as well—or as poorly—if this question were answered with a yes as with a no.

C Correct. This option provides the information that it would be most useful to know in evaluating the argument.

D This may be important in determining the effect the SaveAll would have on Morganville residents, but the argument has only to do with SaveAll's effect on the economic health of the shopping district.

E Whether SaveAlls tend to make or lose money in their first five years has no obvious bearing on whether they are apt to undermine the health of the town's shopping districts.

The correct answer is C.

88. Debater: The average amount of overtime per month worked by an employee in the manufacturing division of the Haglut Corporation is 14 hours. Most employees of the Haglut Corporation work in the manufacturing division. Furthermore, the average amount of overtime per month worked by any employee in the company generally does not fluctuate much from month to month. Therefore, each month, most employees of the Haglut Corporation almost certainly work at least some overtime.

The debater's argument is most vulnerable to criticism on which of these grounds?

(A) It takes for granted that the manufacturing division is a typical division of the corporation with regard to the average amount of overtime its employees work each month.

(B) It takes for granted that if a certain average amount of overtime is worked each month by each employee of the Haglut Corporation, then approximately the same amount of overtime must be worked each month by each employee of the manufacturing division.

(C) It confuses a claim from which the argument's conclusion about the Haglut Corporation would necessarily follow with a claim that would follow from the argument's conclusion only with a high degree of probability.

(D) It overlooks the possibility that even if, on average, a certain amount of overtime is worked by the members of some group, many members of that group may work no overtime at all.

(E) It overlooks the possibility that even if most employees of the corporation work some overtime each month, any one corporate employee may, in some months, work no overtime.

Argument Evaluation

Situation	Most of the employees of the Haglut Corporation work in the manufacturing division, where employees average 14 hours per month in overtime. The average amount of overtime per month for employees at Haglut does not fluctuate much from month to month.
Reasoning	<i>What is the argument's greatest weakness?</i> The argument's conclusion is that almost certainly each month most of the employees of Haglut work at least some overtime. Answer choice (D) identifies the argument's greatest weakness because it points out how the conclusion of the argument could be false even if all of the supporting information were true. For example, it could be that less than half of the employees work any overtime at all, but those that do work overtime work much more than 14 hours per month.

A The argument leaves open the possibility that in some divisions of the corporation, the average monthly overtime of its employees is quite different from 14 hours, even if (as the argument states) that average does not change much from month to month.

B The argument does not assume that there is a monthly amount of overtime worked by each employee of the manufacturing division equivalent to the company-wide average monthly overtime per employee.

C This does not identify a weakness that can be detected in the argument. Since the claims mentioned here are not specified, the passage provides no evidence that clearly indicates that this type of confusion is playing a role in the argument.

D Correct. The argument ignores the possibility that most of the employees of Haglut work no overtime at all in a particular month—which is quite consistent with the argument's assertion that the average number of monthly overtime hours per employee within the manufacturing division is 14.

E The possibility described by this is not overlooked by the argument, because this possibility is consistent with the conclusion. It could easily be that most employees of the corporation work some overtime each month—as the conclusion envisions—but that there are always some employees who do not work any overtime.

The correct answer is D.

89. In the past the country of Malvernia has relied heavily on imported oil. Malvernia recently implemented a program to convert heating systems from oil to natural gas. Malvernia currently produces more natural gas each year than it uses, and oil production in Malvernian oil fields is increasing at a steady pace. If these trends in fuel production and usage continue, therefore, Malvernian reliance on foreign sources for fuel is likely to decline soon.

Which of the following would it be most useful to establish in evaluating the argument?

- (A) When, if ever, will production of oil in Malvernia outstrip production of natural gas?
- (B) Is Malvernia among the countries that rely most on imported oil?
- (C) What proportion of Malvernia’s total energy needs is met by hydroelectric, solar, and nuclear power?
- (D) Is the amount of oil used each year in Malvernia for generating electricity and fuel for transportation increasing?
- (E) Have any existing oil-burning heating systems in Malvernia already been converted to natural-gas-burning heating systems?

Argument Evaluation

Situation	Malvernia has relied heavily on imported oil, but recently began a program to convert heating systems from oil to natural gas. Malvernia produces more natural gas than it uses, so it will probably reduce its reliance on imported oils if these trends continue.
Reasoning	<i>Which option provides the information that it would be most useful to know in evaluating the argument?</i> In other words, we are looking for the option which—depending on whether it was answered yes or no—would either most weaken or most strengthen the argument. The argument indicates that Malvernia will be using less oil for heating and will be producing more oil domestically. But the conclusion that Malvernia’s reliance on foreign oil will decline, assuming the current trends mentioned continue, would be seriously undermined if there was something in the works that was bound to offset these trends, for instance, if it turned out that the country’s need for oil was going to rise drastically in the coming years.

A Since both counteract the need for imported oil, it makes little difference to the argument whether domestic oil production exceeds domestic natural gas.

B Whether there are many countries that rely more on foreign oil than Malvernia would have little impact on whether Malvernia's need for foreign oil can be expected to decline.

C Since there is no information in the argument about whether Malvernia can expect an increase or decrease from these other energy sources, it does not matter how much they now provide.

D Correct. This option provides the information that it would be most useful to know in evaluating the argument.

E The argument tells us that a program has begun *recently* to convert heating systems from oil to gas. So, even if no such conversions have been completed, the argument still indicates that they can be expected to occur.

The correct answer is D.

90. Exposure to certain chemicals commonly used in elementary schools as cleaners or pesticides causes allergic reactions in some children. Elementary school nurses in Renston report that the proportion of schoolchildren sent to them for treatment of allergic reactions to those chemicals has increased significantly over the past ten years. Therefore, either Renston's schoolchildren have been exposed to greater quantities of the chemicals, or they are more sensitive to them than schoolchildren were ten years ago.

Which of the following is an assumption on which the argument depends?

(A) The number of school nurses employed by Renston's elementary schools has not decreased over the past ten years.

(B) Children who are allergic to the chemicals are no more likely than other children to have allergies to other substances.

(C) Children who have allergic reactions to the chemicals are not more likely to be sent to a school nurse now than they were ten years ago.

(D) The chemicals are not commonly used as cleaners or pesticides in houses and apartment buildings in Renston.

(E) Children attending elementary school do not make up a larger proportion of Renston's population now than they did ten years ago.

Argument Construction

Situation	Some children have allergic reactions to some of the chemicals commonly used in elementary schools as cleaners and pesticides. The number of children sent to elementary school nurses in Renston for allergic reactions to such chemicals has risen significantly over the past ten years.
Reasoning	<i>What must the argument assume?</i> The argument's conclusion

presents just two alternatives: either the children are exposed to more of the chemicals than children in earlier years, *or* they are more sensitive. But there is a third possible explanation for the significant increase in school-nurse visits that the school nurses have reported: that children are just more inclined to go to the school nurse when they experience an allergic reaction than were children several years ago. For the conclusion to follow from its premises, the argument must assume that this is not the correct explanation.

A If the number of elementary school nurses in Renston elementary schools had decreased over the past ten years, that would in no way explain the rise in the proportion of children reporting to school nurses for allergic reactions.

B Only school-nurse visits for allergic reactions to the cleaners and pesticides used in elementary schools are in question in the argument. Of course there could be school-nurse visits for allergic reactions to other things, but that issue does not arise in the argument.

C Correct. This can be seen by considering whether the argument would work if we assume that this were false, i.e., that a school-nurse visit is more likely in such cases. As noted above, this provides an alternative to the two explanations that the conclusion claims are the sole possibilities.

D This does not need to be assumed by the argument. The argument's conclusion suggests that children may in recent years have had greater exposure to the chemicals, not that this exposure has occurred exclusively in the schools. The argument does not rely on this latter assumption.

E The argument does not need to make this assumption. The argument is framed in terms of proportions of children having school-nurse visits for certain allergic reactions. *How many* children there are or what proportion such children are of Renston's total population is not directly relevant to the argument.

The correct answer is C.

91. Although the earliest surviving Greek inscriptions written in an alphabet date from the eighth century B.C., **the fact that the text of these Greek inscriptions sometimes runs from right to left and sometimes from left to right** indicates that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were produced. After all, the Greeks learned alphabetic writing from the Phoenicians, and presumably, along with the alphabet, they also adopted the then-current Phoenician practice with respect to the direction of text. **And although Phoenician writing was originally inconsistent in direction, by the eighth century B.C. Phoenician was consistently written from right**

to left and had been for about two centuries.

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first and the second each describe evidence that has been used to challenge the position that the argument seeks to establish.
- (B) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is that position.
- (C) The first is evidence that forms the basis for an objection to the position that the argument seeks to establish; the second is a consideration that is introduced to counter the force of that evidence.
- (D) The first and the second each provide evidence in support of the position that the argument seeks to establish.
- (E) The first provides evidence in support of the position that the argument seeks to establish; the second is that position.

Argument Evaluation

Situation	The oldest surviving Greek inscriptions written in an alphabet are from the eighth century B.C. and run from both left to right and right to left. Therefore, it is likely that the Greeks adopted alphabetic writing at least two centuries before these inscriptions were made. The Greeks adopted their alphabet from the Phoenicians, who wrote in both directions up until two centuries prior to the eighth century.
Reasoning	<i>What roles do the two boldfaced portions play in the argument?</i> The conclusion of the argument is that the Greeks adopted alphabetic writing at least two centuries before the oldest surviving Greek inscriptions were written in the eighth century B.C. The first and second boldfaced portions work together to support this conclusion.

A The first and second portions are not used to challenge the position the argument seeks to establish, but to support it.

B The first is evidence for the conclusion, not for an objection to it; the second is as well.

C The first is evidence for the conclusion, not for an objection to it; the second is as well.

D Correct. This option correctly identifies the roles played by the boldfaced portions.

E The second boldfaced portion is not the conclusion, but evidence for that

conclusion.

The correct answer is D.

92. Normally, the pineal gland governs a person's sleep-wake cycle by secreting melatonin in response to the daily cycle of light and darkness as detected by the eye. Nonetheless, many people who are totally blind due to lesions in the visual cortex of the brain easily maintain a 24-hour sleep-wake cycle. So the neural pathway by which the pineal gland receives information from the eye probably does not pass through the visual cortex.

For purposes of evaluating the argument it would be most useful to establish which of the following?

- (A) Whether melatonin supplements help people who have difficulty maintaining a 24-hour sleep cycle to establish such a pattern
- (B) Whether the melatonin levels of most totally blind people who successfully maintain a 24-hour sleep-wake cycle change in response to changes in exposure to light and darkness
- (C) Whether melatonin is the only substance secreted by the pineal gland
- (D) Whether most people who do not have a 24-hour sleep-wake cycle nevertheless have a cycle of consistent duration
- (E) Whether there are any people with normal vision whose melatonin levels respond abnormally to periods of light and darkness

Argument Evaluation

Situation	Normally, a person's sleep-wake cycle is governed by the pineal gland secreting melatonin in response to the daily cycle of light and darkness as detected by the eye. Yet many people who are totally blind due to lesions of the visual cortex easily maintain a 24-hour sleep-wake cycle.
Reasoning	<i>What additional information would be most helpful in evaluating the argument?</i> The argument's conclusion is that the neural pathway by which the pineal gland receives information probably does not pass through the visual cortex. This is suggested by the fact that people without a well-functioning visual cortex (e.g., people with a certain type of blindness) can nonetheless maintain a 24-hour sleep-wake cycle. Is it by the pineal gland's secretion of melatonin that they do so? The argument tells us that <i>normally</i> (i.e., in sighted people), this is the mechanism for sleep regulation. But the argument depends on assuming that a similar mechanism is operating in people who are blind but have well-regulated sleep cycles. The best choice will be the one that helps us decide whether

that assumption is correct.

A This question would not give us an answer that would help in evaluating the argument. A “no” answer would not clarify whether the pineal gland-melatonin mechanism operates in people who are blind. A “yes” answer would do no better. The question refers only to people who have sleep dysfunctions (which the argument does not address).

B Correct. Answering this question would provide the most useful information for evaluating the argument. A “yes” answer would help confirm a key assumption of the argument: that blind people rely on the pineal gland-melatonin mechanism for sleep regulation. A “no” answer would help disconfirm that assumption.

C Whether or not there are other substances secreted by the pineal gland makes no difference to the reasoning. The argument relies on the premise that the pineal gland governs the sleep cycle *by secreting melatonin*. For example, if the pineal gland sometimes secreted adrenaline, that would still have no bearing on the argument.

D The consistency or inconsistency of the duration of some people’s sleep patterns has no relevance to the reasoning. Their sleep patterns could be due to any of a number of factors.

E This does not help, for there could be sighted people whose melatonin levels respond abnormally simply because of a pineal-gland abnormality.

The correct answer is B.

93. **In countries where automobile insurance includes compensation for whiplash injuries sustained in automobile accidents, reports of having suffered such injuries are twice as frequent as they are in countries where whiplash is not covered.** Presently, no objective test for whiplash exists, so it is true that spurious reports of whiplash injuries cannot be readily identified. Nevertheless, these facts do not warrant the conclusion drawn by some commentators that in the countries with the higher rates of reported whiplash injuries, half of the reported cases are spurious. Clearly, **in countries where automobile insurance does not include compensation for whiplash, people often have little incentive to report whiplash injuries that they actually have suffered.**

In the argument given, the two boldfaced portions play which of the following roles?

(A) The first is a claim that the argument disputes; the second is a conclusion that has been based on that claim.

(B) The first is a claim that has been used to support a conclusion that the argument accepts; the second is that conclusion.

(C) The first is evidence that has been used to support a conclusion for which the argument provides further evidence; the second is the main conclusion of the argument.

(D) The first is a finding whose implications are at issue in the argument; the second is a claim presented in order to argue against deriving certain implications from that finding.

(E) The first is a finding whose accuracy is evaluated in the argument; the second is evidence presented to establish that the finding is accurate.

Argument Evaluation

Situation	Reported whiplash injuries are twice as common in countries where car insurance companies pay compensation for such injuries as they are in countries where insurance companies do not. Although there is no objective test for whiplash, this does not mean, as some suggest, that half of the reports of such injuries are fake. It could simply be that where insurance will not pay for such injuries, people are less inclined to report them.
Reasoning	<i>What roles do the two boldfaced portions play in the argument?</i> The first portion tells us about the correlation between reported cases of whiplash in countries and the willingness of insurance companies in those countries to compensate for whiplash injuries. The argument next states that whiplash is difficult to objectively verify. The argument then asserts that <i>although</i> this last fact, taken together with the first boldfaced portion, has led some to infer that over half of the reported cases in countries with the highest whiplash rates are spurious, such an inference is unwarranted. The second boldfaced portion then helps to explain why such an inference is not necessarily warranted by offering an alternative explanation.

A The claim made in the first boldfaced portion is never disputed in the argument; at dispute is how to account for the fact that this claim is true. The second is not the argument's conclusion.

B In a manner of speaking, perhaps, the argument uses the first portion to support its conclusion; but there is no indication that it has been used elsewhere to do so. In any case, the second boldfaced portion is not the argument's conclusion.

C The first has been used to support a conclusion that the argument *rejects*; the second boldfaced portion is not the argument's conclusion.

D Correct. This option correctly identifies the roles played in the argument by the boldfaced portions.

E The accuracy of the first boldfaced portion is never questioned in the argument; nor is the second intended to somehow help show that the first is accurate. Rather, the argument assumes that the first portion is accurate.

The correct answer is D.

94. Last year a global disturbance of weather patterns disrupted harvests in many of the world's important agricultural areas. Worldwide production of soybeans, an important source of protein for people and livestock alike, was not adversely affected, however. Indeed, last year's soybean crop was actually slightly larger than average. Nevertheless, the weather phenomenon is probably responsible for a recent increase in the world price of soybeans.

Which of the following, if true, provides the strongest justification for the attribution of the increase in soybean prices to the weather phenomenon?

- (A) Last year's harvest of anchovies, which provide an important protein source for livestock, was disrupted by the effects of the weather phenomenon.
- (B) Most countries that produce soybeans for export had above-average harvests of a number of food crops other than soybeans last year.
- (C) The world price of soybeans also rose several years ago, immediately after an earlier occurrence of a similar global weather disturbance.
- (D) Heavy rains attributable to the weather phenomenon improved grazing pastures last year, allowing farmers in many parts of the world to reduce their dependence on supplemental feed.
- (E) Prior to last year, soybean prices had been falling for several years.

Argument Construction

Situation	A weather disturbance last year disrupted harvests worldwide but did not reduce production of soybeans, a protein source for both people and livestock. Soybean prices increased nonetheless, likely a result of the weather.
Reasoning	<i>What evidence would suggest that the weather disturbance caused the increase in soybean prices even though it did not reduce soybean production?</i> Prices tend to increase when the supply of a product falls relative to the demand for the product. But the production of soybeans did not fall. Evidence that the weather disturbance either hindered the global distribution of soybeans or increased global demand for soybeans could support the claim that the weather disturbance caused the increase in soybean prices.

A Correct. If the weather disturbance reduced the anchovy harvest, and anchovies provide protein for livestock just as soybeans do, then more

soybeans for livestock feed would be needed to compensate for the lack of anchovies. The resulting increase in demand for soybeans could thus have increased global soybean prices.

B This is not surprising, given that the weather disturbance did not severely affect the soybean-producing countries, but it does not explain how the weather disturbance could have caused soybean prices to increase.

C The rise in soybean prices after the earlier weather disturbance could easily have been a coincidence. Or, unlike last year's disturbance, the earlier disturbance could have reduced soybean production.

D This suggests that demand for soybeans should have fallen as a result of the weather disturbance, so it does not explain why soybean prices rose.

E If soybean prices were unusually low for some temporary reason when the weather disturbance occurred, they might have been likely to rise back to normal levels even without the weather disturbance.

The correct answer is A.

95. Commentator: The theory of trade retaliation states that countries closed out of any of another country's markets should close some of their own markets to the other country in order to pressure the other country to reopen its markets. If every country acted according to this theory, no country would trade with any other.

The commentator's argument relies on which of the following assumptions?

(A) No country actually acts according to the theory of trade retaliation.

(B) No country should block any of its markets to foreign trade.

(C) Trade disputes should be settled by international tribunal.

(D) For any two countries, at least one has some market closed to the other.

(E) Countries close their markets to foreigners to protect domestic producers.

Argument Construction

Situation	The theory of trade retaliation is explained as the action and reaction of closing markets between trading nations; no country would ever trade with another, the observation is offered, if every country acted according to the theory.
Reasoning	<i>What assumption underlies this argument?</i> What makes the commentator conclude that no country would be trading if the theory were operative? The commentator must perceive of some condition as a given here. The argument assumes an initial action, a country's closing of a market to a trading partner, that is followed by a reaction, the retaliatory closing of a market by that partner. In

this unending pattern of action-reaction, at least one of the two countries must have a market closed to the other.

A The argument does not assume that no country acts according to the theory, just that not all countries do so.

B The commentator's argument is about what the theory of trade retaliation predicts, not about what trade policies countries ought to follow, and a statement about the latter is not an assumption for the former.

C This alternative scenario—trade disputes settled by international tribunal rather than by trade retaliation—plays no role in the argument.

D Correct. This statement properly identifies the assumption required to create the never-ending action-reaction pattern.

E The argument does not pertain to countries' initial reasons for closing their markets to foreign trade, only to the consequences of doing so.

The correct answer is D.

96. Hotco oil burners, designed to be used in asphalt plants, are so efficient that Hotco will sell one to the Clifton Asphalt plant for no payment other than the cost savings between the total amount the asphalt plant actually paid for oil using its former burner during the last two years and the total amount it will pay for oil using the Hotco burner during the next two years. On installation, the plant will make an estimated payment, which will be adjusted after two years to equal the actual cost savings.

Which of the following, if it occurred, would constitute a disadvantage for Hotco of the plan described above?

(A) Another manufacturer's introduction to the market of a similarly efficient burner

(B) The Clifton Asphalt plant's need for more than one new burner

(C) Very poor efficiency in the Clifton Asphalt plant's old burner

(D) A decrease in the demand for asphalt

(E) A steady increase in the price of oil beginning soon after the new burner is installed

Evaluation of a Plan

Situation	Hotco produces a very efficient oil burner. It sells a burner to an asphalt plant, stating that the price of the burner is how much money the plant saves on oil using the new burner.
Reasoning	<i>Hotco will be at a disadvantage if which of the following occurs?</i> Hotco is to be paid based on how much money the plant saves on

oil over a two-year period. There is an assumption that a number of factors will remain relatively stable from the previous two years to the next two years. What is a factor that could cause a disadvantage for Hotco? If the price of oil goes up, then the plant will experience smaller savings than Hotco anticipated, despite the plant's using less oil than previously because of its new, more efficient burners. If the plant's savings go down, Hotco will not get the payment it is expecting.

A The burner is already installed, so a competitor is not a problem.

B The plant's need for multiple burners should be an opportunity for Hotco, not a disadvantage.

C If the old burner was very inefficient, the new burner should save a great deal of money that would ultimately go to Hotco.

D If demand decreases, less oil would need to be purchased, and Hotco would get more money.

E Correct. This statement properly identifies a factor that would constitute a disadvantage for the plan: since the payment for the burner is based on savings in oil purchases, any increases in the price of oil will decrease savings and thus decrease payments to Hotco.

The correct answer is E.

97. Most of the year, the hermit thrush, a North American songbird, eats a diet consisting mainly of insects, but in autumn, as the thrushes migrate to their Central and South American wintering grounds, they feed almost exclusively on wild berries. Wild berries, however, are not as rich in calories as insects, yet thrushes need to consume plenty of calories in order to complete their migration. One possible explanation is that berries contain other nutrients that thrushes need for migration and that insects lack.

Which of the following, if true, most seriously calls into question the explanation given for the thrush's diet during migration?

(A) Hermit thrushes, if undernourished, are unable to complete their autumn migration before the onset of winter.

(B) Insect species contain certain nutrients that are not found in wild berries.

(C) For songbirds, catching insects requires the expenditure of significantly more calories than eating wild berries does.

(D) Along the hermit thrushes' migration routes, insects are abundant throughout the migration season.

(E) There are some species of wild berries that hermit thrushes generally do not eat, even though these berry species are exceptionally rich in calories.

Argument Evaluation

Situation	Hermit thrushes are songbirds that usually eat insects but switch to eating berries when migrating. The thrushes need lots of calories to migrate, but berries contain fewer calories than insects do. Perhaps the berries contain nutrients that insects do not provide.
Reasoning	<i>What would cast doubt on the claim that the thrushes switch to berries because berries contain nutrients that insects lack and that the thrushes need for their migration?</i> Evidence that berries do not contain such nutrients or that thrushes do not decrease their net calorie consumption by eating berries would cast doubt on the proposed explanation. So would any evidence that supported an alternative explanation for the diet change during migration—for example, seasonal or regional differences in the amount or quality of berries or insects available for the thrushes to consume.

A Even if thrushes need to be well-nourished to finish migrating before winter, extra nutrients found in berries but not insects might help provide the nourishment they need.

B Even if insects contain *certain nutrients* not found in wild berries, those specific nutrients may not be the ones the thrushes need for their migration.

C Correct. This suggests that the thrushes might gain more net calories from eating berries than from eating insects, which could explain why they switch to eating berries even if the berries contain no extra nutrients.

D By ruling out a lack of insects to eat while migrating as an alternative explanation for why the thrushes switch to eating berries, this would support the proposed explanation.

E The calorie-rich species of berries the thrushes do not eat might be poisonous or indigestible for them, even if the species of berries the thrushes do eat contain nutrients they need to migrate.

The correct answer is C.

98. Networks of blood vessels in bats' wings serve only to disperse heat generated in flight. This heat is generated only because bats flap their wings. Thus paleontologists' recent discovery that the winged dinosaur *Sandactylus* had similar networks of blood vessels in the skin of its wings provides evidence for the hypothesis that *Sandactylus* flew by flapping its wings, not just by gliding.

In the passage, the author develops the argument by

(A) forming the hypothesis that best explains several apparently conflicting

pieces of evidence

(B) reinterpreting evidence that had been used to support an earlier theory

(C) using an analogy with a known phenomenon to draw a conclusion about an unknown phenomenon

(D) speculating about how structures observed in present-day creatures might have developed from similar structures in creatures now extinct

(E) pointing out differences in the physiological demands that flight makes on large, as opposed to small, creatures

Argument Evaluation

Situation	The network of blood vessels in bats' wings is compared with a similar structure in the wings of the dinosaur Sandactylus to explain how the dinosaur flew.
Reasoning	<i>How is this argument developed?</i> The author first shows that a physical characteristic of bats' wings is directly related to their style of flight. The author then argues that the similar structure found in the wings of Sandactylus is evidence that the dinosaur had a style of flight similar to that of bats. The structure of this argument is a comparison, or analogy, between a known phenomenon (bats) and an unknown one (Sandactylus).

A The evidence of the blood vessels in the wings does not conflict with other evidence.

B The evidence of the blood vessels in the wings is used to support only one theory—that Sandactylus flew by flapping its wings as well as by gliding; no evidence is discussed in relation to any earlier theory.

C Correct. This statement properly identifies how the argument compares the wings of bats and of Sandactylus in order to draw a conclusion about how the dinosaur flew.

D The argument is not about how the structures in the bats developed from the structures in the dinosaurs, but rather about how Sandactylus flew.

E The comparison between bats and Sandactylus points out similarities, not differences.

The correct answer is C.

99. Keith: Compliance with new government regulations requiring the installation of smoke alarms and sprinkler systems in all theaters and arenas will cost the entertainment industry \$25 billion annually. Consequently, jobs will be lost and profits diminished. Therefore, these regulations will harm the country's economy. Laura: The \$25 billion spent by some businesses will be revenue for others. Jobs

and profits will be gained as well as lost.

Laura responds to Keith by

- (A) demonstrating that Keith's conclusion is based on evidence that is not relevant to the issue at hand
- (B) challenging the plausibility of the evidence that serves as the basis for Keith's argument
- (C) suggesting that Keith's argument overlooks a mitigating consequence
- (D) reinforcing Keith's conclusion by supplying a complementary interpretation of the evidence Keith cites
- (E) agreeing with the main conclusion of Keith's argument but construing that conclusion as grounds for optimism rather than for pessimism

Argument Construction

Situation	Keith argues that the cost of new regulations will result in a loss of jobs and profits, hurting the national economy. Laura points out that while one industry will suffer, others will gain by supplying the goods and services required by the regulations.
Reasoning	<i>What is the strategy Laura uses in the counterargument?</i> Laura uses the same evidence, the \$25 billion spent on meeting new regulations, but comes to a different conclusion. While Keith focuses on the losses to one industry, Laura looks at the gains to other industries. By suggesting a consequence that Keith did not mention, she places the outcome in a more positive light.

A Laura accepts the relevance of Keith's evidence and uses it herself when she replies that *the \$25 billion spent by some businesses will be revenue for others*.

B Laura does not challenge Keith's evidence; she uses the same evidence as the basis of her own argument.

C Correct. This statement properly identifies the strategy Laura employs in her counterargument. Laura points out that Keith did not consider that, in this case, losses for one industry mean gains for others.

D Laura rejects rather than reinforces Keith's conclusion; while he notes the losses in jobs and profits that will harm the economy, she points out that *jobs and profits will be gained as well as lost*.

E Laura does not agree with Keith's main conclusion that the regulations will harm the national economy; she argues instead that gains in other industries will compensate for the losses in one industry.

The correct answer is C.

100. A certain cultivated herb is one of a group of closely related plants that thrive in soil with high concentrations of metals that are toxic to most other plants. Agronomists studying the growth of this herb have discovered that it produces large amounts of histidine, an amino acid that, in test-tube solutions, renders these metals chemically inert. Hence, the herb's high histidine production must be the key feature that allows it to grow in metal-rich soils.

In evaluating the argument, it would be most important to determine which of the following?

- (A) Whether the herb can thrive in soil that does not have high concentrations of the toxic metals
- (B) Whether others of the closely related group of plants also produce histidine in large quantities
- (C) Whether the herb's high level of histidine production is associated with an unusually low level of production of some other amino acid
- (D) Whether growing the herb in soil with high concentrations of the metals will, over time, reduce their concentrations in the soil
- (E) Whether the concentration of histidine in the growing herb declines as the plant approaches maturity

Argument Evaluation

Situation	A certain herb and closely related species thrive in soil full of metals toxic to most plants. The herb produces much histidine, which makes those metals chemically inert. Histidine production, therefore, is largely what accounts for the herb's thriving in metal-rich soils.
Reasoning	<i>What evidence would help determine whether the herb's histidine production is what enables it to thrive in metal-rich soils?</i> The argument is that since the herb's histidine chemically neutralizes the metals that are toxic to most plants, it must explain why the herb can thrive in metal-rich soils. To evaluate this argument, it would be helpful to know about the relationship between other closely related plant species' histidine production and the ability to thrive in metal-rich soils. It would also be helpful to know about any other factors that might plausibly explain why the herb can thrive in those soils.

A Whether or not the herb thrives in metal-free soils, histidine production could enable it to thrive in soils that contain toxic metals.

B Correct. If the closely related plants do not produce much histidine, whatever other factor allows them to thrive in metal-rich soils would likely

account for why the herb thrives in those soils as well.

C The given information suggests no particular reason to suppose that a low level of some unspecified amino acid would enable a plant to thrive in metal-rich soils.

D The herb might absorb metals from any metal-rich soil it grows in, regardless of why it thrives in that soil.

E Whether or not histidine concentrations in the herb decline as it approaches maturity, there could still be enough histidine in the growing herb to neutralize the metals and explain why it can grow in metal-rich soil.

The correct answer is B.

101. Many people suffer an allergic reaction to certain sulfites, including those that are commonly added to wine as preservatives. However, since there are several winemakers who add sulfites to none of the wines they produce, people who would like to drink wine but are allergic to sulfites can drink wines produced by these winemakers without risking an allergic reaction to sulfites.

Which of the following is an assumption on which the argument depends?

(A) These winemakers have been able to duplicate the preservative effect produced by adding sulfites by means that do not involve adding any potentially allergenic substances to their wine.

(B) Not all forms of sulfite are equally likely to produce the allergic reaction.

(C) Wine is the only beverage to which sulfites are commonly added.

(D) Apart from sulfites, there are no substances commonly present in wine that give rise to an allergic reaction.

(E) Sulfites are not naturally present in the wines produced by these winemakers in amounts large enough to produce an allergic reaction in someone who drinks these wines.

Argument Construction

Situation	People who are allergic to certain sulfites can avoid risking an allergic reaction by drinking wine from one of the several producers that does not add sulfites.
Reasoning	<i>On what assumption does the argument depend?</i> Drinking wine to which no sulfites have been <i>added</i> will not prevent exposure to sulfites if, for instance, sulfites occur naturally in wines. In particular, if the wines that do not have sulfites added have sulfites present naturally in quantities sufficient to produce an allergic reaction, drinking these wines will not prevent an allergic reaction. The argument therefore depends on assuming that this is not the

	case.

A The argument does not require this because the conclusion does not address allergic reactions to substances other than sulfites.

B The argument specifically refers to “certain sulfites” producing allergic reactions. It is entirely compatible with certain other forms of sulfites not producing allergic reactions in anyone.

C This is irrelevant. The argument does not claim that one can avoid having an allergic reaction to sulfites *from any source* just by restricting one’s wine consumption to those varieties to which no sulfites have been added.

D Once again, the argument’s conclusion does not address allergic reactions to substances other than sulfites in wine.

E Correct. The argument relies on this assumption.

The correct answer is E.

102. Businesses are suffering because of a lack of money available for development loans. To help businesses, the government plans to modify the income-tax structure in order to induce individual taxpayers to put a larger portion of their incomes into retirement savings accounts, because as more money is deposited in such accounts, more money becomes available to borrowers.

Which of the following, if true, raises the most serious doubt regarding the effectiveness of the government’s plan to increase the amount of money available for development loans for businesses?

(A) When levels of personal retirement savings increase, consumer borrowing always increases correspondingly.

(B) The increased tax revenue the government would receive as a result of business expansion would not offset the loss in revenue from personal income taxes during the first year of the plan.

(C) Even with tax incentives, some people will choose not to increase their levels of retirement savings.

(D) Bankers generally will not continue to lend money to businesses whose prospective earnings are insufficient to meet their loan repayment schedules.

(E) The modified tax structure would give all taxpayers, regardless of their incomes, the same tax savings for a given increase in their retirement savings.

Evaluation of a Plan

Situation	Because the lack of available money for development loans is

	harming businesses, the government plans to modify the income-tax structure, encouraging taxpayers to put more money into retirement accounts. This plan is intended to ensure that with more money put into these accounts, more money will in turn be available to business borrowers.
Reasoning	<i>What potential flaw in this plan might prevent it from being effective?</i> What is the expectation behind the plan? The government's plan supposes that the money invested in retirement accounts will be available to business borrowers in the form of development loans. Consider what circumstances might hinder that availability. What if consumer borrowers compete with businesses? If it is known that, historically, increased savings in personal retirement accounts corresponds with increased consumer borrowing, then the government's effort to target businesses as the beneficiaries of this plan could well fail.

A Correct. This statement properly identifies a reason that the government's plan could be less effective in meeting its goal.

B A predicted revenue shortfall does not directly affect the plan's effectiveness in reaching its stated goal, and might be deemed an acceptable cost of achieving that goal.

C As long as the total amount deposited in personal retirement accounts increases sufficiently, the decision of *some people* not to increase their contributions will not keep the plan from achieving its goal.

D The plan would increase the money available specifically for development loans, not existing loans.

E The universal tax savings does not affect the effectiveness of the plan.

The correct answer is A.

103. A new law gives ownership of patents—documents providing exclusive right to make and sell an invention—to universities, not the government, when those patents result from government-sponsored university research. Administrators at Logos University plan to sell any patents they acquire to corporations in order to fund programs to improve undergraduate teaching.

Which of the following, if true, would cast the most doubt on the viability of the college administrators' plan described above?

- (A) Profit-making corporations interested in developing products based on patents held by universities are likely to try to serve as exclusive sponsors of ongoing university research projects.
- (B) Corporate sponsors of research in university facilities are entitled to tax

credits under new federal tax-code guidelines.

(C) Research scientists at Logos University have few or no teaching responsibilities and participate little if at all in the undergraduate programs in their field.

(D) Government-sponsored research conducted at Logos University for the most part duplicates research already completed by several profit-making corporations.

(E) Logos University is unlikely to attract corporate sponsorship of its scientific research.

Evaluation of a Plan

Situation	Universities own the patents resulting from government-sponsored research at their institutions. One university plans to sell its patents to corporations to fund a program to improve teaching.
Reasoning	<i>Which point casts doubt on the university's plan?</i> The university's plan assumes there will be a market for its patents, and that the corporations will want to buy them. What might make this untrue? If some of the corporations have already done the same or similar research, they will not be prospective buyers of the university's patents.

A This point is irrelevant to the plan to sell patents in order to fund a program.

B The university plans to sell the patents to the corporations, not to invite the corporations to sponsor research.

C This point is irrelevant to the university's plan to sell off patents since the plan does not specify that the research scientists will be involved in the programs to improve undergraduate teaching.

D Correct. This statement properly identifies a factor that casts doubt on the university's plan to sell its patents to corporations.

E The plan concerns selling patents resulting from government-sponsored research, not attracting corporate sponsorship for research.

The correct answer is D.

104. Environmentalist: The commissioner of the Fish and Game Authority would have the public believe that increases in the number of marine fish caught demonstrate that this resource is no longer endangered. This is a specious argument, as unsound as it would be to assert that the ever-increasing rate at which rain forests are being cut down demonstrates a lack of danger to that resource. The real cause of the increased fish-catch is a greater efficiency in using technologies that deplete

resources.

The environmentalist's statements, if true, best support which of the following as a conclusion?

- (A) The use of technology is the reason for the increasing encroachment of people on nature.
- (B) It is possible to determine how many fish are in the sea in some way other than by catching fish.
- (C) The proportion of marine fish that are caught is as high as the proportion of rain forest trees that are cut down each year.
- (D) Modern technologies waste resources by catching inedible fish.
- (E) Marine fish continue to be an endangered resource.

Argument Construction

Situation	A public official argues that increased catches show that marine fish are no longer endangered. An environmentalist attacks the position and cites technology as the cause of the increased catch.
Reasoning	<i>What conclusion do the environmentalist's statements support?</i> The environmentalist casts doubt by saying the commissioner <i>would have the public believe</i> that the increased catch shows that the fish are no longer endangered; the phrasing indicates that the environmentalist believes just the reverse. The environmentalist does believe the marine fish are endangered, and, after attacking the commissioner's argument as <i>specious</i> , or false, and offering an analogy to make that argument look ridiculous, the environmentalist gives an alternate explanation for the increased catch that is consistent with that belief.

A Although the environmentalist claims that technology causes people's greater encroachment on nature in this single instance, there is nothing in the argument to suggest that such encroachment caused by technology is a general trend.

B The environmentalist's claims imply that the number of fish caught is not a reliable indicator of how many are left in the ocean but do not give any indication that it is possible to find out by any other means, either.

C The environmentalist creates an analogy between fish caught and rain forest trees cut down but does not compare their proportion.

D Nothing about how the fish can be used, including whether they are edible or inedible, plays any role in the environmentalist's argument.

E Correct. This statement properly identifies a conclusion supported by the

environmentalist's statements: The marine fish are endangered.

The correct answer is E.

105. Since it has become known that **several of a bank's top executives have been buying shares in their own bank**, the bank's depositors, who had been worried by rumors that the bank faced impending financial collapse, have been greatly relieved. They reason that, since top executives evidently have faith in the bank's financial soundness, those worrisome rumors must be false. Such reasoning might well be overoptimistic, however, since **corporate executives have been known to buy shares in their own company in a calculated attempt to dispel negative rumors about the company's health**.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first describes evidence that has been taken as supporting a conclusion; the second gives a reason for questioning that support.
- (B) The first describes evidence that has been taken as supporting a conclusion; the second states a contrary conclusion that is the main conclusion of the argument.
- (C) The first provides evidence in support of the main conclusion of the argument; the second states that conclusion.
- (D) The first describes the circumstance that the argument as a whole seeks to explain; the second gives the explanation that the argument seeks to establish.
- (E) The first describes the circumstance that the argument as a whole seeks to explain; the second provides evidence in support of the explanation that the argument seeks to establish.

Argument Evaluation

Situation	Top executives at a bank that has been rumored to be in financial trouble have been buying shares in the bank. Bank depositors see this as a good sign, because they believe that it indicates that the executives have faith in the bank. However, corporate executives sometimes do this just to dispel rumors about a company's health.
Reasoning	<i>What is the role that the two boldfaced portions play in the argument?</i> The first boldfaced portion states that bank executives are buying bank shares, which the passage indicates is taken by bank depositors to be evidence of the executives' faith in the bank. The passage then tells us what some have inferred from this, and finally offers in the second boldfaced statement evidence that undermines this inference.

A Correct. This option correctly identifies the roles played by the boldfaced portions.

B This correctly describes the first statement's role, but the second statement is not offered as a conclusion—no evidence is given for it; rather it is evidence for something else.

C Again, the second statement is not offered as a conclusion; no evidence is given for it.

D The second statement is not itself offered as an explanation of why these bank executives are investing in the bank; if it were, that would mean that the bank executives are doing so *because* corporate executives are known to do such things in a calculated effort to dispel worries. Furthermore the argument does not conclude that this other explanation (which the boldfaced portion points to) is correct, only that the one inferred by depositors may not be.

E Again, the argument is not so much seeking to establish an explanation of its own as it is trying to undermine that inferred by the depositors.

The correct answer is A.

106. Between 1980 and 2000 the sea otter population of the Aleutian Islands declined precipitously. There were no signs of disease or malnutrition, so there was probably an increase in the number of otters being eaten by predators. Orcas will eat otters when seals, their normal prey, are unavailable, and the Aleutian Islands seal population declined dramatically in the 1980s. Therefore, orcas were most likely the immediate cause of the otter population decline.

Which of the following, if true, most strengthens the argument?

- (A) The population of sea urchins, the main food of sea otters, has increased since the sea otter population declined.
- (B) Seals do not eat sea otters, nor do they compete with sea otters for food.
- (C) Most of the surviving sea otters live in a bay that is inaccessible to orcas.
- (D) The population of orcas in the Aleutian Islands has declined since the 1980s.
- (E) An increase in commercial fishing near the Aleutian Islands in the 1980s caused a slight decline in the population of the fish that seals use for food.

Argument Evaluation

Situation	A sea otter population declined even though there were no signs of disease or malnutrition. The local seal population also declined. Orcas eat otters when seals are unavailable, and thus are probably

	the cause of the decline in the otter population.
Reasoning	<i>What would be evidence that predation by orcas reduced the sea otter population?</i> Disease and malnutrition are ruled out as alternative explanations of the decline in the sea otter population. The argument could be further strengthened by casting doubt on other possible explanations, such as predation by other animals, or by presenting observations that predation of otters by orcas would help to explain.

A Regardless of whether or not orcas ate the sea otters, the sea urchin population would most likely have increased when the population of sea otters preying on them decreased.

B Because the seal population declined during the initial years of the otter population decline, predation by and competition with seals were already implausible explanations of the otter population decline.

C Correct. Orcas eating most of the accessible otters could plausibly explain this observation, which therefore provides additional evidence that orca predation reduced the sea otter population.

D If the orca population declined at the same time as the sea otter population, it would be less likely that increasing predation by orcas reduced the otter population.

E Since the sea otters showed no signs of malnutrition, they were probably getting enough fish. But if they were not, commercial fishing rather than orcas might have caused the otter population decline.

The correct answer is C.

107. In the country of Veltria, the past two years' broad economic recession has included a business downturn in the clothing trade, where sales are down by about 7 percent as compared to two years ago. Clothing wholesalers have found, however, that the proportion of credit extended to retailers that was paid off on time fell sharply in the first year of the recession but returned to its prerecession level in the second year.

Which of the following, if true, most helps to explain the change between the first and the second year of the recession in the proportion of credit not paid off on time?

- (A) The total amount of credit extended to retailers by clothing wholesalers increased between the first year of the recession and the second year.
- (B) Between the first and second years of the recession, clothing retailers in Veltria saw many of their costs, rent and utilities in particular, increase.
- (C) Of the considerable number of clothing retailers in Veltria who were

having financial difficulties before the start of the recession, virtually all were forced to go out of business during its first year.

(D) Clothing retailers in Veltria attempted to stimulate sales in the second year of the recession by discounting merchandise.

(E) Relatively recession-proof segments of the clothing trade, such as work clothes, did not suffer any decrease in sales during the first year of the recession.

Argument Evaluation

Situation	Two years of recession in Veltria included a downturn in the clothing trade where sales are down 7 percent from two years ago. Yet, in the second year of the recession, the proportion of credit extended from clothing wholesalers to retailers that was paid off on time has returned to its prerecession level, after having fallen sharply during the first year.
Reasoning	<i>Which option would most help to explain the change between the first and second year in the proportion of credit paid off on time?</i> The apparent discrepancy in the passage that needs explaining is between the downturn in the clothing trade over the last two years and the return to prerecession rates in the proportion of credit extended to clothing retailers that was paid on time. How can the proportion this past year be similar to what it would be in a normal year? After all, one would expect retailers to have a harder time paying off credit in a recession. And what changed in the past year to bring this about? If the first year of the recession drove out of business many of the retailers who were most apt to get behind in their payments to wholesalers, then that would explain how the rate at which credit was being paid on time could be as high in the second year of the recession as it was before the recession.

A The fact that the absolute amount of credit that was extended to retailers went up in the second year does not help to explain why the *proportion that was paid on time* also went up.

B If anything, this would suggest that more retailers would have trouble paying their credit to wholesalers on time.

C Correct. This is the option that most helps to explain the phenomenon.

D Just because retailers *tried* to stimulate sales does not mean that they succeeded, and the passage tells us that the downturn in sales in the clothing trade continued into the second year.

E This does not change the fact that there was a downturn in sales of clothing during the first year. Furthermore, the question is why the rate of

unpaid credit dropped in the *second* year of the recession.

The correct answer is C.

108. Studies in restaurants show that the tips left by customers who pay their bill in cash tend to be larger when the bill is presented on a tray that bears a credit-card logo. Consumer psychologists hypothesize that simply seeing a credit-card logo makes many credit-card holders willing to spend more because it reminds them that their spending power exceeds the cash they have immediately available.

Which of the following, if true, most strongly supports the psychologists' interpretation of the studies?

- (A) The effect noted in the studies is not limited to patrons who have credit cards.
- (B) Patrons who are under financial pressure from their credit-card obligations tend to tip less when presented with a restaurant bill on a tray with a credit-card logo than when the tray has no logo.
- (C) In virtually all of the cases in the studies, the patrons who paid bills in cash did not possess credit cards.
- (D) In general, restaurant patrons who pay their bills in cash leave larger tips than do those who pay by credit card.
- (E) The percentage of restaurant bills paid with a given brand of credit card increases when that credit card's logo is displayed on the tray with which the bill is presented.

Argument Evaluation

Situation	Studies have found that restaurant customers give more generous tips when their bills are brought on trays bearing a credit-card logo. Psychologists speculate that this is because the logo reminds customers of their ability to spend more money than they have.
Reasoning	<i>Which of the options most helps to support the psychologists' explanation of the studies?</i> The psychologists' hypothesis is that the credit-card logos on the trays bring to the minds of those who tip more the fact that they have more purchasing power than merely the cash that they have at hand. This explanation would not be valid even if those people who are <i>not</i> reminded of their own excess purchasing power—if in fact they have any such power—when they see such a logo nonetheless tip more in such trays. Thus, if restaurant patrons who are under financial pressure from their credit-card obligations do not tip more when their bills are presented on trays bearing credit-card logos, then the psychologists' interpretation of the studies is supported.

A This undermines the psychologists' interpretation, for it shows that the same phenomenon occurs even when the alleged cause has been removed.

B Correct. This option identifies the result that would most strengthen the psychologists' interpretation.

C This undermines the psychologists' interpretation by showing that the same phenomenon occurs even when the alleged cause has been removed; patrons cannot be reminded of something that is not there.

D To the extent that this bears on the interpretation of the study, it weakens it. Patrons *using* credit cards are surely aware that they have credit, and yet they spend *less* generously.

E This does not support the idea that being reminded that one has a credit card induces one to be *more generous*, only that it induces one to *use* that credit card.

The correct answer is B.

109. In an experiment, each volunteer was allowed to choose between an easy task and a hard task and was told that another volunteer would do the other task. Each volunteer could also choose to have a computer assign the two tasks randomly. Most volunteers chose the easy task for themselves and under questioning later said they had acted fairly. But when the scenario was described to another group of volunteers, almost all said choosing the easy task would be unfair. This shows that most people apply weaker moral standards to themselves than to others.

Which of the following is an assumption required by this argument?

(A) At least some volunteers who said they had acted fairly in choosing the easy task would have said that it was unfair for someone else to do so.

(B) The most moral choice for the volunteers would have been to have the computer assign the two tasks randomly.

(C) There were at least some volunteers who were assigned to do the hard task and felt that the assignment was unfair.

(D) On average, the volunteers to whom the scenario was described were more accurate in their moral judgments than the other volunteers were.

(E) At least some volunteers given the choice between assigning the tasks themselves and having the computer assign them felt that they had made the only fair choice available to them.

Argument Construction

Situation	In an experiment, most volunteers chose to do an easy task themselves and leave a hard task for someone else. They later said they had acted fairly, but almost all volunteers in another group to

	which the scenario was described said choosing the easy task would be unfair, indicating that most people apply weaker moral standards to themselves.
Reasoning	<i>What must be true in order for the facts presented to support the conclusion that most people apply weaker moral standards to themselves than to others?</i> One set of volunteers said they had acted fairly in taking the easy task, whereas different volunteers said that doing so would be unfair. In neither case did any of the volunteers actually judge their own behavior differently from how they judged anyone else's. So the argument implicitly infers from the experimental results that most of the volunteers would judge their own behavior differently from someone else's if given the chance. This inference assumes that the volunteers in the second group would have applied the same moral standards that those in the first group did if they had been in the first group's position, and vice versa.

A Correct. If none of the volunteers who said their own behavior was fair would have judged someone else's similar behavior as unfair, then their relaxed moral judgment of themselves would not suggest that they applied weaker moral standards to themselves than to others.

B Even if this is so, the experimental results could still suggest that the volunteers would apply weaker moral standards to themselves than to others.

C The argument would be equally strong even if volunteers who were assigned the hard task did not know that someone else had gotten an easier task—or even if no volunteers were actually assigned the hard task at all.

D Even if the moral standards applied by the volunteers who judged themselves were as accurate as those applied by the volunteers to whom the scenario was described, the former standards were still weaker.

E Even if all the volunteers in the first group had felt that all the choices available to them would have been fair for them to make personally, they might have applied stricter moral standards to someone else in the same position.

The correct answer is A.

110. **Delta Products Inc. has recently switched at least partly from older technologies using fossil fuels to new technologies powered by electricity.** The question has been raised whether it can be concluded that **for a given level of output Delta's operation now causes less fossil fuel to be consumed than it did formerly.** The answer, clearly, is yes, since the amount of fossil fuel used to generate the electricity needed to power the new technologies is

less than the amount needed to power the older technologies, provided level of output is held constant.

In the argument given, the two boldfaced portions play which of the following roles?

- (A) The first identifies the content of the conclusion of the argument; the second provides support for that conclusion.
- (B) The first provides support for the conclusion of the argument; the second identifies the content of that conclusion.
- (C) The first states the conclusion of the argument; the second calls that conclusion into question.
- (D) The first provides support for the conclusion of the argument; the second calls that conclusion into question.
- (E) Each provides support for the conclusion of the argument.

Argument Evaluation

Situation	Delta switched from technologies using fossil fuels to ones using electricity. It has been asked whether this results in less fossil fuel used per level of output. The answer is that it does.
Reasoning	<i>What roles do the two boldfaced portions play in the argument?</i> The first boldfaced statement is simply asserted by the passage. But the second boldfaced statement, when it is first introduced, is not asserted to be true, but rather is identified as something that might be inferred from the first statement. By the end of the passage the argument concludes that the second statement is true.

A This option simply reverses the roles that the statements play in the argument.

B Correct. This option identifies the roles the boldfaced portions play.

C Nothing in the passage is intended to support the first statement; and the second statement is not supposed to call the first into question.

D This correctly identifies the role of the first statement, but the second boldfaced portion does not call the argument's conclusion into question—it is part of a sentence that refers to the question whether that conclusion can be drawn from the first statement.

E Again, this is only half right. The second boldfaced portion is not offered as support for the conclusion; if it were offered as such support, the argument would be guilty of circular reasoning, since the second boldfaced portion states exactly what the argument concludes.

The correct answer is B.

111. Which of the following most logically completes the argument?

The irradiation of food kills bacteria and thus retards spoilage. However, it also lowers the nutritional value of many foods. For example, irradiation destroys a significant percentage of whatever vitamin B1 a food may contain. Proponents of irradiation point out that irradiation is no worse in this respect than cooking. However, this fact is either beside the point, since much irradiated food is eaten raw, or else misleading, since _____.

- (A) many of the proponents of irradiation are food distributors who gain from foods' having a longer shelf life
- (B) it is clear that killing bacteria that may be present on food is not the only effect that irradiation has
- (C) cooking is usually the final step in preparing food for consumption, whereas irradiation serves to ensure a longer shelf life for perishable foods
- (D) certain kinds of cooking are, in fact, even more destructive of vitamin B1 than carefully controlled irradiation is
- (E) for food that is both irradiated and cooked, the reduction of vitamin B1 associated with either process individually is compounded

Argument Construction

Situation	Irradiation kills bacteria but it also lowers the amount of nutrients—including vitamin B1—in foods. Proponents try to dismiss this concern by arguing that cooking destroys B1 as well. That point is said to be misleading.
Reasoning	<i>Which option most logically completes the argument?</i> For the proponents' claim to be misleading it needs to be suggesting something about irradiation that is false. By stating that irradiation destroys no more B1 than cooking does, the proponent seems to be suggesting that any food that is going to be cooked might as well be irradiated because it will end up with the same amount of B1 either way. But if the effects of radiation and cooking combine to destroy more B1 than cooking or irradiation alone would, then the proponents' claim suggests something that is false.

A This might make the assurances of the proponents less credible but it does not make their claim misleading.

B Nothing about the proponents' claim suggests that the only effect irradiation has is to kill bacteria.

C The fact that cooking and irradiation have different purposes does not indicate that the proponents' claim suggests something that is false.

D If anything, this strengthens the proponents' point by minimizing the relative damage caused by irradiation.

E Correct. This option most logically completes the argument.

The correct answer is E.

112. Theater Critic: The play *La Finestrina*, now at Central Theater, was written in Italy in the eighteenth century. The director claims that this production is as similar to the original production as is possible in a modern theater. Although the actor who plays Harlequin the clown gives a performance very reminiscent of the twentieth-century American comedian Groucho Marx, Marx's comic style was very much within the comic acting tradition that had begun in sixteenth-century Italy.

The considerations given best serve as part of an argument that

- (A) modern audiences would find it hard to tolerate certain characteristics of a historically accurate performance of an eighteenth-century play
- (B) Groucho Marx once performed the part of the character Harlequin in *La Finestrina*
- (C) in the United States the training of actors in the twentieth century is based on principles that do not differ radically from those that underlay the training of actors in eighteenth-century Italy
- (D) the performance of the actor who plays Harlequin in *La Finestrina* does not serve as evidence against the director's claim
- (E) the director of *La Finestrina* must have advised the actor who plays Harlequin to model his performance on comic performances of Groucho Marx

Argument Construction

Situation	The director of the local production of <i>La Finestrina</i> says it is as similar to the original production as is possible in a modern theater. The actor playing Harlequin gives a performance reminiscent of Groucho Marx, whose comic style falls within an acting tradition which began in sixteenth-century Italy.
Reasoning	<i>For which of the options would the consideration given best serve as an argument?</i> The actor's performance was reminiscent of someone who fell within a tradition going back to sixteenth-century Italy. The play was written, and therefore was likely first performed, in eighteenth-century Italy. All of this suggests that there could be a similarity between the performances of Harlequin in the local production and in the original production. While the two performances <i>might</i> have been quite dissimilar, there is nothing <i>here</i> that supports that.

A Regardless of how plausible this option might be on its own merits, the passage provides no support for it because the passage provides no information about the characteristics of a historically accurate performance of an eighteenth-century play.

B The passage neither says this nor implies it.

C The passage says nothing about the training of actors, so this option would be supported by the passage only in a very roundabout, indirect way.

D Correct. This is the option that the considerations most support.

E That the performance reminded the theater critic of Groucho Marx hardly shows that the similarity was intentional, let alone that it was at the director's instruction.

The correct answer is D.

113. Although the discount stores in Goreville's central shopping district are expected to close within five years as a result of competition from a SpendLess discount department store that just opened, those locations will not stay vacant for long. In the five years since the opening of Colson's, a nondiscount department store, a new store has opened at the location of every store in the shopping district that closed because it could not compete with Colson's.

Which of the following, if true, most seriously weakens the argument?

(A) Many customers of Colson's are expected to do less shopping there than they did before the SpendLess store opened.

(B) Increasingly, the stores that have opened in the central shopping district since Colson's opened have been discount stores.

(C) At present, the central shopping district has as many stores operating in it as it ever had.

(D) Over the course of the next five years, it is expected that Goreville's population will grow at a faster rate than it has for the past several decades.

(E) Many stores in the central shopping district sell types of merchandise that are not available at either SpendLess or Colson's.

Argument Evaluation

Situation	Due to competition from a recently opened SpendLess discount department store, discount stores in Goreville's central shopping district are expected to close within five years. But those locations will not be vacant long, for new stores have replaced all those that closed because of the opening five years ago of a Colson's nondiscount department store.
Reasoning	<i>The question is which option would most weaken the argument?</i>

The arguer infers that stores that leave because of the SpendLess will be replaced in their locations by other stores because that is what happened after the Colson's department came in. Since the reasoning relies on a presumed similarity between the two cases, any information that brings to light a relevant dissimilarity would weaken the argument. If the stores that were driven out by Colson's were replaced mostly by discount stores, that suggests that the stores were replaced because of a need that no longer exists after the opening of SpendLess.

A The fact that Colson's may be seeing fewer customers does not mean that the discount stores that close will not be replaced; they might be replaced by stores that in no way compete with Colson's or SpendLess.

B Correct. This option most seriously weakens the argument.

C If anything, this strengthens the argument by indicating that Goreville's central shopping district is thriving.

D This, too, strengthens the argument because one is more likely to open a new store in an area with a growing population.

E Because this statement does not indicate whether any of these stores that offer goods not sold at SpendLess or Colson's will be among those that are closing, it is not possible to determine what effect it has on the strength of the argument.

The correct answer is B.

114. Last year all refuse collected by Shelbyville city services was incinerated. This incineration generated a large quantity of residual ash. In order to reduce the amount of residual ash Shelbyville generates this year to half of last year's total, the city has revamped its collection program. This year city services will separate for recycling enough refuse to reduce the number of truckloads of refuse to be incinerated to half of last year's number.

Which of the following is required for the revamped collection program to achieve its aim?

(A) This year, no materials that city services could separate for recycling will be incinerated.

(B) Separating recyclable materials from materials to be incinerated will cost Shelbyville less than half what it cost last year to dispose of the residual ash.

(C) Refuse collected by city services will contain a larger proportion of recyclable materials this year than it did last year.

(D) The refuse incinerated this year will generate no more residual ash per

truckload incinerated than did the refuse incinerated last year.

(E) The total quantity of refuse collected by Shelbyville city services this year will be no greater than that collected last year.

Argument Construction

Situation	To cut in half the residual ash produced at its incinerator, the city will separate for recycling enough refuse to cut in half the number of truckloads of refuse going to the incinerator.
Reasoning	<i>Which option is required if the city's revamped collection program is to achieve its aim?</i> Cutting the number of truckloads of refuse in half must reduce the amount of residual ash to half last year's level. But if removal of the recycled refuse does not proportionately reduce the amount of ash, this will not happen. So if the amount of residual ash produced per truckload increases after recycling, then the amount of ash produced will not be cut in half by cutting in half the number of truckloads.

A This merely indicates that no further reduction of ash through recycling could be achieved this year; it indicates nothing about how much the ash will be reduced.

B This suggests a further benefit from recycling, but does not bear on the amount of ash that will be produced.

C Since no information is provided about how much, if any, recyclable materials were removed from the refuse last year, this does not affect the reasoning.

D Correct. This states a requirement for the collection program to achieve its aim.

E This is not a requirement because even if the city collects more refuse this year, it could still cut in half the amount of residual ash by cutting in half the number of truckloads going to the incinerator.

The correct answer is D.

115. Springfield Fire Commissioner: The vast majority of false fire alarms are prank calls made anonymously from fire alarm boxes on street corners. Since virtually everyone has access to a private telephone, these alarm boxes have outlived their usefulness. Therefore, we propose to remove the boxes. Removing the boxes will reduce the number of prank calls without hampering people's ability to report a fire.

Which of the following, if true, most strongly supports the claim that the proposal, if carried out, will have the announced effect?

- (A) The fire department traces all alarm calls made from private telephones and records where they came from.
- (B) Maintaining the fire alarm boxes costs Springfield approximately \$5 million annually.
- (C) A telephone call can provide the fire department with more information about the nature and size of a fire than can an alarm placed from an alarm box.
- (D) Responding to false alarms significantly reduces the fire department's capacity for responding to fires.
- (E) On any given day, a significant percentage of the public telephones in Springfield are out of service.

Argument Evaluation

Situation	It is proposed that fire alarm boxes on street corners be removed. Doing so will reduce the number of prank calls without hampering people's ability to report fires. Most false alarms are prank calls made from these boxes. They have outlived their usefulness, as most people now have private telephones.
Reasoning	<i>Which option most strongly supports the claim that removing the alarm boxes will reduce the number of prank calls without hampering people's ability to report a fire?</i> The argument already provides some evidence that (1) removing the boxes will reduce prank calls—because that is where most such call are now made from—and that (2) doing so will not hamper people's ability to report fires—virtually everyone already has a private telephone from which they could report a fire. So for an option to be correct it must support either (1) or (2) or both, and provide more such support than the other options. If prank calls from private telephones are traced back to their origin, that should deter people from making such calls.

A Correct. This option provides the most support for the claim.

B This may provide a reason for supporting the proposal, but it provides no support for either (1) or (2).

C This indicates that it is better to receive fire calls from telephones than from alarm boxes—other things being equal—but that supports neither (1) nor (2). There is still the possibility that the only person aware that a fire has started is near an alarm box but lacks access to a telephone.

D This merely indicates that it would be good if the proposal had the intended effects.

E This actually *weakens* support for (2), by enhancing the possibility that the only person aware that a fire has started is near an alarm box but lacks access to a working telephone.

The correct answer is A.

116. The average hourly wage of television assemblers in Vernland has long been significantly lower than that in neighboring Borodia. Since Borodia dropped all tariffs on Vernlandian televisions three years ago, the number of televisions sold annually in Borodia has not changed. However, recent statistics show a drop in the number of television assemblers in Borodia. Therefore, updated trade statistics will probably indicate that the number of televisions Borodia imports annually from Vernland has increased.

Which of the following is an assumption on which the argument depends?

- (A) The number of television assemblers in Vernland has increased by at least as much as the number of television assemblers in Borodia has decreased.
- (B) Televisions assembled in Vernland have features that televisions assembled in Borodia do not have.
- (C) The average number of hours it takes a Borodian television assembler to assemble a television has not decreased significantly during the past three years.
- (D) The number of televisions assembled annually in Vernland has increased significantly during the past three years.
- (E) The difference between the hourly wage of television assemblers in Vernland and the hourly wage of television assemblers in Borodia is likely to decrease in the next few years.

Argument Construction

Situation	Television assemblers in Vernland are paid less than those in neighboring Borodia. The number of televisions sold in Borodia has not dropped since its tariffs on Borodian TVs were lowered three years ago, but the number of TV assemblers in Borodia has. So TV imports from Vernland have likely increased.
Reasoning	<i>What assumption does the argument depend on?</i> The fact that fewer individuals in Borodia are working as TV assemblers is offered as evidence that TV imports from Vernland into Borodia have likely increased. That piece of evidence is relevant <i>only</i> as an indication that the number of TVs being produced within Borodia has decreased. But a drop in the number of TV assemblers does not indicate a drop in the number of TVs being assembled <i>if</i> the

number of TVs an average assembler puts together has increased. Thus, the argument must be assuming that the average time it takes an assembler to put together a TV has not significantly decreased.

A The argument does not rely on any information about the number of television assemblers in Vernland nor for that matter on the number of TVs assembled in Vernland.

B The argument need not assume there is any difference in the features of the TVs produced in the two countries. Increased sales of Vernlandian TVs in Borodia could be due to any number of other reasons, such as price or quality.

C Correct. This option states an assumption on which the argument depends.

D The argument does not depend upon this being so: Vernland's domestic TV sales (or perhaps its exports to countries other than Borodia) may have decreased by more than its imports into Borodia have increased.

E The argument's conclusion addresses what *has* happened; the argument in no way relies on any assumptions about what may or may not happen in the coming years.

The correct answer is C.

117. Guidebook writer: I have visited hotels throughout the country and have noticed that in those built before 1930 the quality of the original carpentry work is generally superior to that in hotels built afterward. Clearly carpenters working on hotels before 1930 typically worked with more skill, care, and effort than carpenters who have worked on hotels built subsequently.

Which of the following, if true, most seriously weakens the guidebook writer's argument?

(A) The quality of original carpentry in hotels is generally far superior to the quality of original carpentry in other structures, such as houses and stores.

(B) Hotels built since 1930 can generally accommodate more guests than those built before 1930.

(C) The materials available to carpenters working before 1930 were not significantly different in quality from the materials available to carpenters working after 1930.

(D) The better the quality of original carpentry in a building, the less likely that building is to fall into disuse and be demolished.

(E) The average length of apprenticeship for carpenters has declined

significantly since 1930.

Argument Evaluation

Situation	The original carpentry in hotels built before 1930 shows superior care, skill, and effort to that in hotels built after 1930. This leads to the conclusion that carpenters working on hotels before 1930 were superior in skill, care, and effort to those that came after.
Reasoning	<i>Which option most seriously weakens the argument?</i> The argument draws an inference from a comparison between carpentry in hotels of different eras to a judgment about the carpenters working on hotels in those eras. One way to weaken this inference is by finding some way in which the carpentry in the hotels may be unrepresentative of the skill, care, and effort of the carpenters working in the eras. The comparison is between the carpentry evident in hotels of the two eras <i>that still exist</i> . Thus, if there is some reason to think that hotels with good carpentry survive longer than those with bad carpentry, then still-existing hotels from the older era will have disproportionately more good carpentry, even assuming no difference between the skill, care, and effort of the carpenters from the two eras.

A This option applies equally to both eras, so it has no bearing on the argument.

B It is not clear whether carpenters working on larger hotels would exercise more, less, or the same skill and care as those working on smaller hotels; thus this option does not weaken the argument.

C The argument does not rely, even implicitly, on there being any difference in the quality of materials used in the two eras, so it does not weaken the argument to point out that no such difference exists.

D Correct. This weakens the reasoning in the argument by showing a respect in which the comparison between *existing* hotels is unrepresentative.

E The longer a carpenter works as an apprentice, the more skill he or she is apt to have upon becoming a full-fledged carpenter. So this option would tend to slightly strengthen rather than weaken the argument.

The correct answer is D.

118. Scientists typically do their most creative work before the age of forty. It is commonly thought that this happens because aging by itself brings about a loss of creative capacity. However, studies show that **of scientists who produce highly creative work beyond the age of forty, a disproportionately large number entered their field at an older age than is usual.** Since by the age of

forty the large majority of scientists have been working in their field for at least fifteen years, the studies' finding strongly suggests that the real reason why scientists over forty rarely produce highly creative work is not that they have aged but rather that **scientists over forty have generally spent too long in their field.**

In the argument given, the two portions in boldface play which of the following roles?

- (A) The first is a claim, the accuracy of which is at issue in the argument; the second is a conclusion drawn on the basis of that claim.
- (B) The first is an objection that has been raised against a position defended in the argument; the second is that position.
- (C) The first is evidence that has been used to support an explanation that the argument challenges; the second is that explanation.
- (D) The first is evidence that has been used to support an explanation that the argument challenges; the second is a competing explanation that the argument favors.
- (E) The first provides evidence to support an explanation that the argument favors; the second is that explanation.

Argument Evaluation

Situation	It is generally thought that the reason scientists tend to do their most creative work before age forty is that creative capacity declines with age. Yet those scientists who do creative work after forty tend, disproportionately, to have started their careers in science later in life. So a better explanation is that many scientists over forty have just been at it too long.
Reasoning	<i>What roles do the two portions of the argument that are in boldface play?</i> The argument describes a phenomenon and what is commonly thought to explain it. Then, the first boldfaced statement introduces evidence that suggests that there may be another explanation. After this evidence is further developed, the argument then concludes that there is indeed a better explanation for the phenomenon; that explanation is stated in the second boldfaced portion.

A The accuracy of the first statement is never called into question by the argument; rather, it is relied upon as the basis for the argument's conclusion.

B The first statement is not an objection against the position the argument defends; instead, it is a basis for that position.

C The first statement is not used to support a position the argument challenges, and the second statement is the explanation the argument supports, not the one it challenges.

D The second statement is indeed an explanation that the argument favors; but the first statement is not used to support a competing explanation that the argument challenges.

E Correct. This option correctly identifies the roles played by the boldfaced portions of the argument.

The correct answer is E.

119. The spacing of the four holes on a fragment of a bone flute excavated at a Neanderthal campsite is just what is required to play the third through sixth notes of the diatonic scale—the seven-note musical scale used in much of Western music since the Renaissance. Musicologists therefore hypothesize that the diatonic musical scale was developed and used thousands of years before it was adopted by Western musicians.

Which of the following, if true, most strongly supports the hypothesis?

(A) Bone flutes were probably the only musical instrument made by Neanderthals.

(B) No musical instrument that is known to have used a diatonic scale is of an earlier date than the flute found at the Neanderthal campsite.

(C) The flute was made from a cave-bear bone and the campsite at which the flute fragment was excavated was in a cave that also contained skeletal remains of cave bears.

(D) Flutes are the simplest wind instrument that can be constructed to allow playing a diatonic scale.

(E) The cave-bear leg bone used to make the Neanderthal flute would have been long enough to make a flute capable of playing a complete diatonic scale.

Argument Evaluation

Situation	The arrangement of the holes in a bone fragment from a Neanderthal campsite match part of the scale used in Western music since the Renaissance. Musicologists hypothesize from this that the scale was developed thousands of years before Western musicians adopted it.
Reasoning	<i>Which of the options, if true, would provide the most support for the musicologists' hypothesis?</i> One way to approach this question is to ask yourself, "If this option were false, would the hypothesis be less likely to be true?" If the Neanderthal bone fragment could

not have been part of a flute that encompassed *the entire* seven-note diatonic scale, then the bone fragment's existence would not provide strong support for the hypothesis.

A To the extent that this is even relevant, it tends to weaken the hypothesis; it makes less likely the possibility that Neanderthals used other types of musical instruments employing the diatonic scale.

B This also weakens the hypothesis, because it states that there is no known evidence of a certain type that would support the hypothesis.

C The fact that the cave-bear bone fragment that was apparently a flute came from a site where many other cave-bear skeletal remains were found has little bearing on the hypothesis, and in no way supports it.

D This does not strengthen the hypothesis, for even if the option were false—even if a simpler instrument could be constructed that employed the diatonic scale—the existence of a flute employing the diatonic scale would provide no less support for the hypothesis.

E Correct. This option most strongly supports the hypothesis.

The correct answer is E.

120. Vargonia has just introduced a legal requirement that student-teacher ratios in government-funded schools not exceed a certain limit. All Vargonian children are entitled to education, free of charge, in these schools. When a recession occurs and average incomes fall, the number of children enrolled in government-funded schools tends to increase. Therefore, though most employment opportunities contract in economic recessions, getting a teaching job in Vargonia's government-funded schools will not be made more difficult by a recession.

Which of the following would be most important to determine in order to evaluate the argument?

- (A) Whether in Vargonia there are any schools not funded by the government that offer children an education free of charge
- (B) Whether the number of qualified applicants for teaching positions in government-funded schools increases significantly during economic recessions
- (C) What the current student-teacher ratio in Vargonia's government-funded schools is
- (D) What proportion of Vargonia's workers currently hold jobs as teachers in government-funded schools
- (E) Whether in the past a number of government-funded schools in Vargonia have had student-teacher ratios well in excess of the new limit

Argument Evaluation

Situation	During a recession, the number of children in government-funded schools in Vargonia tends to increase. Vargonian children are entitled to a free education in these schools. A new law requires student-teacher ratios in these schools to remain below a certain limit.
Reasoning	<i>Which of the five questions would provide us with the best information for evaluating the argument?</i> The argument's conclusion is that recessions do not make teaching jobs in Vargonia's government-funded schools harder to get. During recessions, the reasoning goes, more students will enroll in Vargonia's government-funded schools than in nonrecession times. Implicit in the argument is the thought that, because the new law sets an upper limit on the average number of students per teacher, schools that get an influx of new students would have to hire more teachers. During a recession, however, there might be much more competition in the labor market for teachers because many more qualified people are applying for teaching jobs.

A This information is not significant in the context of the argument, which does not need to assume that only government-funded schools provide free education.

B Correct. Getting an answer to this question would provide us with specific information useful in evaluating the argument. A “yes” answer to this question would suggest that competition for teaching jobs in Vargonian government-funded schools would be keener during recessions. A “no” answer would suggest that the level of competition would decrease during recessions.

C Discovering the current student-teacher ratio in Vargonia's schools would be of no value, by itself, in evaluating the argument. We do not know what the new upper limit on the student-teacher ratio is, and we do not know whether Vargonia is currently in a recession.

D Finding out whether the proportion this refers to is 1 percent, for example, or 4 percent, would tell us nothing about whether getting teaching jobs at government-funded schools in Vargonia becomes more difficult during a recession. Among other things, we do not know whether Vargonia is currently in a recession, and we do not know what proportion of Vargonia's workers would be qualified candidates for teaching jobs.

E This is of no relevance in evaluating the argument because, presumably, the new limit on studentteacher ratios will be complied with. Thus, even if student-teacher ratios in the past would have exceeded the new limit, the

argument concerns whether, *in the future*, getting a teaching job in Vargonia's government-funded schools will be made more difficult by a recession.

The correct answer is B.

121. In Colorado subalpine meadows, nonnative dandelions co-occur with a native flower, the larkspur. Bumblebees visit both species, creating the potential for interactions between the two species with respect to pollination. In a recent study, researchers selected 16 plots containing both species; all dandelions were removed from eight plots; the remaining eight control plots were left undisturbed. The control plots yielded significantly more larkspur seeds than the dandelion-free plots, leading the researchers to conclude that the presence of dandelions facilitates pollination (and hence seed production) in the native species by attracting more pollinators to the mixed plots.

Which of the following, if true, most seriously undermines the researchers' reasoning?

- (A) Bumblebees preferentially visit dandelions over larkspurs in mixed plots.
- (B) In mixed plots, pollinators can transfer pollen from one species to another to augment seed production.
- (C) If left unchecked, nonnative species like dandelions quickly crowd out native species.
- (D) Seed germination is a more reliable measure of a species' fitness than seed production.
- (E) Soil disturbances can result in fewer blooms, and hence lower seed production.

Argument Evaluation

Situation	Bumblebees visit both larkspur and dandelions in certain meadows. A study found that more larkspur seeds were produced in meadow plots in which both larkspur and dandelions grew than in similar plots from which all dandelions had been removed. The researchers inferred that dandelions facilitate larkspur pollination.
Reasoning	<i>What evidence would cast the most doubt on the inference from the study's findings to the conclusion that dandelions facilitate larkspur pollination by attracting more pollinators?</i> The argument assumes that the only relevant difference between the two types of plots was whether dandelions were present. Evidence that the plots differed in some other way that could provide a plausible alternative explanation of why more larkspur seeds were produced

in the plots with dandelions would weaken the argument.

A This would suggest that the larkspur pollination should have been lower in the plots with dandelions, so it does not provide a plausible alternative explanation for the study's findings.

B This is fully compatible with the claim that the dandelions attracted more pollinators to the mixed plots, and it would also help to support the argument's conclusion that dandelions facilitated larkspur pollination in those plots.

C Although this suggests that the mixed plots won't remain mixed for long, it does not provide a plausible alternative explanation for the study's finding that larkspur seed production was higher in the mixed plots.

D The argument is not about how fit larkspurs are as a species, but about why they produced different numbers of seeds in the different plots.

E Correct. This provides a plausible alternative explanation for why larkspur seed production was lower in the plots from which dandelions had been removed, since digging them out would have disturbed the soil.

The correct answer is E.

122. An experiment was done in which human subjects recognize a pattern within a matrix of abstract designs and then select another design that completes that pattern. The results of the experiment were surprising. The lowest expenditure of energy in neurons in the brain was found in those subjects who performed most successfully in the experiments.

Which of the following hypotheses best accounts for the findings of the experiment?

(A) The neurons of the brain react less when a subject is trying to recognize patterns than when the subject is doing other kinds of reasoning.

(B) Those who performed best in the experiment experienced more satisfaction when working with abstract patterns than did those who performed less well.

(C) People who are better at abstract pattern recognition have more energy-efficient neural connections.

(D) The energy expenditure of the subjects' brains increases when a design that completes the initially recognized pattern is determined.

(E) The task of completing a given design is more capably performed by athletes, whose energy expenditure is lower when they are at rest.

Argument Construction

Situation	Experimental subjects worked with pattern recognition and completion. The subjects who performed best showed the lowest expenditure of energy in neurons in the brain.
Reasoning	<i>Which hypothesis best accounts for the findings?</i> In order to account for the findings, the hypothesis must suggest a plausible link between successful performance and the energy expenditure of neurons in the brain. Consider each answer choice, and evaluate its plausibility and logic. Where is there a reasonably direct relationship between the given factors and the conclusion that is drawn? Understand that hypotheses based on factors not included in the experiment cannot be used to account for the findings.

A The experiment did not compare types of reasoning so this hypothesis does not account for the results.

B No information is provided about subjects' satisfaction, so this hypothesis is not warranted.

C Correct. This statement properly identifies a hypothesis that connects subjects' performance with their energy expenditure and so could account for the experiment's results.

D The most successful subjects would presumably not have completed fewer patterns than average, so the posited increase in energy would likely lead to higher energy expenditures for them, not lower.

E No information is offered on the subjects, so no hypothesis about athletes is warranted.

The correct answer is C.

123. One way to judge the performance of a company is to compare it with other companies. This technique, commonly called "benchmarking," permits the manager of a company to discover better industrial practices and can provide a justification for the adoption of good practices.

Any of the following, if true, is a valid reason for benchmarking the performance of a company against companies with which it is not in competition rather than against competitors EXCEPT:

(A) Comparisons with competitors are most likely to focus on practices that the manager making the comparisons already employs.

(B) Getting "inside" information about the unique practices of competitors is particularly difficult.

(C) Since companies that compete with each other are likely to have comparable levels of efficiency, only benchmarking against noncompetitors is likely to reveal practices that would aid in beating competitors.

(D) Managers are generally more receptive to new ideas that they find outside their own industry.

(E) Much of the success of good companies is due to their adoption of practices that take advantage of the special circumstances of their products or markets.

Argument Construction

Situation	“Benchmarking” is a technique for judging the performance of a company by comparing it with other companies. The goal is to find and adopt better industrial practices.
Reasoning	<i>Which one condition does NOT recommend benchmarking against noncompetitors? Which one condition IS a well-founded reason to benchmark against competitors?</i> First, sort through the given information and the answer choices for the question to gain an understanding of the potential advantages or disadvantages of comparing a company to its competitors or to noncompetitors. What are the reasons in favor of benchmarking against noncompetitors? Information about noncompeting companies is easier to obtain; it can offer new insights; and it may be easier to put into practice. Why then might a manager choose to benchmark against competitors? Competing companies do share special circumstances involving products and markets. If companies are often successful because of practices related to these special circumstances within their industry, then benchmarking against competitors will reveal these practices and so be more fruitful than benchmarking against noncompetitors.

A Since benchmarking against competitors would yield few new practices, it would be better to benchmark against noncompetitors.

B If information about competitors is hard to obtain, benchmarking against noncompetitors is preferable.

C Since benchmarking against noncompetitors would yield practices useful in beating competitors, benchmarking against noncompetitors is preferable.

D If managers are more likely to adopt new practices learned from benchmarking against noncompetitors, then this technique is preferable.

E Correct. This statement properly identifies the rationale that supports a company’s benchmarking against its competitors.

The correct answer is E.

124. It is widely assumed that people need to engage in intellectual activities such as solving crossword puzzles or mathematics problems in order to maintain mental

sharpness as they age. In fact, however, simply talking to other people—that is, participating in social interaction, which engages many mental and perceptual skills—suffices. Evidence to this effect comes from a study showing that the more social contact people report, the better their mental skills.

Which of the following, if true, most seriously weakens the force of the evidence cited?

- (A) As people grow older, they are often advised to keep exercising their physical and mental capacities in order to maintain or improve them.
- (B) Many medical conditions and treatments that adversely affect a person's mental sharpness also tend to increase that person's social isolation.
- (C) Many people are proficient both in social interactions and in solving mathematical problems.
- (D) The study did not itself collect data but analyzed data bearing on the issue from prior studies.
- (E) The tasks evaluating mental sharpness for which data were compiled by the study were more akin to mathematics problems than to conversation.

Argument Evaluation

Situation	A study shows that the more social contact people report, the better their mental skills are, so engaging in social interaction is sufficient for maintaining mental sharpness.
Reasoning	<i>What would suggest that the study does not establish the truth of the conclusion?</i> The study shows a correlation between mental sharpness and social interaction but does not indicate why this correlation exists. Evidence that mental sharpness contributes to social interaction or that some third factor affects both mental sharpness and social interaction, could provide an alternative explanation for the correlation and thus cast doubt on the explanation that social interaction contributes to mental sharpness.

A People are often wrongly advised to do things that are not actually beneficial. And even if exercising mental capacities does help to maintain them, the passage says that social interaction provides such exercise.

B Correct. This provides evidence that the correlation observed in the study results from mental sharpness facilitating social interaction, in which case the study results do not indicate that social interaction facilitates mental sharpness.

C This would be expected, given the argument's conclusion that social interaction helps to maintain better mental skills overall.

D A study that analyzes data from prior studies can provide evidence just as well as a study that collects its own data can.

E The argument's conclusion would be compatible with this observation, and would then suggest that social interaction contributes to the mental sharpness needed for tasks similar to math problems.

The correct answer is B.

4.4 Sample Questions

Each of the **critical reasoning** questions is based on a short argument, a set of statements, or a plan of action. For each question, select the best answer of the choices given.

1. Which of the following, if true, most logically completes the argument below?

Manufacturers are now required to make all cigarette lighters child-resistant by equipping them with safety levers. But this change is unlikely to result in a significant reduction in the number of fires caused by children playing with lighters, because children given the opportunity can figure out how to work the safety levers and _____.

- (A) the addition of the safety levers has made lighters more expensive than they were before the requirement was instituted
- (B) adults are more likely to leave child-resistant lighters than non-child-resistant lighters in places that are accessible to children
- (C) many of the fires started by young children are quickly detected and extinguished by their parents
- (D) unlike child-resistant lighters, lighters that are not child-resistant can be operated by children as young as two years old
- (E) approximately 5,000 fires per year have been attributed to children playing with lighters before the safety levers were required

2. A cost-effective solution to the problem of airport congestion is to provide high-speed ground transportation between major cities lying 200 to 500 miles apart. The successful implementation of this plan would cost far less than expanding existing airports and would also reduce the number of airplanes clogging both airports and airways.

Which of the following, if true, could proponents of the plan above most appropriately cite as a piece of evidence for the soundness of their plan?

- (A) An effective high-speed ground-transportation system would require major repairs to many highways and mass-transit improvements.
- (B) One-half of all departing flights in the nation's busiest airport head for a destination in a major city 225 miles away.
- (C) The majority of travelers departing from rural airports are flying to destinations in cities over 600 miles away.
- (D) Many new airports are being built in areas that are presently served by high-speed ground-transportation systems.
- (E) A large proportion of air travelers are vacationers who are taking long-distance flights.

3. People's television-viewing habits could be monitored by having television sets, when on, send out low-level electromagnetic waves that are reflected back to the sets. The reflected waves could then be analyzed to determine how many persons are within the viewing area of the sets. Critics fear adverse health effects of such a monitoring system, but a proponent responds, "The average dose of radiation is less than one chest x-ray. As they watch, viewers won't feel a thing."

Which of the following issues would it be most important to resolve in evaluating the dispute concerning the health effects of the proposed system?

- (A) Whether the proposed method of monitoring viewership can distinguish between people and pets
- (B) Whether radar speed monitors also operate on the principle of analyzing reflected waves of electromagnetic radiation
- (C) Whether the proposed system has been tried out in various areas of the country or in a single area only
- (D) What uses are foreseen for the viewership data
- (E) Whether the average dose that the proponent describes is a short-term dose or a lifetime cumulative dose

4. The price the government pays for standard weapons purchased from military contractors is determined by a pricing method called "historical costing." Historical costing allows contractors to protect their profits by adding a percentage increase, based on the current rate of inflation, to the previous year's contractual price.

Which of the following statements, if true, is the best basis for a criticism of historical costing as an economically sound pricing method for military contracts?

- (A) The government might continue to pay for past inefficient use of funds.
- (B) The rate of inflation has varied considerably over the past twenty years.
- (C) The contractual price will be greatly affected by the cost of materials used for the products.
- (D) Many taxpayers question the amount of money the government spends on military contracts.
- (E) The pricing method based on historical costing might not encourage the development of innovative weapons.

5. Since the mayor's publicity campaign for Greenville's bus service began six months ago, morning automobile traffic into the midtown area of the city has decreased 7 percent. During the same period, there has been an equivalent rise in the number of persons riding buses into the midtown area. Obviously, the mayor's publicity campaign has convinced many people to leave their cars at home and ride the bus to work.

Which of the following, if true, casts the most serious doubt on the conclusion drawn above?

- (A) Fares for all bus routes in Greenville have risen an average of 5 percent during the past six months.
- (B) The mayor of Greenville rides the bus to City Hall in the city's midtown area.
- (C) Road reconstruction has greatly reduced the number of lanes available to commuters in major streets leading to the midtown area during the past six months.
- (D) The number of buses entering the midtown area of Greenville during the morning hours is exactly the same now as it was one year ago.
- (E) Surveys show that longtime bus riders are no more satisfied with the Greenville bus service than they were before the mayor's publicity campaign began.

6. Patrick usually provides child care for six children. Parents leave their children at Patrick's house in the morning and pick them up after work. At the end of each workweek, the parents pay Patrick at an hourly rate for the child care provided that week. The weekly income Patrick receives is usually adequate but not always uniform, particularly in the winter, when children are likely to get sick and be unpredictably absent.

Which of the following plans, if put into effect, has the best prospect of making Patrick's weekly income both uniform and adequate?

- (A) Pool resources with a neighbor who provides child care under similar arrangements, so that the two of them cooperate in caring for twice as many children as Patrick currently does.
- (B) Replace payment by actual hours of child care provided with a fixed weekly fee based upon the number of hours of child care that Patrick would typically be expected to provide.
- (C) Hire a full-time helper and invest in facilities for providing child care to sick children.
- (D) Increase the hourly rate to a level that would provide adequate income even in a week when half of the children Patrick usually cares for are absent.
- (E) Increase the number of hours made available for child care each day, so that parents can leave their children in Patrick's care for a longer period each day at the current hourly rate.

7. A researcher discovered that people who have low levels of immune-system activity tend to score much lower on tests of mental health than do people with normal or high immune-system activity. The researcher concluded from this experiment that the immune system protects against mental illness as well as against physical disease.

The researcher's conclusion depends on which of the following assumptions?

- (A) High immune-system activity protects against mental illness better than normal immune-system activity does.
 - (B) Mental illness is similar to physical disease in its effects on body systems.
 - (C) People with high immune-system activity cannot develop mental illness.
 - (D) Mental illness does not cause people's immune-system activity to decrease.
 - (E) Psychological treatment of mental illness is not as effective as is medical treatment.
8. Extinction is a process that can depend on a variety of ecological, geographical, and physiological variables. These variables affect different species of organisms in different ways, and should, therefore, yield a random pattern of extinctions. However, the fossil record shows that extinction occurs in a surprisingly definite pattern, with many species vanishing at the same time.

Which of the following, if true, forms the best basis for at least a partial explanation of the patterned extinctions revealed by the fossil record?

- (A) Major episodes of extinction can result from widespread environmental disturbances that affect numerous different species.
- (B) Certain extinction episodes selectively affect organisms with particular sets of characteristics unique to their species.
- (C) Some species become extinct because of accumulated gradual changes in their local environments.
- (D) In geologically recent times, for which there is no fossil record, human intervention has changed the pattern of extinctions.
- (E) Species that are widely dispersed are the least likely to become extinct.

9. In parts of South America, vitamin-A deficiency is a serious health problem, especially among children. In one region, agriculturists are attempting to improve nutrition by encouraging farmers to plant a new variety of sweet potato called SPK004 that is rich in beta-carotene, which the body converts into vitamin A. The plan has good chances of success, since sweet potato is a staple of the region's diet and agriculture, and the varieties currently grown contain little beta-carotene.

Which of the following, if true, most strongly supports the prediction that the plan will succeed?

- (A) The growing conditions required by the varieties of sweet potato currently cultivated in the region are conditions in which SPK004 can flourish.
- (B) The flesh of SPK004 differs from that of the currently cultivated sweet potatoes in color and texture, so traditional foods would look somewhat different when prepared from SPK004.
- (C) There are no other varieties of sweet potato that are significantly richer in beta-carotene than SPK004 is.
- (D) The varieties of sweet potato currently cultivated in the region contain some important nutrients that are lacking in SPK004.
- (E) There are other vegetables currently grown in the region that contain more beta-carotene than the currently cultivated varieties of sweet potato do.

10. Which of the following best completes the passage below?

At a recent conference on environmental threats to the North Sea, most participating countries favored uniform controls on the quality of effluents, whether or not specific environmental damage could be attributed to a particular source of effluent. What must, of course, be shown, in order to avoid excessively restrictive controls, is that _____.

- (A) any uniform controls that are adopted are likely to be implemented without delay
- (B) any substance to be made subject to controls can actually cause environmental damage
- (C) the countries favoring uniform controls are those generating the largest quantities of effluents
- (D) all of any given pollutant that is to be controlled actually reaches the North Sea at present
- (E) environmental damage already inflicted on the North Sea is reversible

11. Shelby Industries manufactures and sells the same gauges as Jones Industries. Employee wages account for 40 percent of the cost of manufacturing gauges at both Shelby Industries and Jones Industries. Shelby Industries is seeking a competitive advantage over Jones Industries. Therefore, to promote this end, Shelby Industries should lower employee wages.

Which of the following, if true, would most weaken the argument above?

- (A) Because they make a small number of precision instruments, gauge manufacturers cannot receive volume discounts on raw materials.
- (B) Lowering wages would reduce the quality of employee work, and this reduced quality would lead to lowered sales.
- (C) Jones Industries has taken away 20 percent of Shelby Industries' business over the last year.
- (D) Shelby Industries pays its employees, on average, 10 percent more than does Jones Industries.
- (E) Many people who work for manufacturing plants live in areas in which the manufacturing plant they work for is the only industry.

12. Large national budget deficits do not cause large trade deficits. If they did, countries with the largest budget deficits would also have the largest trade deficits. In fact, when deficit figures are adjusted so that different countries are reliably comparable to each other, there is no such correlation.

If the statements above are all true, which of the following can properly be inferred on the basis of them?

- (A) Countries with large national budget deficits tend to restrict foreign trade.
 - (B) Reliable comparisons of the deficit figures of one country with those of another are impossible.
 - (C) Reducing a country's national budget deficit will not necessarily result in a lowering of any trade deficit that country may have.
 - (D) When countries are ordered from largest to smallest in terms of population, the smallest countries generally have the smallest budget and trade deficits.
 - (E) Countries with the largest trade deficits never have similarly large national budget deficits.
13. Which of the following most logically completes the argument?

The last members of a now-extinct species of a European wild deer called the giant deer lived in Ireland about 16,000 years ago. Prehistoric cave paintings in France depict this animal as having a large hump on its back. Fossils of this animal, however, do not show any hump. Nevertheless, there is no reason to conclude that the cave paintings are therefore inaccurate in this regard, since _____.

- (A) some prehistoric cave paintings in France also depict other animals as having a hump
- (B) fossils of the giant deer are much more common in Ireland than in France
- (C) animal humps are composed of fatty tissue, which does not fossilize
- (D) the cave paintings of the giant deer were painted well before 16,000 years ago
- (E) only one currently existing species of deer has any anatomical feature that even remotely resembles a hump

14. The sustained massive use of pesticides in farming has two effects that are especially pernicious. First, it often kills off the pests' natural enemies in the area. Second, it often unintentionally gives rise to insecticide-resistant pests, since those insects that survive a particular insecticide will be the ones most resistant to it, and they are the ones left to breed.

From the passage above, it can be properly inferred that the effectiveness of the sustained massive use of pesticides can be extended by doing which of the following, assuming that each is a realistic possibility?

- (A) Using only chemically stable insecticides
 - (B) Periodically switching the type of insecticide used
 - (C) Gradually increasing the quantities of pesticides used
 - (D) Leaving a few fields fallow every year
 - (E) Breeding higher-yielding varieties of crop plants
15. In an attempt to promote the widespread use of paper rather than plastic, and thus reduce nonbiodegradable waste, the council of a small town plans to ban the sale of disposable plastic goods for which substitutes made of paper exist. The council argues that since most paper is entirely biodegradable, paper goods are environmentally preferable.

Which of the following, if true, indicates that the plan to ban the sale of disposable plastic goods is ill suited to the town council's environmental goals?

- (A) Although biodegradable plastic goods are now available, members of the town council believe biodegradable paper goods to be safer for the environment.
- (B) The paper factory at which most of the townspeople are employed plans to increase production of biodegradable paper goods.
- (C) After other towns enacted similar bans on the sale of plastic goods, the environmental benefits were not discernible for several years.
- (D) Since most townspeople prefer plastic goods to paper goods in many instances, they are likely to purchase them in neighboring towns where plastic goods are available for sale.
- (E) Products other than those derived from wood pulp are often used in the manufacture of paper goods that are entirely biodegradable.

16. Since the deregulation of airlines, delays at the nation's increasingly busy airports have increased by 25 percent. To combat this problem, more of the takeoff and landing slots at the busiest airports must be allocated to commercial airlines.

Which of the following, if true, casts the most doubt on the effectiveness of the solution proposed above?

- (A) The major causes of delays at the nation's busiest airports are bad weather and overtaxed air traffic control equipment.
- (B) Since airline deregulation began, the number of airplanes in operation has increased by 25 percent.
- (C) Over 60 percent of the takeoff and landing slots at the nation's busiest airports are reserved for commercial airlines.
- (D) After a small Midwestern airport doubled its allocation of takeoff and landing slots, the number of delays that were reported decreased by 50 percent.
- (E) Since deregulation the average length of delay at the nation's busiest airports has doubled.

17. A major health insurance company in Lagolia pays for special procedures prescribed by physicians only if the procedure is first approved as "medically necessary" by a company-appointed review panel. The rule is intended to save the company the money it might otherwise spend on medically unnecessary procedures. The company has recently announced that in order to reduce its costs, it will abandon this rule.

Which of the following, if true, provides the strongest justification for the company's decision?

- (A) Patients often register dissatisfaction with physicians who prescribe nothing for their ailments.
- (B) Physicians often prescribe special procedures that are helpful but not altogether necessary for the health of the patient.
- (C) The review process is expensive and practically always results in approval of the prescribed procedure.
- (D) The company's review process does not interfere with the prerogative of physicians, in cases where more than one effective procedure is available, to select the one they personally prefer.
- (E) The number of members of the company-appointed review panel who review a given procedure depends on the cost of the procedure.

18. Unlike the wholesale price of raw wool, the wholesale price of raw cotton has fallen considerably in the last year. Thus, although the retail price of cotton clothing at retail clothing stores has not yet fallen, it will inevitably fall.

Which of the following, if true, most seriously weakens the argument above?

- (A) The cost of processing raw cotton for cloth has increased during the last year.
- (B) The wholesale price of raw wool is typically higher than that of the same volume of raw cotton.
- (C) The operating costs of the average retail clothing store have remained constant during the last year.
- (D) Changes in retail prices always lag behind changes in wholesale prices.
- (E) The cost of harvesting raw cotton has increased in the last year.

19. A computer equipped with signature-recognition software, which restricts access to a computer to those people whose signatures are on file, identifies a person's signature by analyzing not only the form of the signature but also such characteristics as pen pressure and signing speed. Even the most adept forgers cannot duplicate all of the characteristics the program analyzes.

Which of the following can be logically concluded from the passage above?

- (A) The time it takes to record and analyze a signature makes the software impractical for everyday use.
- (B) Computers equipped with the software will soon be installed in most banks.
- (C) Nobody can gain access to a computer equipped with the software solely by virtue of skill at forging signatures.
- (D) Signature-recognition software has taken many years to develop and perfect.
- (E) In many cases even authorized users are denied legitimate access to computers equipped with the software.

20. Start-up companies financed by venture capitalists have a much lower failure rate than companies financed by other means. Source of financing, therefore, must be a more important causative factor in the success of a start-up company than are such factors as the personal characteristics of the entrepreneur, the quality of strategic planning, or the management structure of the company.

Which of the following, if true, most seriously weakens the argument above?

- (A) Venture capitalists tend to be more responsive than other sources of financing to changes in a start-up company's financial needs.
- (B) The strategic planning of a start-up company is a less important factor in the long-term success of the company than are the personal characteristics of the entrepreneur.
- (C) More than half of all new companies fail within five years.
- (D) The management structures of start-up companies are generally less formal than the management structures of ongoing businesses.
- (E) Venture capitalists base their decisions to fund start-up companies on such factors as the characteristics of the entrepreneur and quality of strategic planning of the company.

21. Aphasia, an impairment of the capacity to use language, often occurs when a stroke damages the left half of the brain. Many people with stroke-related aphasia recover at least some capacity to use language within a year. One proposed explanation for such recoveries is that the right side of the brain, which is not usually the major language center, develops its latent language capabilities to compensate for the damage to the left side.

Which of the following, if true, most strongly supports the explanation?

- (A) In a study of local brain activity in people performing a language task, people with stroke-related aphasia showed higher activity levels in the right half of the brain than people who did not have aphasia.
- (B) A blow to the head injuring the left half of the brain can result in impairment of the capacity to use language indistinguishable from that produced by a stroke.
- (C) Among people with stroke-related aphasia, recovering lost capacity to use language does not lead to any impairment of those capacities normally controlled by the right half of the brain.
- (D) A stroke that damages the left half of the brain often causes physical impairments of the right side of the body that lessen over time.
- (E) Studies of numerous people with aphasia have indicated that the functions that govern language production and those that govern language comprehension are located in separate areas of the brain.

22. In the arid land along the Colorado River, use of the river's water supply is strictly controlled: farms along the river each have a limited allocation that they are allowed to use for irrigation. But the trees that grow in narrow strips along the river's banks also use its water. Clearly, therefore, if farmers were to remove those trees, more water would be available for crop irrigation.

Which of the following, if true, most seriously weakens the argument?

- (A) The trees along the river's banks shelter it from the sun and wind, thereby greatly reducing the amount of water lost through evaporation.
- (B) Owners of farms along the river will probably not undertake the expense of cutting down trees along the banks unless they are granted a greater allocation of water in return.
- (C) Many of the tree species currently found along the river's banks are specifically adapted to growing in places where tree roots remain constantly wet.
- (D) The strip of land where trees grow along the river's banks would not be suitable for growing crops if the trees were removed.
- (E) The distribution of water allocations for irrigation is intended to prevent farms farther upstream from using water needed by farms farther downstream.

23. Near Chicago a newly built hydroponic spinach “factory,” a completely controlled environment for growing spinach, produces on 1 acre of floor space what it takes 100 acres of fields to produce. Expenses, especially for electricity, are high, however, and the spinach produced costs about four times as much as washed California field spinach, the spinach commonly sold throughout the United States.

Which of the following, if true, best supports a projection that the spinach-growing facility near Chicago will be profitable?

- (A) Once the operators of the facility are experienced, they will be able to cut operating expenses by about 25 percent.
- (B) There is virtually no scope for any further reduction in the cost per pound for California field spinach.
- (C) Unlike washed field spinach, the hydroponically grown spinach is untainted by any pesticides or herbicides and thus will sell at exceptionally high prices to such customers as health food restaurants.
- (D) Since spinach is a crop that ships relatively well, the market for the hydroponically grown spinach is no more limited to the Chicago area than the market for California field spinach is to California.
- (E) A second hydroponic facility is being built in Canada, taking advantage of inexpensive electricity and high vegetable prices.

24. Automobile Dealer’s Advertisement:

The Highway Traffic Safety Institute reports that the PZ 1000 has the fewest injuries per accident of any car in its class. This shows that the PZ 1000 is one of the safest cars available today.

Which of the following, if true, most seriously weakens the argument in the advertisement?

- (A) The Highway Traffic Safety Institute report listed many cars in other classes that had more injuries per accident than did the PZ 1000.
- (B) In recent years many more PZ 1000s have been sold than have any other kind of car in its class.
- (C) Cars in the class to which the PZ 1000 belongs are more likely to be involved in accidents than are other types of cars.
- (D) The difference between the number of injuries per accident for the PZ 1000 and that for other cars in its class is quite pronounced.
- (E) The Highway Traffic Safety Institute issues reports only once a year.

25. Which of the following most logically completes the reasoning?

Either food scarcity or excessive hunting can threaten a population of animals. If the group faces food scarcity, individuals in the group will reach reproductive maturity later than otherwise. If the group faces excessive hunting, individuals that reach reproductive maturity earlier will come to predominate. Therefore, it should be possible to determine whether prehistoric mastodons became extinct because of food scarcity or human hunting, since there are fossilized mastodon remains from both before and after mastodon populations declined, and _____.

- (A) there are more fossilized mastodon remains from the period before mastodon populations began to decline than from after that period
- (B) the average age at which mastodons from a given period reached reproductive maturity can be established from their fossilized remains
- (C) it can be accurately estimated from fossilized remains when mastodons became extinct
- (D) it is not known when humans first began hunting mastodons
- (E) climate changes may have gradually reduced the food available to mastodons

26. Editorial: The mayor plans to deactivate the city's fire alarm boxes, because most calls received from them are false alarms. The mayor claims that the alarm boxes are no longer necessary, since most people now have access to either public or private telephones. But the city's commercial district, where there is the greatest risk of fire, has few residents and few public telephones, so some alarm boxes are still necessary.

Which of the following, if true, most seriously weakens the editorial's argument?

- (A) Maintaining the fire alarm boxes costs the city more than five million dollars annually.
- (B) Commercial buildings have automatic fire alarm systems that are linked directly to the fire department.
- (C) The fire department gets less information from an alarm box than it does from a telephone call.
- (D) The city's fire department is located much closer to the residential areas than to the commercial district.
- (E) On average, almost 25 percent of the public telephones in the city are out of order.

27. State spokesperson: Many businesspeople who have not been to our state believe that we have an inadequate road system. Those people are mistaken, as is obvious from the fact that in each of the past six years, our state has spent more money per mile on road improvements than any other state.

Which of the following, if true, most seriously undermines the reasoning in the spokesperson's argument?

- (A) In the spokesperson's state, spending on road improvements has been increasing more slowly over the past six years than it has in several other states.
- (B) Adequacy of a state's road system is generally less important to a businessperson considering doing business there than is the availability of qualified employees.
- (C) Over the past six years, numerous businesses have left the spokesperson's state, but about as many businesses have moved into the state.
- (D) In general, the number of miles of road in a state's road system depends on both the area and the population of the state.
- (E) Only states with seriously inadequate road systems need to spend large amounts of money on road improvements.

28. Company Alpha buys free-travel coupons from people who are awarded the coupons by Bravo Airlines for flying frequently on Bravo airplanes. The coupons are sold to people who pay less for the coupons than they would pay by purchasing tickets from Bravo. This marketing of coupons results in lost revenue for Bravo.

To discourage the buying and selling of free-travel coupons, it would be best for Bravo Airlines to restrict the

- (A) number of coupons that a person can be awarded in a particular year
- (B) use of the coupons to those who were awarded the coupons and members of their immediate families
- (C) days that the coupons can be used to Monday through Friday
- (D) amount of time that the coupons can be used after they are issued
- (E) number of routes on which travelers can use the coupons

29. Pro-Tect Insurance Company has recently been paying out more on car-theft claims than it expected. Cars with special antitheft devices or alarm systems are much less likely to be stolen than are other cars. Consequently Pro-Tect, as part of an effort to reduce its annual payouts, will offer a discount to holders of car-theft policies if their cars have antitheft devices or alarm systems.

Which of the following, if true, provides the strongest indication that the plan is likely to achieve its goal?

- (A) The decrease in the risk of car theft conferred by having a car alarm is greatest when only a few cars have such alarms.
- (B) The number of policyholders who have filed a claim in the past year is higher for Pro-Tect than for other insurance companies.
- (C) In one or two years, the discount that Pro-Tect is offering will amount to more than the cost of buying certain highly effective antitheft devices.
- (D) Currently, Pro-Tect cannot legally raise the premiums it charges for a given amount of insurance against car theft.
- (E) The amount Pro-Tect has been paying out on car-theft claims has been greater for some models of car than for others.

30. Toughened hiring standards have not been the primary cause of the present staffing shortage in public schools. The shortage of teachers is primarily caused by the fact that in recent years teachers have not experienced any improvements in working conditions and their salaries have not kept pace with salaries in other professions.

Which of the following, if true, would most support the claims above?

- (A) Many teachers already in the profession would not have been hired under the new hiring standards.
- (B) Today more teachers are entering the profession with a higher educational level than in the past.
- (C) Some teachers have cited higher standards for hiring as a reason for the current staffing shortage.
- (D) Many teachers have cited low pay and lack of professional freedom as reasons for their leaving the profession.
- (E) Many prospective teachers have cited the new hiring standards as a reason for not entering the profession.

31. A proposed ordinance requires the installation in new homes of sprinklers automatically triggered by the presence of a fire. However, a home builder argued that because more than 90 percent of residential fires are extinguished by a household member, residential sprinklers would only marginally decrease property damage caused by residential fires.

Which of the following, if true, would most seriously weaken the home builder's argument?

- (A) Most individuals have no formal training in how to extinguish fires.
- (B) Since new homes are only a tiny percentage of available housing in the city, the new ordinance would be extremely narrow in scope.
- (C) The installation of smoke detectors in new residences costs significantly less than the installation of sprinklers.
- (D) In the city where the ordinance was proposed, the average time required by the fire department to respond to a fire was less than the national average.
- (E) The largest proportion of property damage that results from residential fires is caused by fires that start when no household member is present.

32. A recent spate of launching and operating mishaps with television satellites led to a corresponding surge in claims against companies underwriting satellite insurance. As a result, insurance premiums shot up, making satellites more expensive to launch and operate. This, in turn, had added to the pressure to squeeze more performance out of currently operating satellites.

Which of the following, if true, taken together with the information above, best supports the conclusion that the cost of television satellites will continue to increase?

- (A) Since the risk to insurers of satellites is spread over relatively few units, insurance premiums are necessarily very high.
- (B) When satellites reach orbit and then fail, the causes of failure are generally impossible to pinpoint with confidence.
- (C) The greater the performance demands placed on satellites, the more frequently those satellites break down.
- (D) Most satellites are produced in such small numbers that no economies of scale can be realized.
- (E) Since many satellites are built by unwieldy international consortia, inefficiencies are inevitable.

33. Art restorers who have been studying the factors that cause Renaissance oil paintings to deteriorate physically when subject to climatic changes have found that the oil paint used in these paintings actually adjusts to these changes well. The restorers therefore hypothesize that it is a layer of material called gesso, which is under the paint, that causes the deterioration.

Which of the following, if true, most strongly supports the restorers' hypothesis?

- (A) Renaissance oil paintings with a thin layer of gesso are less likely to show deterioration in response to climatic changes than those with a thicker layer.
- (B) Renaissance oil paintings are often painted on wooden panels, which swell when humidity increases and contract when it declines.
- (C) Oil paint expands and contracts readily in response to changes in temperature, but it absorbs little water and so is little affected by changes in humidity.
- (D) An especially hard and nonabsorbent type of gesso was the raw material for moldings on the frames of Renaissance oil paintings.
- (E) Gesso layers applied by Renaissance painters typically consisted of a coarse base layer onto which several increasingly fine-grained layers were applied.

34. If the airspace around centrally located airports were restricted to commercial airliners and only those private planes equipped with radar, most of the private-plane traffic would be forced to use outlying airfields. Such a reduction in the amount of private-plane traffic would reduce the risk of midair collision around the centrally located airports.

The conclusion drawn in the first sentence depends on which of the following assumptions?

- (A) Outlying airfields would be as convenient as centrally located airports for most pilots of private planes.
- (B) Most outlying airfields are not equipped to handle commercial-airline traffic.
- (C) Most private planes that use centrally located airports are not equipped with radar.
- (D) Commercial airliners are at greater risk of becoming involved in midair collisions than are private planes.
- (E) A reduction in the risk of midair collision would eventually lead to increases in commercial airline traffic.

35. Two decades after the Emerald River Dam was built, none of the eight fish species native to the Emerald River was still reproducing adequately in the river below the dam. Since the dam reduced the annual range of water temperature in the river below the dam from 50 degrees to 6 degrees, scientists have hypothesized that sharply rising water temperatures must be involved in signaling the native species to begin the reproductive cycle.

Which of the following statements, if true, would most strengthen the scientists' hypothesis?

- (A) The native fish species were still able to reproduce only in side streams of the river below the dam where the annual temperature range remains approximately 50 degrees.
- (B) Before the dam was built, the Emerald River annually overflowed its banks, creating backwaters that were critical breeding areas for the native species of fish.
- (C) The lowest recorded temperature of the Emerald River before the dam was built was 34 degrees, whereas the lowest recorded temperature of the river after the dam was built has been 43 degrees.
- (D) Nonnative species of fish, introduced into the Emerald River after the dam was built, have begun competing with the declining native fish species for food and space.
- (E) Five of the fish species native to the Emerald River are not native to any other river in North America.

36. Certain messenger molecules fight damage to the lungs from noxious air by telling the muscle cells encircling the lungs' airways to contract. This partially seals off the lungs. An asthma attack occurs when the messenger molecules are activated unnecessarily, in response to harmless things like pollen or household dust.

Which of the following, if true, points to the most serious flaw of a plan to develop a medication that would prevent asthma attacks by blocking receipt of any messages sent by the messenger molecules referred to above?

- (A) Researchers do not yet know how the body produces the messenger molecules that trigger asthma attacks.
- (B) Researchers do not yet know what makes one person's messenger molecules more easily activated than another's.
- (C) Such a medication would not become available for several years, because of long lead times in both development and manufacture.
- (D) Such a medication would be unable to distinguish between messages triggered by pollen and household dust and messages triggered by noxious air.
- (E) Such a medication would be a preventative only and would be unable to alleviate an asthma attack once it had started.

37. Which of the following most logically completes the argument?

Although the pesticide TDX has been widely used by fruit growers since the early 1960s, a regulation in force since 1960 has prohibited sale of fruit on which any TDX residue can be detected. That regulation is about to be replaced by one that allows sale of fruit on which trace amounts of TDX residue are detected. In fact, however, the change will not allow more TDX on fruit than was allowed in the 1960s, because _____.

- (A) pre-1970 techniques for detecting TDX residue could detect it only when it was present on fruit in more than the trace amounts allowed by the new regulations
- (B) many more people today than in the 1960s habitually purchase and eat fruit without making an effort to clean residues off the fruit
- (C) people today do not individually consume any more pieces of fruit, on average, than did the people in the 1960s
- (D) at least a small fraction of the fruit sold each year since the early 1960s has had on it greater levels of TDX than the regulation allows
- (E) the presence of TDX on fruit in greater than trace amounts has not been shown to cause any harm even to children who eat large amounts of fruit

38. Which of the following best completes the passage below?

The more worried investors are about losing their money, the more they will demand a high potential return on their investment; great risks must be offset by the chance of great rewards. This principle is the fundamental one in determining interest rates, and it is illustrated by the fact that _____.

- (A) successful investors are distinguished by an ability to make very risky investments without worrying about their money
- (B) lenders receive higher interest rates on unsecured loans than on loans backed by collateral
- (C) in times of high inflation, the interest paid to depositors by banks can actually be below the rate of inflation
- (D) at any one time, a commercial bank will have a single rate of interest that it will expect all of its individual borrowers to pay
- (E) the potential return on investment in a new company is typically lower than the potential return on investment in a well-established company

39. A certain mayor has proposed a fee of five dollars per day on private vehicles entering the city, claiming that the fee will alleviate the city's traffic congestion. The mayor reasons that, since the fee will exceed the cost of round-trip bus fare from many nearby points, many people will switch from using their cars to using the bus.

Which of the following statements, if true, provides the best evidence that the mayor's reasoning is flawed?

- (A) Projected increases in the price of gasoline will increase the cost of taking a private vehicle into the city.
- (B) The cost of parking fees already makes it considerably more expensive for most people to take a private vehicle into the city than to take a bus.
- (C) Most of the people currently riding the bus do not own private vehicles.
- (D) Many commuters opposing the mayor's plan have indicated that they would rather endure traffic congestion than pay a five-dollar-per-day fee.
- (E) During the average workday, private vehicles owned and operated by people living within the city account for 20 percent of the city's traffic congestion.

40. Journalist: Well-known businessman Arnold Bergeron has long been popular in the state, and he has often talked about running for governor, but he has never run. However, we have just learned that Bergeron has fulfilled the financial disclosure requirement for candidacy by submitting a detailed list of his current financial holdings to the election commission. So, it is very likely that Bergeron will be a candidate for governor this year.

The answer to which of the following questions would be most useful in evaluating the journalist's argument?

- (A) Has anybody else who has fulfilled the financial disclosure requirement for the upcoming election reported greater financial holdings than Bergeron?
- (B) Is submitting a list of holdings the only way to fulfill the election commission's financial disclosure requirements?
- (C) Did the information recently obtained by the journalist come directly from the election commission?
- (D) Have Bergeron's financial holdings increased in value in recent years?
- (E) Had Bergeron also fulfilled the financial disclosure requirements for candidacy before any previous gubernatorial elections?

41. Dental researchers recently discovered that toothbrushes can become contaminated with bacteria that cause pneumonia and strep throat. They found that contamination usually occurs after toothbrushes have been used for four weeks. For that reason, people should replace their toothbrushes at least once a month.

Which of the following, if true, would most weaken the conclusion above?

- (A) The dental researchers could not discover why toothbrush contamination usually occurred only after toothbrushes had been used for four weeks.
- (B) The dental researchers failed to investigate contamination of toothbrushes by viruses, yeasts, and other pathogenic microorganisms.
- (C) The dental researchers found that among people who used toothbrushes contaminated with bacteria that cause pneumonia and strep throat, the incidence of these diseases was no higher than among people who used uncontaminated toothbrushes.
- (D) The dental researchers found that people who rinsed their toothbrushes thoroughly in hot water after each use were as likely to have contaminated toothbrushes as were people who only rinsed their toothbrushes hurriedly in cold water after each use.
- (E) The dental researchers found that, after six weeks of use, greater length of use of a toothbrush did not correlate with a higher number of bacteria being present.

42. Leaders of a miners' union on strike against Coalco are contemplating additional measures to pressure the company to accept the union's contract proposal. The union leaders are considering as their principal new tactic a consumer boycott against Gasco gas stations, which are owned by Energy Incorporated, the same corporation that owns Coalco.

The answer to which of the following questions is LEAST directly relevant to the union leaders' consideration of whether attempting a boycott of Gasco will lead to acceptance of their contract proposal?

- (A) Would revenue losses by Gasco seriously affect Energy Incorporated?
- (B) Can current Gasco customers easily obtain gasoline elsewhere?
- (C) Have other miners' unions won contracts similar to the one proposed by this union?
- (D) Have other unions that have employed a similar tactic achieved their goals with it?
- (E) Do other corporations that own coal companies also own gas stations?

43. Laws requiring the use of headlights during daylight hours can prevent automobile collisions. However, since daylight visibility is worse in countries farther from the equator, any such laws would obviously be more effective in preventing collisions in those countries. In fact, the only countries that actually have such laws are farther from the equator than is the continental United States.

Which of the following conclusions could be most properly drawn from the information given above?

- (A) Drivers in the continental United States who used their headlights during the day would be just as likely to become involved in a collision as would drivers who did not use their headlights.
- (B) In many countries that are farther from the equator than is the continental United States, poor daylight visibility is the single most important factor in automobile collisions.
- (C) The proportion of automobile collisions that occur in the daytime is greater in the continental United States than in the countries that have daytime headlight laws.
- (D) Fewer automobile collisions probably occur each year in countries that have daytime headlight laws than occur within the continental United States.
- (E) Daytime headlight laws would probably do less to prevent automobile collisions in the continental United States than they do in the countries that have the laws.

44. Bank depositors in the United States are all financially protected against bank failure because the government insures all individuals' bank deposits. An economist argues that this insurance is partly responsible for the high rate of bank failures, since it removes from depositors any financial incentive to find out whether the bank that holds their money is secure against failure. If depositors were more selective, then banks would need to be secure in order to compete for depositors' money.

The economist's argument makes which of the following assumptions?

- (A) Bank failures are caused when big borrowers default on loan repayments.
- (B) A significant proportion of depositors maintain accounts at several different banks.
- (C) The more a depositor has to deposit, the more careful he or she tends to be in selecting a bank.
- (D) The difference in the interest rates paid to depositors by different banks is not a significant factor in bank failures.
- (E) Potential depositors are able to determine which banks are secure against failure.

45. Often patients with ankle fractures that are stable, and thus do not require surgery, are given follow-up x-rays because their orthopedists are concerned about possibly having misjudged the stability of the fracture. When a number of follow-up x-rays were reviewed, however, all the fractures that had initially been judged stable were found to have healed correctly. Therefore, it is a waste of money to order follow-up x-rays of ankle fractures initially judged stable.

Which of the following, if true, most strengthens the argument?

- (A) Doctors who are general practitioners rather than orthopedists are less likely than orthopedists to judge the stability of an ankle fracture correctly.
- (B) Many ankle injuries for which an initial x-ray is ordered are revealed by the x-ray not to involve any fracture of the ankle.
- (C) X-rays of patients of many different orthopedists working in several hospitals were reviewed.
- (D) The healing of ankle fractures that have been surgically repaired is always checked by means of a follow-up x-ray.
- (E) Orthopedists routinely order follow-up x-rays for fractures of bones other than ankle bones.

46. A study of marital relationships in which one partner's sleeping and waking cycles differ from those of the other partner reveals that such couples share fewer activities with each other and have more violent arguments than do couples in a relationship in which both partners follow the same sleeping and waking patterns. Thus, mismatched sleeping and waking cycles can seriously jeopardize a marriage.

Which of the following, if true, most seriously weakens the argument above?

- (A) Married couples in which both spouses follow the same sleeping and waking patterns also occasionally have arguments that can jeopardize the couple's marriage.
- (B) The sleeping and waking cycles of individuals tend to vary from season to season.
- (C) The individuals who have sleeping and waking cycles that differ significantly from those of their spouses tend to argue little with colleagues at work.
- (D) People in unhappy marriages have been found to express hostility by adopting a different sleeping and waking cycle from that of their spouses.
- (E) According to a recent study, most people's sleeping and waking cycles can be controlled and modified easily.

47. In the past most airline companies minimized aircraft weight to minimize fuel costs. The safest airline seats were heavy, and airlines equipped their planes with few of these seats. This year the seat that has sold best to airlines has been the safest one—a clear indication that airlines are assigning a higher priority to safe seating than to minimizing fuel costs.

Which of the following, if true, most seriously weakens the argument above?

- (A) Last year's best-selling airline seat was not the safest airline seat on the market.
- (B) No airline company has announced that it would be making safe seating a higher priority this year.
- (C) The price of fuel was higher this year than it had been in most of the years when the safest airline seats sold poorly.
- (D) Because of increases in the cost of materials, all airline seats were more expensive to manufacture this year than in any previous year.
- (E) Because of technological innovations, the safest airline seat on the market this year weighed less than most other airline seats on the market.

48. Editorial: An arrest made by a Midville police officer is provisional until the officer has taken the suspect to the police station and the watch commander has officially approved the arrest. Such approval is denied if the commander judges that the evidence on which the provisional arrest is based is insufficient. A government efficiency expert has observed that **almost all provisional arrests meet the standards for adequacy of evidence that the watch commanders enforce**. The expert has therefore recommended that, because **the officers' time spent obtaining approval is largely wasted**, the watch commander's approval no longer be required. This recommendation should be rejected as dangerous, however, since there is no assurance that the watch commanders' standards will continue to be observed once approval is no longer required.

In the editorial, the two portions in **boldface** play which of the following roles?

- (A) The first is a claim, the accuracy of which is disputed by the editorial; the second is a conclusion drawn in order to support the main conclusion of the editorial.
- (B) The first is an observation that the editorial disputes; the second is a conclusion that was drawn from that observation.
- (C) The first is a finding that was used in support of a proposal that the editorial opposes; the second is a judgment that was based on that finding and in turn was used to support the proposal.
- (D) The first is a finding introduced to support the main conclusion of the editorial; the second is that main conclusion.
- (E) The first is a conclusion, the evidence for which the editorial evaluates; the second is part of the evidence cited in favor of that conclusion.

49. Division manager: I want to replace the Microton computers in my division with Vitech computers.

General manager: Why?

Division manager: It costs 28 percent less to train new staff on the Vitech.

General manager: But that is not a good enough reason. We can simply hire only people who already know how to use the Microton computer.

Which of the following, if true, most seriously undermines the general manager's objection to the replacement of Microton computers with Vitechs?

- (A) Currently all employees in the company are required to attend workshops on how to use Microton computers in new applications.
- (B) Once employees learn how to use a computer, they tend to change employers more readily than before.
- (C) Experienced users of Microton computers command much higher salaries than do prospective employees who have no experience in the use of computers.
- (D) The average productivity of employees in the general manager's company is below the average productivity of the employees of its competitors.
- (E) The high costs of replacement parts make Vitech computers more expensive to maintain than Microton computers.

50. Crops can be traded on the futures market before they are harvested. If a poor corn harvest is predicted, prices of corn futures rise; if a bountiful corn harvest is predicted, prices of corn futures fall. This morning meteorologists are predicting much-needed rain for the corn-growing region starting tomorrow. Therefore, since adequate moisture is essential for the current crop's survival, prices of corn futures will fall sharply today.

Which of the following, if true, most weakens the argument above?

- (A) Corn that does not receive adequate moisture during its critical pollination stage will not produce a bountiful harvest.
- (B) Futures prices for corn have been fluctuating more dramatically this season than last season.
- (C) The rain that meteorologists predicted for tomorrow is expected to extend well beyond the corn-growing region.
- (D) Agriculture experts announced today that a disease that has devastated some of the corn crop will spread widely before the end of the growing season.
- (E) Most people who trade in corn futures rarely take physical possession of the corn they trade.

51. A company plans to develop a prototype weeding machine that uses cutting blades with optical sensors and microprocessors that distinguish weeds from crop plants by differences in shade of color. The inventor of the machine claims that it will reduce labor costs by virtually eliminating the need for manual weeding.

Which of the following is a consideration in favor of the company's implementing its plan to develop the prototype?

- (A) There is a considerable degree of variation in shade of color between weeds of different species.
- (B) The shade of color of some plants tends to change appreciably over the course of their growing season.
- (C) When crops are weeded manually, overall size and leaf shape are taken into account in distinguishing crop plants from weeds.
- (D) Selection and genetic manipulation allow plants of virtually any species to be economically bred to have a distinctive shade of color without altering their other characteristics.
- (E) Farm laborers who are responsible for the manual weeding of crops carry out other agricultural duties at times in the growing season when extensive weeding is not necessary.

52. The interview is an essential part of a successful hiring program because, with it, job applicants who have personalities that are unsuited to the requirements of the job will be eliminated from consideration.

The argument above logically depends on which of the following assumptions?

- (A) A hiring program will be successful if it includes interviews.
- (B) The interview is a more important part of a successful hiring program than is the development of a job description.
- (C) Interviewers can accurately identify applicants whose personalities are unsuited to the requirements of the job.
- (D) The only purpose of an interview is to evaluate whether job applicants' personalities are suited to the requirements of the job.
- (E) The fit of job applicants' personalities to the requirements of the job was once the most important factor in making hiring decisions.

53. Useful protein drugs, such as insulin, must still be administered by the cumbersome procedure of injection under the skin. If proteins are taken orally, they are digested and cannot reach their target cells. Certain nonprotein drugs, however, contain chemical bonds that are not broken down by the digestive system. They can, thus, be taken orally.

The statements above most strongly support a claim that a research procedure that successfully accomplishes which of the following would be beneficial to users of protein drugs?

- (A) Coating insulin with compounds that are broken down by target cells, but whose chemical bonds are resistant to digestion
- (B) Converting into protein compounds, by procedures that work in the laboratory, the nonprotein drugs that resist digestion
- (C) Removing permanently from the digestive system any substances that digest proteins
- (D) Determining, in a systematic way, what enzymes and bacteria are present in the normal digestive system and whether they tend to be broken down within the body
- (E) Determining the amount of time each nonprotein drug takes to reach its target cells

54. Tanco, a leather manufacturer, uses large quantities of common salt to preserve animal hides. New environmental regulations have significantly increased the cost of disposing of salt water that results from this use, and, in consequence, Tanco is considering a plan to use potassium chloride in place of common salt. Research has shown that Tanco could reprocess the by-product of potassium chloride use to yield a crop fertilizer, leaving a relatively small volume of waste for disposal.

In determining the impact on company profits of using potassium chloride in place of common salt, it would be important for Tanco to research all of the following EXCEPT:

- (A) What difference, if any, is there between the cost of the common salt needed to preserve a given quantity of animal hides and the cost of the potassium chloride needed to preserve the same quantity of hides?
- (B) To what extent is the equipment involved in preserving animal hides using common salt suitable for preserving animal hides using potassium chloride?
- (C) What environmental regulations, if any, constrain the disposal of the waste generated in reprocessing the by-product of potassium chloride?
- (D) How closely does leather that results when common salt is used to preserve hides resemble that which results when potassium chloride is used?
- (E) Are the chemical properties that make potassium chloride an effective means for preserving animal hides the same as those that make common salt an effective means for doing so?

55. There is a great deal of geographical variation in the frequency of many surgical procedures—up to tenfold variation per hundred thousand people between different areas in the numbers of hysterectomies, prostatectomies, and tonsillectomies.

To support a conclusion that much of the variation is due to unnecessary surgical procedures, it would be most important to establish which of the following?

- (A) A local board of review at each hospital examines the records of every operation to determine whether the surgical procedure was necessary.
- (B) The variation is unrelated to factors (other than the surgical procedures themselves) that influence the incidence of diseases for which surgery might be considered.
- (C) There are several categories of surgical procedure (other than hysterectomies, prostatectomies, and tonsillectomies) that are often performed unnecessarily.
- (D) For certain surgical procedures, it is difficult to determine after the operation whether the procedures were necessary or whether alternative treatment would have succeeded.
- (E) With respect to how often they are performed unnecessarily, hysterectomies, prostatectomies, and tonsillectomies are representative of surgical procedures in general.

56. Gortland has long been narrowly self-sufficient in both grain and meat. However, as per capita income in Gortland has risen toward the world average, per capita consumption of meat has also risen toward the world average, and it takes several pounds of grain to produce one pound of meat. Therefore, since per capita income continues to rise, whereas domestic grain production will not increase, Gortland will soon have to import either grain or meat or both.

Which of the following is an assumption on which the argument depends?

- (A) The total acreage devoted to grain production in Gortland will not decrease substantially.
- (B) The population of Gortland has remained relatively constant during the country's years of growing prosperity.
- (C) The per capita consumption of meat in Gortland is roughly the same across all income levels.
- (D) In Gortland, neither meat nor grain is subject to government price controls.
- (E) People in Gortland who increase their consumption of meat will not radically decrease their consumption of grain.

57. Meteorite explosions in the Earth's atmosphere as large as the one that destroyed forests in Siberia, with approximately the force of a twelve-megaton nuclear blast, occur about once a century.

The response of highly automated systems controlled by complex computer programs to unexpected circumstances is unpredictable.

Which of the following conclusions can most properly be drawn, if the statements above are true, about a highly automated nuclear-missile defense system controlled by a complex computer program?

- (A) Within a century after its construction, the system would react inappropriately and might accidentally start a nuclear war.
- (B) The system would be destroyed if an explosion of a large meteorite occurred in the Earth's atmosphere.
- (C) It would be impossible for the system to distinguish the explosion of a large meteorite from the explosion of a nuclear weapon.
- (D) Whether the system would respond inappropriately to the explosion of a large meteorite would depend on the location of the blast.
- (E) It is not certain what the system's response to the explosion of a large meteorite would be, if its designers did not plan for such a contingency.

58. If there is an oil-supply disruption resulting in higher international oil prices, domestic oil prices in open-market countries such as the United States will rise as well, whether such countries import all or none of their oil.

If the statement above concerning oil-supply disruptions is true, which of the following policies in an open-market nation is most likely to reduce the long-term economic impact on that nation of sharp and unexpected increases in international oil prices?

- (A) Maintaining the quantity of oil imported at constant yearly levels
 - (B) Increasing the number of oil tankers in its fleet
 - (C) Suspending diplomatic relations with major oil-producing nations
 - (D) Decreasing oil consumption through conservation
 - (E) Decreasing domestic production of oil
59. Boreal owls range over a much larger area than do other owls of similar size. The reason for this behavior is probably that the small mammals on which owls feed are especially scarce in the forests where boreal owls live, and the relative scarcity of prey requires the owls to range more extensively to find sufficient food.

Which of the following, if true, most helps to confirm the explanation above?

- (A) Some boreal owls range over an area eight times larger than the area over which any other owl of similar size ranges.
- (B) Boreal owls range over larger areas in regions where food of the sort eaten by small mammals is sparse than they do in regions where such food is abundant.
- (C) After their young hatch, boreal owls must hunt more often than before in order to feed both themselves and their newly hatched young.
- (D) Sometimes individual boreal owls hunt near a single location for many weeks at a time and do not range farther than a few hundred yards.
- (E) The boreal owl requires less food, relative to its weight, than is required by members of other owl species.

60. The tobacco industry is still profitable and projections are that it will remain so. In the United States this year, the total amount of tobacco sold by tobacco farmers has increased, even though the number of adults who smoke has decreased.

Each of the following, if true, could explain the simultaneous increase in tobacco sales and decrease in the number of adults who smoke EXCEPT:

- (A) During this year, the number of women who have begun to smoke is greater than the number of men who have quit smoking.
- (B) The number of teenage children who have begun to smoke this year is greater than the number of adults who have quit smoking during the same period.
- (C) During this year, the number of nonsmokers who have begun to use chewing tobacco or snuff is greater than the number of people who have quit smoking.
- (D) The people who have continued to smoke consume more tobacco per person than they did in the past.
- (E) More of the cigarettes made in the United States this year were exported to other countries than was the case last year.

61. A milepost on the towpath read “21” on the side facing the hiker as she approached it and “23” on its back. She reasoned that the next milepost forward on the path would indicate that she was halfway between one end of the path and the other. However, the milepost one mile further on read “20” facing her and “24” behind.

Which of the following, if true, would explain the discrepancy described above?

- (A) The numbers on the next milepost had been reversed.
- (B) The numbers on the mileposts indicate kilometers, not miles.
- (C) The facing numbers indicate miles to the end of the path, not miles from the beginning.
- (D) A milepost was missing between the two the hiker encountered.
- (E) The mileposts had originally been put in place for the use of mountain bikers, not for hikers.

62. In response to viral infection, the immune systems of mice typically produce antibodies that destroy the virus by binding to proteins on its surface. Mice infected with a herpesvirus generally develop keratitis, a degenerative disease affecting part of the eye. Since proteins on the surface of cells in this part of the eye closely resemble those on the herpesvirus surface, scientists hypothesize that these cases of keratitis are caused by antibodies to herpesvirus.

Which of the following, if true, gives the greatest additional support to the scientists' hypothesis?

- (A) Other types of virus have surface proteins that closely resemble proteins found in various organs of mice.
- (B) There are mice that are unable to form antibodies in response to herpes infections, and these mice contract herpes at roughly the same rate as other mice.
- (C) Mice that are infected with a herpesvirus but do not develop keratitis produce as many antibodies as infected mice that do develop keratitis.
- (D) There are mice that are unable to form antibodies in response to herpes infections, and these mice survive these infections without ever developing keratitis.
- (E) Mice that have never been infected with a herpesvirus can sometimes develop keratitis.

63. Traditionally, decision making by managers that is reasoned step-by-step has been considered preferable to intuitive decision making. However, a recent study found that top managers used intuition significantly more than did most middle- or lower-level managers. This confirms the alternative view that intuition is actually more effective than careful, methodical reasoning.

The conclusion above is based on which of the following assumptions?

- (A) Methodical, step-by-step reasoning is inappropriate for making many real-life management decisions.
- (B) Top managers have the ability to use either intuitive reasoning or methodical, step-by-step reasoning in making decisions.
- (C) The decisions made by middle- and lower-level managers can be made as easily by using methodical reasoning as by using intuitive reasoning.
- (D) Top managers use intuitive reasoning in making the majority of their decisions.
- (E) Top managers are more effective at decision making than middle- or lower-level managers.

64. High levels of fertilizer and pesticides, needed when farmers try to produce high yields of the same crop year after year, pollute water supplies. Experts therefore urge farmers to diversify their crops and to rotate their plantings yearly.

To receive governmental price-support benefits for a crop, farmers must have produced that same crop for the past several years.

The statements above, if true, best support which of the following conclusions?

- (A) The rules for governmental support of farm prices work against efforts to reduce water pollution.
- (B) The only solution to the problem of water pollution from fertilizers and pesticides is to take farmland out of production.
- (C) Farmers can continue to make a profit by rotating diverse crops, thus reducing costs for chemicals, but not by planting the same crop each year.
- (D) New farming techniques will be developed to make it possible for farmers to reduce the application of fertilizers and pesticides.
- (E) Governmental price supports for farm products are set at levels that are not high enough to allow farmers to get out of debt.

65. Which of the following most logically completes the argument?

Utrania was formerly a major petroleum exporter, but in recent decades economic stagnation and restrictive regulations inhibited investment in new oil fields. In consequence, Utranian oil exports dropped steadily as old fields became depleted. Utrania's currently improving economic situation, together with less-restrictive regulations, will undoubtedly result in the rapid development of new fields. However, it would be premature to conclude that the rapid development of new fields will result in higher oil exports, because _____.

- (A) the price of oil is expected to remain relatively stable over the next several years
- (B) the improvement in the economic situation in Utrania is expected to result in a dramatic increase in the proportion of Utranians who own automobiles
- (C) most of the investment in new oil fields in Utrania is expected to come from foreign sources
- (D) new technology is available to recover oil from old oil fields formerly regarded as depleted
- (E) many of the new oil fields in Utrania are likely to be as productive as those that were developed during the period when Utrania was a major oil exporter

66. Hardin argued that grazing land held in common (that is, open to any user) would always be used less carefully than private grazing land. Each rancher would be tempted to overuse common land because the benefits would accrue to the individual, while the costs of reduced land quality that results from overuse would be spread among all users. But a study comparing 217 million acres of common grazing land with 433 million acres of private grazing land showed that the common land was in better condition.

The answer to which of the following questions would be most useful in evaluating the significance, in relation to Hardin's claim, of the study described above?

- (A) Did any of the ranchers whose land was studied use both common and private land?
 - (B) Did the ranchers whose land was studied tend to prefer using common land over using private land for grazing?
 - (C) Was the private land that was studied of comparable quality to the common land before either was used for grazing?
 - (D) Were the users of the common land that was studied at least as prosperous as the users of the private land?
 - (E) Were there any owners of herds who used only common land, and no private land, for grazing?
67. A compelling optical illusion called the illusion of velocity and size makes objects appear to be moving more slowly the larger the objects are. Therefore, a motorist's estimate of the time available for crossing a highway with a small car approaching is bound to be lower than it would be with a large truck approaching.

The conclusion above would be more properly drawn if it were made clear that the

- (A) truck's speed is assumed to be lower than the car's
- (B) truck's speed is assumed to be the same as the car's
- (C) truck's speed is assumed to be higher than the car's
- (D) motorist's estimate of time available is assumed to be more accurate with cars approaching than with trucks approaching
- (E) motorist's estimate of time available is assumed to be more accurate with trucks approaching than with cars approaching

68. Manufacturers sometimes discount the price of a product to retailers for a promotion period when the product is advertised to consumers. Such promotions often result in a dramatic increase in amount of product sold by the manufacturers to retailers. Nevertheless, the manufacturers could often make more profit by not holding the promotions.

Which of the following, if true, most strongly supports the claim above about the manufacturers' profit?

- (A) The amount of discount generally offered by manufacturers to retailers is carefully calculated to represent the minimum needed to draw consumers' attention to the product.
- (B) For many consumer products the period of advertising discounted prices to consumers is about a week, not sufficiently long for consumers to become used to the sale price.
- (C) For products that are not newly introduced, the purpose of such promotions is to keep the products in the minds of consumers and to attract consumers who are currently using competing products.
- (D) During such a promotion retailers tend to accumulate in their warehouses inventory bought at discount; they then sell much of it later at their regular price.
- (E) If a manufacturer fails to offer such promotions but its competitor offers them, that competitor will tend to attract consumers away from the manufacturer's product.

69. When people evade income taxes by not declaring taxable income, a vicious cycle results. Tax evasion forces lawmakers to raise income tax rates, which causes the tax burden on nonevading taxpayers to become heavier. This, in turn, encourages even more taxpayers to evade income taxes by hiding taxable income.

The vicious cycle described above could not result unless which of the following were true?

- (A) An increase in tax rates tends to function as an incentive for taxpayers to try to increase their pretax incomes.
- (B) Some methods for detecting tax evaders, and thus recovering some tax revenue lost through evasion, bring in more than they cost, but their success rate varies from year to year.
- (C) When lawmakers establish income tax rates in order to generate a certain level of revenue, they do not allow adequately for revenue that will be lost through evasion.
- (D) No one who routinely hides some taxable income can be induced by a lowering of tax rates to stop hiding such income unless fines for evaders are raised at the same time.
- (E) Taxpayers do not differ from each other with respect to the rate of taxation that will cause them to evade taxes.

70. Plantings of cotton bioengineered to produce its own insecticide against bollworms, a major cause of crop failure, sustained little bollworm damage until this year. This year the plantings are being seriously damaged by bollworms. Bollworms, however, are not necessarily developing resistance to the cotton's insecticide. Bollworms breed on corn, and last year more corn than usual was planted throughout cotton-growing regions. So it is likely that the cotton is simply being overwhelmed by corn-bred bollworms.

In evaluating the argument, which of the following would it be most useful to establish?

- (A) Whether corn could be bioengineered to produce the insecticide
- (B) Whether plantings of cotton that does not produce the insecticide are suffering unusually extensive damage from bollworms this year
- (C) Whether other crops that have been bioengineered to produce their own insecticide successfully resist the pests against which the insecticide was to protect them
- (D) Whether plantings of bioengineered cotton are frequently damaged by insect pests other than bollworms
- (E) Whether there are insecticides that can be used against bollworms that have developed resistance to the insecticide produced by the bioengineered cotton

71. Because postage rates are rising, *Home Decorator* magazine plans to maximize its profits by reducing by one-half the number of issues it publishes each year. The quality of articles, the number of articles published per year, and the subscription price will not change. Market research shows that neither subscribers nor advertisers will be lost if the magazine's plan is instituted.

Which of the following, if true, provides the strongest evidence that the magazine's profits are likely to decline if the plan is instituted?

- (A) With the new postage rates, a typical issue under the proposed plan would cost about one-third more to mail than a typical current issue would.
- (B) The majority of the magazine's subscribers are less concerned about a possible reduction in the quantity of the magazine's articles than about a possible loss of the current high quality of its articles.
- (C) Many of the magazine's long-time subscribers would continue their subscriptions even if the subscription price were increased.
- (D) Most of the advertisers that purchase advertising space in the magazine will continue to spend the same amount on advertising per issue as they have in the past.
- (E) Production costs for the magazine are expected to remain stable.

72. A discount retailer of basic household necessities employs thousands of people and pays most of them at the minimum wage rate. Yet following a federally mandated increase of the minimum wage rate that increased the retailer's operating costs considerably, the retailer's profits increased markedly.

Which of the following, if true, most helps to resolve the apparent paradox?

- (A) Over half of the retailer's operating costs consist of payroll expenditures; yet only a small percentage of those expenditures go to pay management salaries.
- (B) The retailer's customer base is made up primarily of people who earn, or who depend on the earnings of others who earn, the minimum wage.
- (C) The retailer's operating costs, other than wages, increased substantially after the increase in the minimum wage rate went into effect.
- (D) When the increase in the minimum wage rate went into effect, the retailer also raised the wage rate for employees who had been earning just above minimum wage.
- (E) The majority of the retailer's employees work as cashiers, and most cashiers are paid the minimum wage.

73. The cotton farms of Country Q became so productive that the market could not absorb all that they produced. Consequently, cotton prices fell. The government tried to boost cotton prices by offering farmers who took 25 percent of their cotton acreage out of production direct support payments up to a specified maximum per farm.

The government's program, if successful, will not be a net burden on the budget. Which of the following, if true, is the best basis for an explanation of how this could be so?

- (A) Depressed cotton prices meant operating losses for cotton farms, and the government lost revenue from taxes on farm profits.
- (B) Cotton production in several countries other than Q declined slightly the year that the support-payment program went into effect in Q.
- (C) The first year that the support-payment program was in effect, cotton acreage in Q was 5 percent below its level in the base year for the program.
- (D) The specified maximum per farm meant that for very large cotton farms the support payments were less per acre for those acres that were withdrawn from production than they were for smaller farms.
- (E) Farmers who wished to qualify for support payments could not use the cotton acreage that was withdrawn from production to grow any other crop.

74. A product that represents a clear technological advance over competing products can generally command a high price. Because **technological advances tend to be quickly surpassed** and companies want to make large profits while they still can, **many companies charge the maximum possible price for such a product**. But large profits on the new product will give competitors a strong incentive to quickly match the new product's capabilities. Consequently, the strategy to maximize overall profit from a new product is to charge less than the greatest possible price.

In the argument above, the two portions in **boldface** play which of the following roles?

- (A) The first is a consideration raised to argue that a certain strategy is counterproductive; the second presents that strategy.
- (B) The first is a consideration raised to support the strategy that the argument recommends; the second presents that strategy.
- (C) The first is a consideration raised to help explain the popularity of a certain strategy; the second presents that strategy.
- (D) The first is an assumption, rejected by the argument, that has been used to justify a course of action; the second presents that course of action.
- (E) The first is a consideration that has been used to justify adopting a certain strategy; the second presents the intended outcome of that strategy.

75. United States hospitals have traditionally relied primarily on revenues from paying patients to offset losses from unreimbursed care. Almost all paying patients now rely on governmental or private health insurance to pay hospital bills. Recently, insurers have been strictly limiting what they pay hospitals for the care of insured patients to amounts at or below actual costs.

Which of the following conclusions is best supported by the information above?

- (A) Although the advance of technology has made expensive medical procedures available to the wealthy, such procedures are out of the reach of low-income patients.
- (B) If hospitals do not find ways of raising additional income for unreimbursed care, they must either deny some of that care or suffer losses if they give it.
- (C) Some patients have incomes too high for eligibility for governmental health insurance but are unable to afford private insurance for hospital care.
- (D) If the hospitals reduce their costs in providing care, insurance companies will maintain the current level of reimbursement, thereby providing more funds for unreimbursed care.
- (E) Even though philanthropic donations have traditionally provided some support for the hospitals, such donations are at present declining.

76. Generally scientists enter their field with the goal of doing important new research and accept as their colleagues those with similar motivation. Therefore, when any scientist wins renown as an expounder of science to general audiences, most other scientists conclude that this popularizer should no longer be regarded as a true colleague.

The explanation offered above for the low esteem in which scientific popularizers are held by research scientists assumes that

- (A) serious scientific research is not a solitary activity, but relies on active cooperation among a group of colleagues
- (B) research scientists tend not to regard as colleagues those scientists whose renown they envy
- (C) a scientist can become a famous popularizer without having completed any important research
- (D) research scientists believe that those who are well known as popularizers of science are not motivated to do important new research
- (E) no important new research can be accessible to or accurately assessed by those who are not themselves scientists

77. Country Y uses its scarce foreign-exchange reserves to buy scrap iron for recycling into steel. Although the steel thus produced earns more foreign exchange than it costs, that policy is foolish. Country Y's own territory has vast deposits of iron ore, which can be mined with minimal expenditure of foreign exchange.

Which of the following, if true, provides the strongest support for Country Y's policy of buying scrap iron abroad?

- (A) The price of scrap iron on international markets rose significantly in 1987.
- (B) Country Y's foreign-exchange reserves dropped significantly in 1987.
- (C) There is virtually no difference in quality between steel produced from scrap iron and that produced from iron ore.
- (D) Scrap iron is now used in the production of roughly half the steel used in the world today, and experts predict that scrap iron will be used even more extensively in the future.
- (E) Furnaces that process scrap iron can be built and operated in Country Y with substantially less foreign exchange than can furnaces that process iron ore.

78. Which of the following most logically completes the passage?

The figures in portraits by the Spanish painter El Greco (1541–1614) are systematically elongated. In El Greco's time, the intentional distortion of human figures was unprecedented in European painting. Consequently, some critics have suggested that El Greco had an astigmatism, a type of visual impairment, that resulted in people appearing to him in the distorted way that is characteristic of his paintings. However, this suggestion cannot be the explanation, because _____.

- (A) several twentieth-century artists have consciously adopted from El Greco's paintings the systematic elongation of the human form
- (B) some people do have elongated bodies somewhat like those depicted in El Greco's portraits
- (C) if El Greco had an astigmatism, then, relative to how people looked to him, the elongated figures in his paintings would have appeared to him to be distorted
- (D) even if El Greco had an astigmatism, there would have been no correction for it available in the period in which he lived
- (E) there were non-European artists, even in El Greco's time, who included in their works human figures that were intentionally distorted

79. Consumer health advocate: Your candy company adds caffeine to your chocolate candy bars so that each one delivers a specified amount of caffeine. Since caffeine is highly addictive, this indicates that you intend to keep your customers addicted.

Candy manufacturer: Our manufacturing process results in there being less caffeine in each chocolate candy bar than in the unprocessed cacao beans from which the chocolate is made.

The candy manufacturer's response is flawed as a refutation of the consumer health advocate's argument because it

- (A) fails to address the issue of whether the level of caffeine in the candy bars sold by the manufacturer is enough to keep people addicted
- (B) assumes without warrant that all unprocessed cacao beans contain a uniform amount of caffeine
- (C) does not specify exactly how caffeine is lost in the manufacturing process
- (D) treats the consumer health advocate's argument as though it were about each candy bar rather than about the manufacturer's candy in general
- (E) merely contradicts the consumer health advocate's conclusion without giving any reason to believe that the advocate's reasoning is unsound

80. To evaluate a plan to save money on office-space expenditures by having its employees work at home, XYZ Company asked volunteers from its staff to try the arrangement for six months. During this period, the productivity of these employees was as high as or higher than before.

Which of the following, if true, would argue most strongly against deciding, on the basis of the trial results, to implement the company's plan?

- (A) The employees who agreed to participate in the test of the plan were among the company's most self-motivated and independent workers.
- (B) The savings that would accrue from reduced office-space expenditures alone would be sufficient to justify the arrangement for the company, apart from any productivity increases.
- (C) Other companies that have achieved successful results from work-at-home plans have workforces that are substantially larger than that of XYZ.
- (D) The volunteers who worked at home were able to communicate with other employees as necessary for performing the work.
- (E) Minor changes in the way office work is organized at XYZ would yield increases in employee productivity similar to those achieved in the trial.

81. Political Advertisement:

Mayor Delmont's critics complain about the jobs that were lost in the city under Delmont's leadership. Yet the fact is that not only were more jobs created than were eliminated, but each year since Delmont took office the average pay for the new jobs created has been higher than that year's average pay for jobs citywide. So it stands to reason that throughout Delmont's tenure the average paycheck in this city has been getting steadily bigger.

Which of the following, if true, most seriously weakens the argument in the advertisement?

- (A) The unemployment rate in the city is higher today than it was when Mayor Delmont took office.
- (B) The average pay for jobs in the city was at a ten-year low when Mayor Delmont took office.
- (C) Each year during Mayor Delmont's tenure, the average pay for jobs that were eliminated has been higher than the average pay for jobs citywide.
- (D) Most of the jobs eliminated during Mayor Delmont's tenure were in declining industries.
- (E) The average pay for jobs in the city is currently lower than it is for jobs in the suburbs surrounding the city.

82. Vitacorp, a manufacturer, wishes to make its information booth at an industry convention more productive in terms of boosting sales. The booth offers information introducing the company's new products and services. To achieve the desired result, Vitacorp's marketing department will attempt to attract more people to the booth. The marketing director's first measure was to instruct each salesperson to call his or her five best customers and personally invite them to visit the booth.

Which of the following, if true, most strongly supports the prediction that the marketing director's first measure will contribute to meeting the goal of boosting sales?

- (A) Vitacorp's salespeople routinely inform each important customer about new products and services as soon as the decision to launch them has been made.
- (B) Many of Vitacorp's competitors have made plans for making their own information booths more productive in increasing sales.
- (C) An information booth that is well attended tends to attract visitors who would not otherwise have attended the booth.
- (D) Most of Vitacorp's best customers also have business dealings with Vitacorp's competitors.
- (E) Vitacorp has fewer new products and services available this year than it had in previous years.

83. An eyeglass manufacturer tried to boost sales for the summer quarter by offering its distributors a special discount if their orders for that quarter exceeded those for last year's summer quarter by at least 20 percent. Many distributors qualified for this discount. Even with much merchandise discounted, sales increased enough to produce a healthy gain in net profits. The manufacturer plans to repeat this success by offering the same sort of discount for the fall quarter.

Which of the following, if true, most clearly points to a flaw in the manufacturer's plan to repeat the successful performance of the summer quarter?

- (A) In general, a distributor's orders for the summer quarter are no higher than those for the spring quarter.
- (B) Along with offering special discounts to qualifying distributors, the manufacturer increased newspaper and radio advertising in those distributors' sales areas.
- (C) The distributors most likely to qualify for the manufacturer's special discount are those whose orders were unusually low a year earlier.
- (D) The distributors who qualified for the manufacturer's special discount were free to decide how much of that discount to pass on to their own customers.
- (E) The distributors' ordering more goods in the summer quarter left them overstocked for the fall quarter.

4.5 Answer Key

1. B	22. A	43. E	64. A
2. B	23. C	44. E	65. B
3. E	24. C	45. C	66. C
4. A	25. B	46. D	67. B
5. C	26. B	47. E	68. D
6. B	27. E	48. C	69. C
7. D	28. B	49. C	70. B
8. A	29. C	50. D	71. D
9. A	30. D	51. D	72. B
10. B	31. E	52. C	73. A
11. B	32. C	53. A	74. C
12. C	33. A	54. E	75. B
13. C	34. C	55. B	76. D
14. B	35. A	56. E	77. E
15. D	36. D	57. E	78. C
16. A	37. A	58. D	79. A
17. C	38. B	59. B	80. A
18. A	39. B	60. A	81. C
19. C	40. E	61. C	82. C
20. E	41. C	62. D	83. E
21. A	42. E	63. E	

4.6 Answer Explanations

The following discussion is intended to familiarize you with the most efficient and effective approaches to critical reasoning questions. The particular questions in this chapter are generally representative of the kinds of critical reasoning questions you will encounter on the GMAT. Remember that it is the problem solving strategy that is important, not the specific details of a particular question.

1. Which of the following, if true, most logically completes the argument below?

Manufacturers are now required to make all cigarette lighters child-resistant by equipping them with safety levers. But this change is unlikely to result in a significant reduction in the number of fires caused by children playing with lighters, because children given the opportunity can figure out how to work the safety levers and _____.

- (A) the addition of the safety levers has made lighters more expensive than they were before the requirement was instituted
- (B) adults are more likely to leave child-resistant lighters than non-child-resistant lighters in places that are accessible to children
- (C) many of the fires started by young children are quickly detected and extinguished by their parents
- (D) unlike child-resistant lighters, lighters that are not child-resistant can be operated by children as young as two years old
- (E) approximately 5,000 fires per year have been attributed to children playing with lighters before the safety levers were required

Argument Construction

Situation Manufacturers must equip all cigarette lighters with child-resistant safety levers, but children can figure out how to circumvent the safety levers and thereby often start fires.

Reasoning *What point would most logically complete the argument? What would make it likely that the number of fires caused by children playing with lighters would remain the same? In order for children to start fires using lighters equipped with safety levers, they must be given the opportunity to figure out how the safety levers work and then to use them. They must, that is, have access to the lighters.*

- A If safety-lever-equipped lighters are more expensive than lighters that are not so equipped, fewer lighters might be sold. This would most likely afford children less access to lighters, thus giving them less opportunity to start fires with them.
- B **Correct.** This statement properly identifies a point that logically completes the argument: it explains why children are likely to have access to lighters equipped with safety levers.
- C The speed with which fires are extinguished does not have any bearing on the number of fires that are started.
- D This provides a reason to believe that the number of fires started by children will most likely decrease, rather than stay the same: fewer children will be able to operate the lighters, and thus fewer fires are likely to be started.
- E This information about how many fires were started by children before safety levers were required does not have any bearing on the question of how many fires are likely to be started by children now that the safety levers are required.

The correct answer is B.

2. A cost-effective solution to the problem of airport congestion is to provide high-speed ground transportation between major cities lying 200 to 500 miles apart. The successful implementation of this plan would cost far less than expanding existing airports and would also reduce the number of airplanes clogging both airports and airways.

Which of the following, if true, could proponents of the plan above most appropriately cite as a piece of evidence for the soundness of their plan?

- (A) An effective high-speed ground-transportation system would require major repairs to many highways and mass-transit improvements.
- (B) One-half of all departing flights in the nation's busiest airport head for a destination in a major city 225 miles away.
- (C) The majority of travelers departing from rural airports are flying to destinations in cities over 600 miles away.
- (D) Many new airports are being built in areas that are presently served by high-speed ground-transportation systems.
- (E) A large proportion of air travelers are vacationers who are taking long-distance flights.

Evaluation of a Plan

Situation Providing high-speed ground transportation between cities 200 to 500 miles apart is a more cost-effective and efficient way to reduce airport congestion than expanding existing airports.

Reasoning *What evidence supports the plan?* The transportation plan will work only if people are likely to use the high-speed ground transportation. If half the flights leaving the busiest airport fly to destinations within range (200–500 miles) of ground transportation, then many people might choose high-speed ground transportation over air travel. Then, fewer flights would be needed and airport congestion would decrease.

- A Expensive repairs are an argument against, not for, ground transportation.
- B Correct.** This statement properly identifies evidence that supports the plan.
- C Rural travelers are not included in this proposal, which addresses travel between major cities.
- D New airports covering the same routes are a threat to the plan.
- E The information that the airports are congested because of long-distance travelers, rather than those heading to destinations within 500 miles, argues against the proposal.

The correct answer is B.

3. People's television-viewing habits could be monitored by having television sets, when on, send out low-level electromagnetic waves that are reflected back to the sets. The reflected waves could then be analyzed to determine how many persons are within the viewing area of the sets. Critics fear adverse health effects of such a monitoring system, but a proponent responds, "The average dose of radiation is less than one chest x-ray. As they watch, viewers won't feel a thing."

Which of the following issues would it be most important to resolve in evaluating the dispute concerning the health effects of the proposed system?

- (A) Whether the proposed method of monitoring viewership can distinguish between people and pets
- (B) Whether radar speed monitors also operate on the principle of analyzing reflected waves of electromagnetic radiation
- (C) Whether the proposed system has been tried out in various areas of the country or in a single area only
- (D) What uses are foreseen for the viewership data
- (E) Whether the average dose that the proponent describes is a short-term dose or a lifetime cumulative dose

Evaluation of a Plan

Situation People's television habits could be tracked using electromagnetic waves. Critics of this plan are concerned that the electromagnetic waves would prove detrimental to people's health, but proponents say that viewers will feel nothing, for the average dose of radiation is less than one chest x-ray.

Reasoning *What would it be most useful to know in order to resolve the dispute?* The dispute centers on the potential dangers of the radiation directed at those around the television. If the proponent's claim is accurate, then presumably people have nothing to worry about. But there is a significant ambiguity in the proponent's claim: what "average" is the proponent talking about? Over what length of time is this "average" dose of radiation administered by the television—a day, a year, a lifetime? Resolving this question would go a long way toward establishing whether the critics of the plan are justified in their concerns.

- A This speaks to whether the data obtained from the radiation plan will be useful to those who wish to monitor people's television habits, not to whether the monitoring system will produce adverse health effects.
- B This is tangentially related to the dispute, for it could be said that if reflected waves of radiomagnetic radiation were in fact dangerous, radar speed monitors would never have been approved for use. But since no information is given about whether the amount of radiation to which people are exposed by radar speed monitors is comparable to the amount to which they would be exposed by the proposed television system, the information given would not help to resolve the dispute.
- C It would be useful to know whether the health effects of the proposed system have been investigated through trials of the system. But merely knowing whether the system has been tried out in various areas of the country or in only a single area would not in itself help in determining how likely the system is to produce adverse health effects.
- D The uses to which the viewership data will be put are unrelated to the question of whether the proposed system will have adverse health effects.
- E **Correct.** This statement properly identifies an issue that, if resolved, would help to determine the health effects of the proposed system.

The correct answer is E.

4. The price the government pays for standard weapons purchased from military contractors is determined by a pricing method called “historical costing.” Historical costing allows contractors to protect their profits by adding a percentage increase, based on the current rate of inflation, to the previous year’s contractual price.

Which of the following statements, if true, is the best basis for a criticism of historical costing as an economically sound pricing method for military contracts?

- (A) The government might continue to pay for past inefficient use of funds.
- (B) The rate of inflation has varied considerably over the past twenty years.
- (C) The contractual price will be greatly affected by the cost of materials used for the products.
- (D) Many taxpayers question the amount of money the government spends on military contracts.
- (E) The pricing method based on historical costing might not encourage the development of innovative weapons.

Argument Evaluation

Situation Military contractors add a percentage increase, based on the rate of inflation, to prices specified in previous contracts for standard weapons.

Reasoning *What could be wrong in simply adding a percentage increase each year?* If the original contract price accommodated the contractors’ inefficiencies, the government’s overpayments for these inefficiencies are simply perpetuated, and money continues to be wasted. Additionally, historical costing assumes costs only go up, never down.

- A **Correct.** This statement properly identifies a serious problem with historical costing.
- B Because historical costing involves making a price adjustment based on the most recent inflation rate, the fact that inflation rates have varied is not a weakness of the method.
- C Presumably the cost of materials was factored into the previous year’s contractual price, and the percentage increase allowed by historical costing will likely reflect any increases in the cost of materials.
- D Taxpayers may question the amount spent on military contracts even if the contracts are priced using an economically sound method.
- E The contract is for standard weapons only; innovative weapons are not discussed.

The correct answer is A.

5. Since the mayor's publicity campaign for Greenville's bus service began six months ago, morning automobile traffic into the midtown area of the city has decreased 7 percent. During the same period, there has been an equivalent rise in the number of persons riding buses into the midtown area. Obviously, the mayor's publicity campaign has convinced many people to leave their cars at home and ride the bus to work.

Which of the following, if true, casts the most serious doubt on the conclusion drawn above?

- (A) Fares for all bus routes in Greenville have risen an average of 5 percent during the past six months.
- (B) The mayor of Greenville rides the bus to City Hall in the city's midtown area.
- (C) Road reconstruction has greatly reduced the number of lanes available to commuters in major streets leading to the midtown area during the past six months.
- (D) The number of buses entering the midtown area of Greenville during the morning hours is exactly the same now as it was one year ago.
- (E) Surveys show that longtime bus riders are no more satisfied with the Greenville bus service than they were before the mayor's publicity campaign began.

Argument Evaluation

Situation Traffic into midtown has decreased by 7 percent, and bus ridership has increased by an equivalent amount. The mayor's publicity campaign is responsible for this change.

Reasoning *What casts doubt on this conclusion?* Another reasonable explanation of what caused the decrease in automobile traffic and the increase in bus ridership would make this conclusion suspect. Road construction impeding access to midtown over the same period of time is a reasonable alternative explanation. The road construction projects would likely have discouraged people from driving to midtown; many of these people have probably taken the bus.

- A An increase in fares might be a reasonable explanation for a decrease in ridership, but not for an increase.
- B The mayor's decision to ride the bus sets a good example for citizens, so this would tend to strengthen rather than weaken support for the conclusion.
- C **Correct.** This statement properly identifies an explanation that weakens support for the conclusion.
- D If more buses were running, then more seats would be available for people traveling into midtown. Ruling out this scenario helps strengthen, not weaken, support for the conclusion.
- E Passengers perceive bus service to be the same, so better service can be eliminated as a possible cause of the increased ridership.

The correct answer is C.

6. Patrick usually provides child care for six children. Parents leave their children at Patrick's house in the morning and pick them up after work. At the end of each workweek, the parents pay Patrick at an hourly rate for the child care provided that week. The weekly income Patrick receives is usually adequate but not always uniform, particularly in the winter, when children are likely to get sick and be unpredictably absent.

Which of the following plans, if put into effect, has the best prospect of making Patrick's weekly income both uniform and adequate?

- (A) Pool resources with a neighbor who provides child care under similar arrangements, so that the two of them cooperate in caring for twice as many children as Patrick currently does.
- (B) Replace payment by actual hours of child care provided with a fixed weekly fee based upon the number of hours of child care that Patrick would typically be expected to provide.
- (C) Hire a full-time helper and invest in facilities for providing child care to sick children.
- (D) Increase the hourly rate to a level that would provide adequate income even in a week when half of the children Patrick usually cares for are absent.
- (E) Increase the number of hours made available for child care each day, so that parents can leave their children in Patrick's care for a longer period each day at the current hourly rate.

Evaluation of a Plan

Situation At the end of the workweek Patrick is paid a certain amount for each hour of child care he has provided. Patrick usually receives adequate weekly income under this arrangement, but in the winter Patrick's income fluctuates, because children are unpredictably absent due to illness.

Reasoning *Which plan would be most likely to meet the two goals of uniform weekly income and adequate weekly income?* Patrick must find a way to ensure that his weekly income is both adequate—that is, not reduced significantly from current levels—and uniform—that is, not subject to seasonal or other fluctuations. A successful plan would thus most likely be one that does not increase Patrick's costs. Further, the plan need not increase Patrick's weekly income; it must merely ensure that that income is more reliable. It should therefore also provide some way to mitigate the unexpected loss of income from children's absences.

- A This plan might raise Patrick's income slightly, because he and the neighbor might pay out less in costs if they pool their resources. But this plan would have no effect on the problem that unpredictable absences pose for Patrick's weekly income.
- B **Correct.** This statement properly identifies a plan that would most likely keep Patrick's income adequate (he would probably receive approximately the same amount of money per child as he does now) and uniform (he would receive the money regardless of whether a child was present or absent).
- C While this plan might somewhat mitigate the unpredictability in Patrick's income that results from sick children's absences—because parents would be less likely to keep sick children at home—it would increase Patrick's costs. Paying a helper and investing in different facilities would reduce Patrick's income and might thus result in that income being inadequate.
- D Under this plan, if we assume that parents did not balk at the increase in Patrick's hourly rate and find alternative child care, Patrick's income would most likely be adequate. But this plan would not help make Patrick's weekly income uniform. His income would continue to fluctuate when children are absent. Remember, there are two goals with regard to Patrick's income: adequacy and uniformity.
- E This plan might increase Patrick's income, in that he might be paid for more hours of child care each week. The goals here, however, are to make Patrick's weekly income both adequate and uniform, and this plan does not address the issue of uniformity.

The correct answer is B.

7. A researcher discovered that people who have low levels of immune-system activity tend to score much lower on tests of mental health than do people with normal or high immune-system activity. The researcher concluded from this experiment that the immune system protects against mental illness as well as against physical disease.

The researcher's conclusion depends on which of the following assumptions?

- (A) High immune-system activity protects against mental illness better than normal immune-system activity does.
- (B) Mental illness is similar to physical disease in its effects on body systems.
- (C) People with high immune-system activity cannot develop mental illness.
- (D) Mental illness does not cause people's immune-system activity to decrease.
- (E) Psychological treatment of mental illness is not as effective as is medical treatment.

Argument Construction

Situation Finding that people with low immune-system activity score lower on mental health tests than people with normal or high levels of immune-system activity, a researcher concludes that the immune system protects mental as well as physical health.

Reasoning *What assumption does the researcher make?* The researcher asserts that immune-system activity can inhibit mental illness as it does physical illness. While it is possible that mental illness might itself depress immune-system activity, the researcher assumes that this is not the case. If mental illness caused a decline in immune-system activity, then lower levels of immune-system activity would be expected as a result, and the higher levels would merely indicate the absence of illness rather than any effect on illness.

- A The researcher does not distinguish between high and normal levels of immune-system activity, so this assumption is not needed.
- B The researcher's inference is not related to the effects of mental illness.
- C Immune-system activity could protect mental health without offering total prevention of mental illness; this assumption is not needed.
- D Correct.** This statement properly identifies the researcher's underlying assumption that mental illness does not decrease immune system activity.
- E Since different treatments are not discussed, any assumption about them is unnecessary.

The correct answer is D.

8. Extinction is a process that can depend on a variety of ecological, geographical, and physiological variables. These variables affect different species of organisms in different ways, and should, therefore, yield a random pattern of extinctions. However, the fossil record shows that extinction occurs in a surprisingly definite pattern, with many species vanishing at the same time.

Which of the following, if true, forms the best basis for at least a partial explanation of the patterned extinctions revealed by the fossil record?

- (A) Major episodes of extinction can result from widespread environmental disturbances that affect numerous different species.
- (B) Certain extinction episodes selectively affect organisms with particular sets of characteristics unique to their species.
- (C) Some species become extinct because of accumulated gradual changes in their local environments.
- (D) In geologically recent times, for which there is no fossil record, human intervention has changed the pattern of extinctions.
- (E) Species that are widely dispersed are the least likely to become extinct.

Argument Construction

Situation The fossil record reveals that species become extinct in a surprisingly definite pattern, with multiple species vanishing simultaneously.

Reasoning *Which point provides a basis for explaining the pattern?* The passage states that the process of extinction depends on so many variables—in the ecology and geography of the environment and in the physiology of the species—that the expected outcome would be a random pattern of extinctions. Yet a definite pattern is found instead. What could explain the disappearance of multiple species at the same time? If there were significant widespread changes in the environment, multiple species could be affected simultaneously, causing their extinction.

- A **Correct.** This statement properly identifies a basis for explaining the pattern of many species becoming extinct simultaneously.
- B This explanation of selective extinction does not explain how many species become extinct at the same time.
- C This explanation addresses only some species, not *many species*.
- D The passage is based on what the fossil record suggests; more recent times, having no fossil record, are outside the consideration of the passage.
- E Indicating which species are least likely to become extinct does not explain a pattern of simultaneous extinction of many species.

The correct answer is A.

9. In parts of South America, vitamin-A deficiency is a serious health problem, especially among children. In one region, agriculturists are attempting to improve nutrition by encouraging farmers to plant a new variety of sweet potato called SPK004 that is rich in beta-carotene, which the body converts into vitamin A. The plan has good chances of success, since sweet potato is a staple of the region's diet and agriculture, and the varieties currently grown contain little beta-carotene.

Which of the following, if true, most strongly supports the prediction that the plan will succeed?

- (A) The growing conditions required by the varieties of sweet potato currently cultivated in the region are conditions in which SPK004 can flourish.
- (B) The flesh of SPK004 differs from that of the currently cultivated sweet potatoes in color and texture, so traditional foods would look somewhat different when prepared from SPK004.
- (C) There are no other varieties of sweet potato that are significantly richer in beta-carotene than SPK004 is.
- (D) The varieties of sweet potato currently cultivated in the region contain some important nutrients that are lacking in SPK004.
- (E) There are other vegetables currently grown in the region that contain more beta-carotene than the currently cultivated varieties of sweet potato do.

Evaluation of a Plan

Situation Agriculturists believe that if farmers in a particular South American region plant a new beta-carotene-rich variety of sweet potato, SPK004, the vitamin-A deficiency suffered in that region can be alleviated. Even though sweet potatoes are a staple of the region and the body can convert a sweet potato's beta-carotene into vitamin A, the varieties currently grown there contain little beta-carotene.

Reasoning *What would most support the success of the plan to improve nutrition by encouraging farmers to plant SPK004?* What, that is, would make farmers respond positively to encouragement to plant SPK004? Farmers in the region would probably be inclined to substitute SPK004 for the varieties of sweet potato they currently grow if they could be assured that SPK004 would grow as well as those other varieties do. This would in turn most likely lead to SPK004 being substituted for current varieties of sweet potato in staple dishes, and thus to an improvement in nutrition in the region.

- A Correct.** This statement properly identifies a factor that would support a prediction of the plan's success.
- B** If dishes made with SPK004 look different than traditional sweet potato dishes in the region do, people might be less likely to eat those dishes; in such a situation, the plan's success would be less likely, rather than more likely.
- C** It is SPK004's beta-carotene content relative to the beta-carotene content of the sweet potatoes currently grown in the region that is relevant here, so it does not matter if there are other varieties of sweet potato that are richer in beta-carotene than SPK004 is.
- D** This suggests that switching from currently grown sweet potatoes to SPK004 could negatively affect nutrition in the region; this undermines, rather than supports, the prediction that the plan to improve nutrition will succeed.
- E** These other vegetables, despite their beta-carotene content being higher than that of the currently cultivated varieties of sweet potato, are clearly not sufficient to prevent a vitamin-A deficiency in the region. This information does nothing to support the prediction that encouraging farmers to plant SPK004 will help to meet those beta-carotene needs.

The correct answer is A.

10. Which of the following best completes the passage below?

At a recent conference on environmental threats to the North Sea, most participating countries favored uniform controls on the quality of effluents, whether or not specific environmental damage could be attributed to a particular source of effluent. What must, of course, be shown, in order to avoid excessively restrictive controls, is that _____.

- (A) any uniform controls that are adopted are likely to be implemented without delay
- (B) any substance to be made subject to controls can actually cause environmental damage
- (C) the countries favoring uniform controls are those generating the largest quantities of effluents
- (D) all of any given pollutant that is to be controlled actually reaches the North Sea at present
- (E) environmental damage already inflicted on the North Sea is reversible

Argument Construction

Situation In the face of environmental threats to the North Sea, restrictions on effluents are considered.

Reasoning *How can excessively restrictive controls be avoided?* To prevent pollutants from entering the North Sea, countries decide to control the quality of effluents. They need to control only those effluents that cause environmental damage. There is no need to restrict harmless effluents.

- A The immediacy of adopting controls does not prevent the controls from being overly restrictive.
- B Correct.** This statement properly identifies the fact that controls on harmless effluents would be excessively restrictive and so should be avoided.
- C Avoiding unnecessary restrictions involves analyzing the quality of the effluents, not the composition of the countries favoring the restrictions.
- D It is not necessary to prove that all of a pollutant reaches the North Sea. It is necessary to prove only that some of it does.
- E The environmental damage that has already been caused is outside the scope of the restrictions. Finding that the damage is reversible will do nothing to prevent unnecessary restrictions.

The correct answer is B.

11. Shelby Industries manufactures and sells the same gauges as Jones Industries. Employee wages account for 40 percent of the cost of manufacturing gauges at both Shelby Industries and Jones Industries. Shelby Industries is seeking a competitive advantage over Jones Industries. Therefore, to promote this end, Shelby Industries should lower employee wages.

Which of the following, if true, would most weaken the argument above?

- (A) Because they make a small number of precision instruments, gauge manufacturers cannot receive volume discounts on raw materials.
- (B) Lowering wages would reduce the quality of employee work, and this reduced quality would lead to lowered sales.
- (C) Jones Industries has taken away 20 percent of Shelby Industries' business over the last year.
- (D) Shelby Industries pays its employees, on average, 10 percent more than does Jones Industries.
- (E) Many people who work for manufacturing plants live in areas in which the manufacturing plant they work for is the only industry.

Evaluation of a Plan

Situation Two companies manufacture the same product, and employee wages at both companies account for the same percentage of the manufacturing cost. One company seeks a competitive edge by lowering employee wages.

Reasoning *What point weakens the argument in favor of lowering wages?* The company anticipates that the result of lowering wages will be a competitive edge, presumably gained through offering its products at lower prices as the result of having lower production costs. If evidence can be shown that lowering wages will not result in gaining a competitive advantage, the argument is weakened. If instead the result of lowered wages is lowered employee morale, and thus a lower quality of work and products, the declining quality could lead to a competitive disadvantage, lowering sales.

- A Because the company is unable to get lower costs on its raw materials, it is more likely to seek other ways of lowering its costs, such as reducing wages. This statement tends to support the argument.
- B Correct.** This statement properly identifies a factor that weakens the argument.
- C The loss of business would only help explain why Shelby Industries is in need of a competitive edge; it indicates nothing about whether cutting employee wages is a good way to do so.
- D Its relatively higher employee wages show only why the company might reduce wages; the support for the conclusion about gaining a competitive advantage is strengthened rather than weakened.
- E We do not know whether this applies to either of the companies.

The correct answer is B.

12. Large national budget deficits do not cause large trade deficits. If they did, countries with the largest budget deficits would also have the largest trade deficits. In fact, when deficit figures are adjusted so that different countries are reliably comparable to each other, there is no such correlation.

If the statements above are all true, which of the following can properly be inferred on the basis of them?

- (A) Countries with large national budget deficits tend to restrict foreign trade.
- (B) Reliable comparisons of the deficit figures of one country with those of another are impossible.
- (C) Reducing a country's national budget deficit will not necessarily result in a lowering of any trade deficit that country may have.
- (D) When countries are ordered from largest to smallest in terms of population, the smallest countries generally have the smallest budget and trade deficits.
- (E) Countries with the largest trade deficits never have similarly large national budget deficits.

Argument Construction

Situation No correlation is found between large national budget deficits and large trade deficits.

Reasoning *What inference can be drawn from this information?* Since the passage states that national budget deficits do not correlate with trade deficits, it is logical to anticipate an inference about the independent nature of the relationship between the two kinds of deficits. One possible inference is that reducing one deficit need not result in a reduction of the other.

- A This would receive some support if there were information indicating that there was a correlation between large budget deficits and small trade deficits, but no such information is given.
- B The passage states that reliable comparisons have been developed.
- C Correct.** This statement properly identifies an inference that can be drawn from the given information.
- D The passage gives no indication as to whether either type of deficit correlates in any way with the population size of a country.
- E Though there is no general correlation between the two kinds of deficits, it cannot be inferred that there are no countries in which both kinds of deficits are large.

The correct answer is C.

13. Which of the following most logically completes the argument?

The last members of a now-extinct species of a European wild deer called the giant deer lived in Ireland about 16,000 years ago. Prehistoric cave paintings in France depict this animal as having a large hump on its back. Fossils of this animal, however, do not show any hump. Nevertheless, there is no reason to conclude that the cave paintings are therefore inaccurate in this regard, since _____.

- (A) some prehistoric cave paintings in France also depict other animals as having a hump
- (B) fossils of the giant deer are much more common in Ireland than in France
- (C) animal humps are composed of fatty tissue, which does not fossilize
- (D) the cave paintings of the giant deer were painted well before 16,000 years ago
- (E) only one currently existing species of deer has any anatomical feature that even remotely resembles a hump

Argument Construction

Situation Representations found in prehistoric cave paintings in France of the now-extinct giant deer species—the last members of which lived in Ireland about 16,000 years ago—depict the deer as having a hump on its back. Fossils of the deer, however, do not feature a hump.

Reasoning *What point would most logically complete the argument? That is, what would show that the cave paintings are not inaccurate even though fossils of the giant deer show no hump? How could it be the case that the paintings show a hump while the fossils do not? One way in which this could be so is if the humps are not part of the fossils—that is, if there is some reason why a hump would not be preserved with the rest of an animal's remains.*

- A We do not know whether these other cave paintings accurately depict the animals as having humps, so this provides no reason to think that the depictions of giant deer are accurate.
- B Where giant deer fossils are found has no bearing on whether cave paintings of giant deer that show a hump on the animal's back are inaccurate. It could be that this suggests that the painters responsible for the representations would not be very familiar with the species; if this were so, it would give some reason to conclude that the representations *were* inaccurate.
- C **Correct.** This statement properly identifies a point that logically completes the argument. A hump would not be found as part of a giant deer's fossilized remains if the humps were fatty tissue that would not be fossilized.
- D That the cave paintings were painted well before 16,000 years ago shows that they were executed before the giant deer became extinct, but this does not help to explain the discrepancy between the paintings' depiction of a hump on the deer's back and the fossil record's lack of such a hump. It could be that even though the cave painters coexisted with the giant deer, they were not sufficiently familiar with them to depict them accurately.
- E That currently existing species of deer lack humps, or even that one species does have a feature resembling a hump, has little bearing on whether cave paintings in France accurately depict the giant deer as having a hump.

The correct answer is C.

14. The sustained massive use of pesticides in farming has two effects that are especially pernicious. First, it often kills off the pests' natural enemies in the area. Second, it often unintentionally gives rise to insecticide-resistant pests, since those insects that survive a particular insecticide will be the ones most resistant to it, and they are the ones left to breed.

From the passage above, it can be properly inferred that the effectiveness of the sustained massive use of pesticides can be extended by doing which of the following, assuming that each is a realistic possibility?

- (A) Using only chemically stable insecticides
- (B) Periodically switching the type of insecticide used
- (C) Gradually increasing the quantities of pesticides used
- (D) Leaving a few fields fallow every year
- (E) Breeding higher-yielding varieties of crop plants

Evaluation of a Plan

Situation Continued high-level pesticide use often kills off the targeted pests' natural enemies. In addition, the pests that survive the application of the pesticide may become resistant to it, and these pesticide-resistant pests will continue breeding.

Reasoning *What can be done to prolong the effectiveness of pesticide use?* It can be inferred that the ongoing use of a particular pesticide will not continue to be effective against the future generations of pests with an inherent resistance to that pesticide. What would be effective against these future generations? If farmers periodically change the particular pesticide they use, then pests resistant to one kind of pesticide might be killed by another. This would continue, with pests being killed off in cycles as the pesticides are changed. It is also possible that this rotation might allow some of the pests' natural enemies to survive, at least until the next cycle.

- A Not enough information about chemically stable insecticides is given to make a sound inference.
- B Correct.** This statement properly identifies an action that could extend the effectiveness of pesticide use.
- C Gradually increasing the amount of the pesticides being used will not help the situation since the pests are already resistant to it.
- D Continued use of pesticides is assumed as part of the argument. Since pesticides would be unnecessary for fallow fields, this suggestion is irrelevant.
- E Breeding higher-yielding varieties of crops does nothing to extend the effectiveness of the use of pesticides.

The correct answer is B.

15. In an attempt to promote the widespread use of paper rather than plastic, and thus reduce nonbiodegradable waste, the council of a small town plans to ban the sale of disposable plastic goods for which substitutes made of paper exist. The council argues that since most paper is entirely biodegradable, paper goods are environmentally preferable.

Which of the following, if true, indicates that the plan to ban the sale of disposable plastic goods is ill suited to the town council's environmental goals?

- (A) Although biodegradable plastic goods are now available, members of the town council believe biodegradable paper goods to be safer for the environment.
- (B) The paper factory at which most of the townspeople are employed plans to increase production of biodegradable paper goods.
- (C) After other towns enacted similar bans on the sale of plastic goods, the environmental benefits were not discernible for several years.
- (D) Since most townspeople prefer plastic goods to paper goods in many instances, they are likely to purchase them in neighboring towns where plastic goods are available for sale.
- (E) Products other than those derived from wood pulp are often used in the manufacture of paper goods that are entirely biodegradable.

Evaluation of a Plan

Situation A town council considers banning the sale of disposable plastic goods for which there are paper substitutes because paper is biodegradable and therefore environmentally preferable.

Reasoning *What problem might there be in the council's plan?* The plan is intended to reduce the amount of plastic used by the citizens of the town. The town council's plan is, however, only as effective as the support it has from the town's citizens. If the citizens prefer disposable plastic goods and if the goods are also readily available in neighboring towns, there is nothing to stop them from buying the plastic goods elsewhere if that is their preference.

- A The existence of biodegradable plastic does not make the town's plan to ban disposable plastic goods unsuitable to its environmental goal, which is to reduce nonbiodegradable waste.
- B That the local factory will increase production of biodegradable paper goods makes it more likely that a sufficient amount of such products will be available for townspeople who wish to switch from disposable plastic goods, so this does not indicate that the council's plan is ill suited for its goals.
- C Environmental benefits need not be immediate. Even though benefits were not perceived *for several years* after similar bans, the benefits did occur.
- D **Correct.** This statement properly identifies the problem with the council's plan.
- E The specific materials that go into making nonbiodegradable paper are not in question. This statement is irrelevant to the plan.

The correct answer is D.



16. Since the deregulation of airlines, delays at the nation's increasingly busy airports have increased by 25 percent. To combat this problem, more of the takeoff and landing slots at the busiest airports must be allocated to commercial airlines.

Which of the following, if true, casts the most doubt on the effectiveness of the solution proposed above?

- (A) The major causes of delays at the nation's busiest airports are bad weather and overtaxed air traffic control equipment.
- (B) Since airline deregulation began, the number of airplanes in operation has increased by 25 percent.
- (C) Over 60 percent of the takeoff and landing slots at the nation's busiest airports are reserved for commercial airlines.
- (D) After a small Midwestern airport doubled its allocation of takeoff and landing slots, the number of delays that were reported decreased by 50 percent.
- (E) Since deregulation the average length of delay at the nation's busiest airports has doubled.

Evaluation of a Plan

Situation To reduce delays, more takeoff and landing slots at the busiest airports should go to commercial airlines.

Reasoning *What point casts the most doubt on the proposed solution?* Evaluating the effectiveness of this solution means examining the relation between the problem, an increase in delays, and the solution, an increase in available takeoff and landing slots. Could the delays be caused by other factors that the solution fails to address? If the major causes for delays are related to weather and air traffic control equipment, not to the number of slots for takeoff and landing, then the proposed solution of changing the allocations of the slots is bound to be less effective.

- A Correct.** This statement properly identifies a weakness in the proposed solution.
- B** The increasing number of planes shows why airports are busier. Since there is no information about whether these planes are private or commercial, this statement neither casts doubt on the solution nor supports it.
- C** This statement suggests that there are additional slots that could be allocable to commercial airlines and thus offers at least some support for the proposed solution.
- D** The example of one airport shows that the solution may work.
- E** The increase in length of delay shows the scope of the problem; this fact does not cast doubt on the solution.

The correct answer is A.

17. A major health insurance company in Lagolia pays for special procedures prescribed by physicians only if the procedure is first approved as “medically necessary” by a company-appointed review panel. The rule is intended to save the company the money it might otherwise spend on medically unnecessary procedures. The company has recently announced that in order to reduce its costs, it will abandon this rule.

Which of the following, if true, provides the strongest justification for the company’s decision?

- (A) Patients often register dissatisfaction with physicians who prescribe nothing for their ailments.
- (B) Physicians often prescribe special procedures that are helpful but not altogether necessary for the health of the patient.
- (C) The review process is expensive and practically always results in approval of the prescribed procedure.
- (D) The company’s review process does not interfere with the prerogative of physicians, in cases where more than one effective procedure is available, to select the one they personally prefer.
- (E) The number of members of the company-appointed review panel who review a given procedure depends on the cost of the procedure.

Evaluation of a Plan

Situation In order to cut costs, a major health insurance company is abandoning a rule stating that it will pay for special procedures only if the procedure is approved as medically necessary by a review panel.

Reasoning *What piece of information would most help to justify the company’s decision?* For the company to save money, it would need to be in some way cutting its costs by abandoning the rule. Under what circumstances might the rule cost, rather than save, the company money? The panel itself might be expensive to convene, for example. Further, the cost savings achieved by the panel might be minimal if the panel did not deny significant numbers of procedures.

- A This suggests that patients might be pressuring their physicians to prescribe certain unnecessary procedures for their ailments, which in turn suggests that the panel is reviewing these procedures and denying them. But if so, then the panel is probably saving the insurance company money, so abandoning the panel’s review would not reduce the company’s costs.
- B This suggests that certain procedures that are being prescribed by physicians are not medically necessary, which in turn suggests that the panel reviewing these procedures may be denying them. If this is the case, then the panel is probably saving the insurance company a significant amount of money, so abandoning the panel’s review may well increase rather than decrease the company’s costs.
- C **Correct.** This statement properly identifies information that would help to justify the company’s decision.
- D Even if the panel does not interfere with physicians’ choices when more than one medically effective procedure is available, the panel may still be denying pay for many procedures that are not medically necessary. In such cases the panel may be saving the insurance company money, and abandoning the review process would not reduce the company’s costs.
- E This suggests that the more expensive the procedure under review, the more expensive the panel itself is. Even so, if the panel denies payment for very expensive procedures, it may nonetheless save the company significantly more than the company has to pay to convene the panel, so abandoning the review process would not reduce the company’s costs.

The correct answer is C.

18. Unlike the wholesale price of raw wool, the wholesale price of raw cotton has fallen considerably in the last year. Thus, although the retail price of cotton clothing at retail clothing stores has not yet fallen, it will inevitably fall.

Which of the following, if true, most seriously weakens the argument above?

- (A) The cost of processing raw cotton for cloth has increased during the last year.
- (B) The wholesale price of raw wool is typically higher than that of the same volume of raw cotton.
- (C) The operating costs of the average retail clothing store have remained constant during the last year.
- (D) Changes in retail prices always lag behind changes in wholesale prices.
- (E) The cost of harvesting raw cotton has increased in the last year.

Argument Evaluation

Situation Since the wholesale price of raw cotton has fallen significantly, the retail price of cotton clothing in stores will inevitably fall.

Reasoning *What point weakens this argument?* Consider carefully the difference between the two products for which costs are being compared: cotton and cloth. This argument assumes that lower wholesale prices for a raw product must necessarily result in lower retail prices for a processed product. What other factors could have an impact on the final retail prices of cotton clothing? If any of the costs of transforming the raw product into a processed product increase, then the retail prices of cotton clothing will not necessarily fall.

- A Correct.** This statement properly identifies a weakness in the argument.
- B** The relative prices of raw wool and raw cotton are irrelevant to price changes in raw cotton and processed cotton.
- C** One step between wholesale and retail prices is the operating cost of the retail store. If that operating cost has been constant rather than rising, it is possible that the retail prices could follow the lower wholesale prices. Thus the argument is not weakened.
- D** The argument notes that the wholesale price has fallen *in the last year* and that though the retail price *has not yet fallen, it will inevitably fall*. The argument has already taken the lag into account and is not weakened by this statement.
- E** Harvesting costs are part of the assumed increased price of raw cotton and do not affect current retail prices.

The correct answer is A.

19. A computer equipped with signature-recognition software, which restricts access to a computer to those people whose signatures are on file, identifies a person's signature by analyzing not only the form of the signature but also such characteristics as pen pressure and signing speed. Even the most adept forgers cannot duplicate all of the characteristics the program analyzes.

Which of the following can be logically concluded from the passage above?

- (A) The time it takes to record and analyze a signature makes the software impractical for everyday use.
- (B) Computers equipped with the software will soon be installed in most banks.
- (C) Nobody can gain access to a computer equipped with the software solely by virtue of skill at forging signatures.
- (D) Signature-recognition software has taken many years to develop and perfect.
- (E) In many cases even authorized users are denied legitimate access to computers equipped with the software.

Argument Construction

Situation Forgers cannot duplicate all the characteristics that signature-recognition software analyzes, including the form of a signature, pen pressure, and signing speed. Computers equipped with this software restrict access to those whose signatures are on file.

Reasoning *What conclusion can be reached about computers equipped with this software?* The passage states that the software detects more characteristics in a signature than the most accomplished forger can possibly reproduce. Thus, skill at forging signatures is not enough to allow someone to gain access to a computer equipped with the software.

- A No information about the speed of the analysis is given, so no such conclusion can be drawn.
- B Although the software would likely be of benefit to banks, we cannot conclude that it will be installed in most banks because the passage doesn't rule out, e.g., that the software may be too costly or that there may be proprietary constraints.
- C **Correct.** This statement properly identifies a conclusion that can be drawn from the passage.
- D Although it seems reasonable to think that the software took a long time to develop, nothing in the passage justifies the claim that it took years.
- E Nothing in the passage rules out the possibility that the software functions so well that authorized users will never be denied legitimate access to computers equipped with the software.

The correct answer is C.

20. Start-up companies financed by venture capitalists have a much lower failure rate than companies financed by other means. Source of financing, therefore, must be a more important causative factor in the success of a start-up company than are such factors as the personal characteristics of the entrepreneur, the quality of strategic planning, or the management structure of the company.

Which of the following, if true, most seriously weakens the argument above?

- (A) Venture capitalists tend to be more responsive than other sources of financing to changes in a start-up company's financial needs.
- (B) The strategic planning of a start-up company is a less important factor in the long-term success of the company than are the personal characteristics of the entrepreneur.
- (C) More than half of all new companies fail within five years.
- (D) The management structures of start-up companies are generally less formal than the management structures of ongoing businesses.
- (E) Venture capitalists base their decisions to fund start-up companies on such factors as the characteristics of the entrepreneur and quality of strategic planning of the company.

Argument Evaluation

Situation When venture capitalists fund start-up companies, the failure rate is much lower than when the companies are funded by other means. The success of start-up companies, then, may be attributed more to their source of funding than to any other factor.

Reasoning *What point weakens the argument?* The argument concludes that the source of funding is the single most important factor in determining the success of a start-up company. But what if the source of that funding, venture capitalists, considers other factors before making its investment? Venture capitalists may evaluate the characteristics of the entrepreneur as well as the company's strategic plan and management structure before deciding to fund the start-up company. If this is the case, then the most important causative factor in the success of the company cannot be said to be the source of the funding.

- A The responsiveness of venture capitalists is a point in favor of the argument, not against it.
- B This statement about the relative importance of strategic planning and the personality of the entrepreneur does not weaken the argument because it does not address the importance of these factors in relation to financial backing.
- C The argument concerns only successful start-up companies, so high failure rates are irrelevant.
- D The argument deals with the success rates of start-up companies based on their sources of funding. A comparison of start-up companies in general with ongoing businesses has no bearing on the argument.
- E **Correct.** This statement properly identifies evidence that weakens the argument.

The correct answer is E.

21. Aphasia, an impairment of the capacity to use language, often occurs when a stroke damages the left half of the brain. Many people with stroke-related aphasia recover at least some capacity to use language within a year. One proposed explanation for such recoveries is that the right side of the brain, which is not usually the major language center, develops its latent language capabilities to compensate for the damage to the left side.

Which of the following, if true, most strongly supports the explanation?

- (A) In a study of local brain activity in people performing a language task, people with stroke-related aphasia showed higher activity levels in the right half of the brain than people who did not have aphasia.
- (B) A blow to the head injuring the left half of the brain can result in impairment of the capacity to use language indistinguishable from that produced by a stroke.
- (C) Among people with stroke-related aphasia, recovering lost capacity to use language does not lead to any impairment of those capacities normally controlled by the right half of the brain.
- (D) A stroke that damages the left half of the brain often causes physical impairments of the right side of the body that lessen over time.
- (E) Studies of numerous people with aphasia have indicated that the functions that govern language production and those that govern language comprehension are located in separate areas of the brain.

Argument Evaluation

Situation Strokes that damage the left half of the brain can cause aphasia, or an impaired capacity to use language. This impairment is often at least partially mitigated within a year of a stroke, which may be explained by the right side of the brain—which is usually not the major language center—developing latent language capabilities to compensate for damage to the left side of the brain.

Reasoning *What evidence supports the explanation that the right side of the brain develops language capabilities to compensate for damage to the left side?* The explanation would be supported by evidence that when performing a language task, people who have suffered damage to the left half of their brain have more activity in the right side of their brain than do people who have not suffered such damage.

- A **Correct.** This statement properly identifies evidence supporting the explanation.
- B That a blow to the head can result in aphasia just as a stroke can is irrelevant to the argument. The argument is concerned with finding an explanation for the recovery of the capacity to use language, not with what other than strokes causes the loss of this capacity.
- C This provides no evidence about whether it is the right half of the brain's developing its latent language capabilities that alleviates aphasia. It could be these patients experience no impairment of capacities controlled by the right half of the brain because the right half of the brain is completely uninvolved in stroke patients' recovery of language-use capability.
- D Any effect that a stroke may have on the body beyond aphasia is irrelevant to the argument.
- E That language production and language comprehension are governed by different parts of the brain indicates nothing about whether the recovery of language capabilities by stroke-related aphasia patients is explained by the right side of the brain developing those capabilities.

The correct answer is A.

22. In the arid land along the Colorado River, use of the river's water supply is strictly controlled: farms along the river each have a limited allocation that they are allowed to use for irrigation. But the trees that grow in narrow strips along the river's banks also use its water. Clearly, therefore, if farmers were to remove those trees, more water would be available for crop irrigation.

Which of the following, if true, most seriously weakens the argument?

- (A) The trees along the river's banks shelter it from the sun and wind, thereby greatly reducing the amount of water lost through evaporation.
- (B) Owners of farms along the river will probably not undertake the expense of cutting down trees along the banks unless they are granted a greater allocation of water in return.
- (C) Many of the tree species currently found along the river's banks are specifically adapted to growing in places where tree roots remain constantly wet.
- (D) The strip of land where trees grow along the river's banks would not be suitable for growing crops if the trees were removed.
- (E) The distribution of water allocations for irrigation is intended to prevent farms farther upstream from using water needed by farms farther downstream.

Argument Evaluation

Situation Water is scarce and precious in the land along the Colorado River, and the amount allocated for irrigating farmland is strictly controlled. Farmers would have more water available for crop irrigation if the riverside trees, which also use the water, were removed.

Reasoning *What point weakens the argument?* The reason given for removing the trees is to make more water available for crops. What if the trees actually conserve water rather than simply consume it? If the trees protect the river from sun and wind, their presence can greatly reduce the amount of river water lost to evaporation. Thus, the farmers would lose water, not gain it, by cutting down the trees.

- A **Correct.** This statement properly identifies a weakness in the argument.
- B The argument is about the greater availability of water *if* the trees are removed; it is not about what conditions are necessary for the farmers to agree to remove them. This statement does not weaken the argument.
- C This statement suggests that certain tree species along the river tend to remove more water from the river than is typical of trees, which strengthens rather than weakens the argument.
- D The argument concerns the greater availability of water, not the greater availability of arable land.
- E The reason for the water allocation does not have any bearing on whether removing the trees will provide more water for irrigation.

The correct answer is A.

23. Near Chicago a newly built hydroponic spinach “factory,” a completely controlled environment for growing spinach, produces on 1 acre of floor space what it takes 100 acres of fields to produce. Expenses, especially for electricity, are high, however, and the spinach produced costs about four times as much as washed California field spinach, the spinach commonly sold throughout the United States.

Which of the following, if true, best supports a projection that the spinach-growing facility near Chicago will be profitable?

- (A) Once the operators of the facility are experienced, they will be able to cut operating expenses by about 25 percent.
- (B) There is virtually no scope for any further reduction in the cost per pound for California field spinach.
- (C) Unlike washed field spinach, the hydroponically grown spinach is untainted by any pesticides or herbicides and thus will sell at exceptionally high prices to such customers as health food restaurants.
- (D) Since spinach is a crop that ships relatively well, the market for the hydroponically grown spinach is no more limited to the Chicago area than the market for California field spinach is to California.
- (E) A second hydroponic facility is being built in Canada, taking advantage of inexpensive electricity and high vegetable prices.

Argument Evaluation

Situation Spinach grown hydroponically in a controlled environment at a facility near Chicago is four times as expensive as the popular washed field spinach grown in California.

Reasoning *What point best supports the projection of profitability for the hydroponic spinach?* The hydroponic spinach cannot compete with the California spinach in price. What might be another way for the hydroponic spinach to compete successfully against the field washed spinach? That is, what feature of the hydroponic spinach is the California spinach unable to match? If the California spinach is tainted with pesticides or herbicides, health-conscious consumers could be willing to pay much higher prices for hydroponic spinach that is grown in pristine conditions without herbicides or pesticides.

- A The 25 percent reduction in operating costs cannot compensate for the much larger price difference, so this statement does not support the projection.
- B Knowing that the price of California spinach can go no lower does not help to explain how the hydroponic spinach can possibly compensate for the huge price difference between the two products.
- C **Correct.** This statement properly identifies a value that allows the high-priced hydroponic spinach to compete successfully with the less expensive California spinach.
- D The ease of shipping is an advantage shared equally by the two types of spinach.
- E The existence of a facility in Canada would make it less likely that the Chicago facility will be profitable, because the Canadian facility would be in competition with the Chicago facility.

The correct answer is C.

24. Automobile Dealer's Advertisement:

The Highway Traffic Safety Institute reports that the PZ 1000 has the fewest injuries per accident of any car in its class. This shows that the PZ 1000 is one of the safest cars available today.

Which of the following, if true, most seriously weakens the argument in the advertisement?

- (A) The Highway Traffic Safety Institute report listed many cars in other classes that had more injuries per accident than did the PZ 1000.
- (B) In recent years many more PZ 1000s have been sold than have any other kind of car in its class.
- (C) Cars in the class to which the PZ 1000 belongs are more likely to be involved in accidents than are other types of cars.
- (D) The difference between the number of injuries per accident for the PZ 1000 and that for other cars in its class is quite pronounced.
- (E) The Highway Traffic Safety Institute issues reports only once a year.

Argument Evaluation

Situation An advertisement claims that the PZ 1000 is one of the safest cars available; it bases this claim on the Highway Traffic Safety Institute's report that this model had the fewest injuries per accident of any car in its class.

Reasoning *What point weakens the advertisement's claim?* Examine closely the difference between the report and the conclusion the advertisement draws from it. While the Highway Traffic Safety Institute compares the PZ 1000 to other cars *in its class*, the advertisement compares the PZ 1000 to *all cars available today*. What if the class of cars to which the PZ 1000 belongs is a more dangerous class of cars? In that case, while the PZ 1000 may be the safest car of a dangerous class, it cannot be said to be one of the safest cars available.

- A The higher incidence of injuries per accident in other classes of cars supports rather than weakens the advertisement's argument.
- B The fact that the PZ 1000 is the best selling car in its class might be explained by the fact that it is the safest car in its class, but if this has any effect on the argument at all, it would be to strengthen rather than weaken it.
- C **Correct.** This statement properly identifies a weakness in the advertisement's argument.
- D This slightly strengthens, rather than weakens, the argument.
- E The frequency of the reports is irrelevant to the advertisement's claim.

The correct answer is C.

25. Which of the following most logically completes the reasoning?

Either food scarcity or excessive hunting can threaten a population of animals. If the group faces food scarcity, individuals in the group will reach reproductive maturity later than otherwise. If the group faces excessive hunting, individuals that reach reproductive maturity earlier will come to predominate. Therefore, it should be possible to determine whether prehistoric mastodons became extinct because of food scarcity or human hunting, since there are fossilized mastodon remains from both before and after mastodon populations declined, and _____.

- (A) there are more fossilized mastodon remains from the period before mastodon populations began to decline than from after that period
- (B) the average age at which mastodons from a given period reached reproductive maturity can be established from their fossilized remains
- (C) it can be accurately estimated from fossilized remains when mastodons became extinct
- (D) it is not known when humans first began hunting mastodons
- (E) climate changes may have gradually reduced the food available to mastodons

Argument Construction

Situation In a population of animals, food scarcity causes later reproductive maturity; if that population is hunted excessively, earlier-maturing animals will be more numerous in the population.

Reasoning *What point would most logically complete the argument?* For the information given to be of use in determining what caused mastodons' extinction, mastodon fossils would need to indicate the age at which mastodons reached reproductive maturity, since that is what the argument suggests can indicate cause of extinction. If fossilized remains exist from before and after mastodon populations began to decline, and if the age at which those fossilized mastodons reached reproductive maturity can be determined, then we will have a good idea of what caused their extinction: if they reached reproductive maturity late, it was probably food scarcity, but if they matured earlier, it was most likely hunting.

- A This fact only helps indicate that there was a decline; it tells us nothing about what caused the decline.
- B **Correct.** This statement properly identifies a point that logically completes the argument: it explains how the fossilized mastodon remains could be used to help determine what caused mastodons' extinction.
- C The point at which mastodons became extinct is not part of this argument, which is concerned with the cause of their extinction. The only way in which this could be relevant to the issue at hand is if mastodons became extinct before humans took up hunting mastodons—but the argument includes no information on whether this was so.
- D Not knowing when humans began hunting mastodons would have no effect on the argument, which is concerned with how mastodon fossils, combined with knowledge about how food scarcity and hunting affect mastodon reproductive maturity, can help determine how mastodons became extinct.
- E This fact only shows that food scarcity *may* have led to mastodon's decline. It tells us nothing about whether fossilized remains can help determine whether it was food scarcity or human hunting that actually led to the decline.

The correct answer is B.

26. Editorial: The mayor plans to deactivate the city's fire alarm boxes, because most calls received from them are false alarms. The mayor claims that the alarm boxes are no longer necessary, since most people now have access to either public or private telephones. But the city's commercial district, where there is the greatest risk of fire, has few residents and few public telephones, so some alarm boxes are still necessary.

Which of the following, if true, most seriously weakens the editorial's argument?

- (A) Maintaining the fire alarm boxes costs the city more than five million dollars annually.
- (B) Commercial buildings have automatic fire alarm systems that are linked directly to the fire department.
- (C) The fire department gets less information from an alarm box than it does from a telephone call.
- (D) The city's fire department is located much closer to the residential areas than to the commercial district.
- (E) On average, almost 25 percent of the public telephones in the city are out of order.

Argument Evaluation

Situation The mayor considers fire alarm boxes unnecessary since most people have access to public or private phones. An editorial argues that some boxes should be kept in the commercial district since the district has few residents and few public phones.

Reasoning *What point weakens the editorial's argument?* Even if there are few private or public telephones available in the commercial district, it may be that alarm boxes are not necessary. What if alternative systems to notify the fire department are already in place in the commercial district? If the commercial buildings are already using automatic fire alarm systems that are directly linked to the fire department and provide automated notifications, then the alarm boxes are indeed unnecessary.

- A The editorial's argument is about the necessity of alarm boxes in the commercial district. This statement only tells us how costly those boxes are; it does not indicate that they are not necessary.
- B Correct.** This statement properly identifies a weakness in the editorial's argument.
- C This statement is beside the point, since the argument indicates that it is not likely that the fire department will receive a telephone call regarding a fire in the commercial district.
- D The greater distance that the fire department must travel to the commercial district addresses the importance of response time; this point does not weaken the argument.
- E Alarm boxes would be more necessary, not less, if public telephones were frequently out of order, so this statement supports the editorial.

The correct answer is B.

27. State spokesperson: Many businesspeople who have not been to our state believe that we have an inadequate road system. Those people are mistaken, as is obvious from the fact that in each of the past six years, our state has spent more money per mile on road improvements than any other state.

Which of the following, if true, most seriously undermines the reasoning in the spokesperson's argument?

- (A) In the spokesperson's state, spending on road improvements has been increasing more slowly over the past six years than it has in several other states.
- (B) Adequacy of a state's road system is generally less important to a businessperson considering doing business there than is the availability of qualified employees.
- (C) Over the past six years, numerous businesses have left the spokesperson's state, but about as many businesses have moved into the state.
- (D) In general, the number of miles of road in a state's road system depends on both the area and the population of the state.
- (E) Only states with seriously inadequate road systems need to spend large amounts of money on road improvements.

Argument Evaluation

Situation A state spokesperson responds to the criticism that the road system is inadequate by observing that the state has spent more money per mile on road improvements than any other state has spent.

Reasoning *What point undermines the spokesperson's reasoning?* When might heavy spending on road improvements *not* result in an adequate road system? If the state has needed to spend more money on road improvements than any other state, it suggests that its roads have needed more improving than those in any other state. The high level of state spending on road improvements provides evidence only that the road system was in dire need of improvement and not that it has yet achieved adequacy.

- A A slower rate of increases in spending does not contradict the spokesperson's statement that the state has spent more than others, and it offers no information on the adequacy of the road system.
- B The argument is about the adequacy of the road system, not about finding employees, so this point does not undermine the argument.
- C Since the road system is not mentioned as a reason that businesses left the state or came to it, this point is irrelevant to the argument.
- D This background information about area and population does not affect the argument about the adequacy of the road system.
- E **Correct.** This statement properly identifies a point that undermines the spokesperson's reasoning.

The correct answer is E.

28. Company Alpha buys free-travel coupons from people who are awarded the coupons by Bravo Airlines for flying frequently on Bravo airplanes. The coupons are sold to people who pay less for the coupons than they would pay by purchasing tickets from Bravo. This marketing of coupons results in lost revenue for Bravo.

To discourage the buying and selling of free-travel coupons, it would be best for Bravo Airlines to restrict the

- (A) number of coupons that a person can be awarded in a particular year
- (B) use of the coupons to those who were awarded the coupons and members of their immediate families
- (C) days that the coupons can be used to Monday through Friday
- (D) amount of time that the coupons can be used after they are issued
- (E) number of routes on which travelers can use the coupons

Evaluation of a Plan

Situation A company that buys and sells travel coupons reduces the revenue of an airline. The airline wants to discourage the trade in coupons.

Reasoning *How can the airline discourage its customers from selling their coupons?* Limiting the use of the coupons to those who earned them and their immediate families rewards passengers for flying the airline and encourages them to continue to do so while at the same time making the sale of the coupons useless.

- A Limiting the number of coupons awarded a year does nothing to discourage their resale.
- B Correct.** This statement properly identifies a limitation that makes the sale of coupons useless while maintaining the coupons' value as a reward.
- C Limiting the time of use to weekdays does not discourage resale and makes the coupons less valuable to the airline's customers.
- D Imposing a date by which the coupons must be used does not discourage resale and diminishes the coupons' value as a reward.
- E Restricting the routes available does not discourage resale but does reduce the coupons' value as a reward.

The correct answer is B.

29. Pro-Tect Insurance Company has recently been paying out more on car-theft claims than it expected. Cars with special antitheft devices or alarm systems are much less likely to be stolen than are other cars. Consequently Pro-Tect, as part of an effort to reduce its annual payouts, will offer a discount to holders of car-theft policies if their cars have antitheft devices or alarm systems.

Which of the following, if true, provides the strongest indication that the plan is likely to achieve its goal?

- (A) The decrease in the risk of car theft conferred by having a car alarm is greatest when only a few cars have such alarms.
- (B) The number of policyholders who have filed a claim in the past year is higher for Pro-Tect than for other insurance companies.
- (C) In one or two years, the discount that Pro-Tect is offering will amount to more than the cost of buying certain highly effective antitheft devices.
- (D) Currently, Pro-Tect cannot legally raise the premiums it charges for a given amount of insurance against car theft.
- (E) The amount Pro-Tect has been paying out on car-theft claims has been greater for some models of car than for others.

Evaluation of a Plan

Situation An insurance company is paying more money on car-theft claims than anticipated. To reduce these payments, the company is planning to offer discounts to customers whose cars have antitheft devices or alarm systems, because such cars are less likely to be stolen.

Reasoning *What piece of information would indicate that the plan is likely to succeed?* Pro-Tect wishes to reduce its annual payouts, and one way for that to happen is for fewer cars insured by Pro-Tect to be stolen. To help accomplish this, Pro-Tect is offering discounts to policyholders whose cars are so equipped, because cars equipped with antitheft devices or alarm systems are less likely to be stolen than are cars without such devices. What would interfere with the success of Pro-Tect's plan? Car owners would probably resist investing in antitheft devices or alarm systems if the cost of such systems is higher than the discount they will receive. So if Pro-Tect sets the discount at a level that makes installing antitheft devices seem like a bargain to car owners, the plan will most likely succeed.

- A Pro-Tect's plan is designed to increase the number of cars equipped with car alarms. If having more cars equipped with car alarms reduces those alarms' effectivity in preventing thefts, then Pro-Tect's plan is unlikely to achieve its goal.
- B Pro-Tect's claims in relation to those of other insurance companies are not relevant to whether Pro-Tect's plan to reduce its own car-theft claims will achieve its goal.
- C **Correct.** This statement suggests that Pro-Tect's plan will provide an effective incentive for car owners to install antitheft devices; this statement therefore properly identifies information that indicates the plan is likely to achieve its goal.
- D Because Pro-Tect's plan does not involve raising the premiums it charges, restrictions on its ability to do so are irrelevant to whether that plan will achieve its goal.
- E Pro-Tect's plan does not distinguish among different models of car, so this statement indicates nothing about whether the proposed plan will succeed.

The correct answer is C.

30. Toughened hiring standards have not been the primary cause of the present staffing shortage in public schools. The shortage of teachers is primarily caused by the fact that in recent years teachers have not experienced any improvements in working conditions and their salaries have not kept pace with salaries in other professions.

Which of the following, if true, would most support the claims above?

- (A) Many teachers already in the profession would not have been hired under the new hiring standards.
- (B) Today more teachers are entering the profession with a higher educational level than in the past.
- (C) Some teachers have cited higher standards for hiring as a reason for the current staffing shortage.
- (D) Many teachers have cited low pay and lack of professional freedom as reasons for their leaving the profession.
- (E) Many prospective teachers have cited the new hiring standards as a reason for not entering the profession.

Argument Evaluation

Situation The teacher shortage can be explained by poor working conditions and poor salaries rather than by stricter hiring practices.

Reasoning *Which statement supports this point of view?* This argument about the cause of the teacher shortage dismisses one possibility—obstacles created by higher standards in hiring—and endorses another—the failure to improve working conditions and salaries. A response that gives information suggesting that working conditions and salaries are in fact why there is a shortage of teachers would support the claims.

- A This statement modestly undermines the claims made—because it suggests that the toughened hiring standards might in fact be the primary cause of the shortage—rather than supports them.
- B This statement modestly undermines the claims, because it is odd that more teachers with a higher educational level are entering the profession if working conditions for teachers have not improved and salaries for teachers have not kept up with those of other professions.
- C This statement modestly undermines the first claim made in the passage.
- D Correct.** This statement properly identifies evidence that pay and working conditions have caused teachers to leave the profession and thus supports the claim that these factors are causes of the teacher shortage.
- E This statement undermines the first claim made in the passage.

The correct answer is D.

31. A proposed ordinance requires the installation in new homes of sprinklers automatically triggered by the presence of a fire. However, a home builder argued that because more than 90 percent of residential fires are extinguished by a household member, residential sprinklers would only marginally decrease property damage caused by residential fires.

Which of the following, if true, would most seriously weaken the home builder's argument?

- (A) Most individuals have no formal training in how to extinguish fires.
- (B) Since new homes are only a tiny percentage of available housing in the city, the new ordinance would be extremely narrow in scope.
- (C) The installation of smoke detectors in new residences costs significantly less than the installation of sprinklers.
- (D) In the city where the ordinance was proposed, the average time required by the fire department to respond to a fire was less than the national average.
- (E) The largest proportion of property damage that results from residential fires is caused by fires that start when no household member is present.

Argument Evaluation

Situation A home builder claims that requiring automatic sprinklers in new homes will not significantly decrease property damage from residential fires because more than 90 percent of home fires are put out by a household member.

Reasoning *Which point weakens the argument?* The home builder's argument implicitly recognizes that there are some residential fires that are not extinguished by household members. For instance, fires may occur when no one is home to put out the fire—a situation that automatic sprinklers would remedy. If such fires lead to considerable damage, then the home builder's conclusion is not justified.

- A If more than 90 percent of residential fires are successfully extinguished by the individuals who live there, then no formal training appears to be necessary.
- B The small percentage of new homes supports the builder's position; it does not weaken the argument.
- C The argument is about sprinkler systems, not smoke detection devices.
- D The argument is not about a comparison between fire departments and sprinkler systems.
- E **Correct.** This statement properly identifies a weakness in the home builder's argument by showing that the most damage occurs when no household member is present to put out the fire.

The correct answer is E.

32. A recent spate of launching and operating mishaps with television satellites led to a corresponding surge in claims against companies underwriting satellite insurance. As a result, insurance premiums shot up, making satellites more expensive to launch and operate. This, in turn, had added to the pressure to squeeze more performance out of currently operating satellites.

Which of the following, if true, taken together with the information above, best supports the conclusion that the cost of television satellites will continue to increase?

- (A) Since the risk to insurers of satellites is spread over relatively few units, insurance premiums are necessarily very high.
- (B) When satellites reach orbit and then fail, the causes of failure are generally impossible to pinpoint with confidence.
- (C) The greater the performance demands placed on satellites, the more frequently those satellites break down.
- (D) Most satellites are produced in such small numbers that no economies of scale can be realized.
- (E) Since many satellites are built by unwieldy international consortia, inefficiencies are inevitable.

Argument Evaluation

Situation A rise in the number of claims after a series of accidents has forced insurance companies to raise prices for coverage of television satellites. Consequently, new satellites are more expensive, and existing satellites must perform more. The cost of television satellites will continue to increase.

Reasoning *Why might the cost continue to increase?* The passage says that the existing satellites are being asked to work harder than previously. If that increase in workload brings with it an increased number of breakdowns, growing satellite repair and replacement costs will add to the already increased cost of insurance premiums.

- A The high rate of premiums is a given; nothing in this statement reflects why the costs would increase further.
- B The difficulty of diagnosing the causes of satellite failure shows one reason the costs are high; it does not show why they are increasing.
- C **Correct.** This statement properly identifies a factor that explains why costs will continue to increase.
- D The small number of satellites shows one reason they are expensive; it does not explain why costs would continue to increase.
- E The inefficiencies may partially account for initial high costs; nothing in this statement explains an increase in costs.

The correct answer is C.

33. Art restorers who have been studying the factors that cause Renaissance oil paintings to deteriorate physically when subject to climatic changes have found that the oil paint used in these paintings actually adjusts to these changes well. The restorers therefore hypothesize that it is a layer of material called gesso, which is under the paint, that causes the deterioration.

Which of the following, if true, most strongly supports the restorers' hypothesis?

- (A) Renaissance oil paintings with a thin layer of gesso are less likely to show deterioration in response to climatic changes than those with a thicker layer.
- (B) Renaissance oil paintings are often painted on wooden panels, which swell when humidity increases and contract when it declines.
- (C) Oil paint expands and contracts readily in response to changes in temperature, but it absorbs little water and so is little affected by changes in humidity.
- (D) An especially hard and nonabsorbent type of gesso was the raw material for moldings on the frames of Renaissance oil paintings.
- (E) Gesso layers applied by Renaissance painters typically consisted of a coarse base layer onto which several increasingly fine-grained layers were applied.

Argument Evaluation

Situation Renaissance paintings are subject to deterioration due to changes in climate, but their actual paint is not a factor in this deterioration. Instead, restorers hypothesize, it is gesso, the material under the paint, that causes problems for the paintings.

Reasoning *What would most strongly support the hypothesis that gesso is causing the deterioration? An indication that gesso is affected by climatic changes would be most helpful in supporting the hypothesis. What could show that gesso is affected in this way? If the extent of a painting's deterioration is directly related to the amount of gesso used under that painting, then the gesso clearly plays some part in that deterioration.*

- A **Correct.** This statement properly identifies a point supporting the hypothesis.
- B This suggests that another factor—the wood of the panels—has a role in the paintings' deterioration. Thus it weakens the hypothesis that gesso causes the deterioration.
- C This merely reinforces given information, that the paint itself is not responsible for the paintings' deterioration.
- D Because this gives no information about any connection between this especially hard and nonabsorbent type of gesso and the type of gesso used under the paint in Renaissance paintings, the properties and usage of the former type of gesso are irrelevant to the question of whether gesso is responsible for the paintings' deterioration.
- E Because we are told nothing about whether this technique of gesso application increases or decreases the likelihood that gesso will be affected by climatic change, it does not support the restorers' hypothesis.

The correct answer is A.

34. If the airspace around centrally located airports were restricted to commercial airliners and only those private planes equipped with radar, most of the private-plane traffic would be forced to use outlying airfields. Such a reduction in the amount of private-plane traffic would reduce the risk of midair collision around the centrally located airports.

The conclusion drawn in the first sentence depends on which of the following assumptions?

- (A) Outlying airfields would be as convenient as centrally located airports for most pilots of private planes.
- (B) Most outlying airfields are not equipped to handle commercial-airline traffic.
- (C) Most private planes that use centrally located airports are not equipped with radar.
- (D) Commercial airliners are at greater risk of becoming involved in midair collisions than are private planes.
- (E) A reduction in the risk of midair collision would eventually lead to increases in commercial airline traffic.

Argument Construction

Situation Only commercial airliners and private planes with radar would be allowed to use the airspace around centrally located airports; most private-plane traffic would use outlying airfields instead. The result would be fewer midair collisions around centrally located airports.

Reasoning *What assumption underlies the conclusion that most private planes would be forced to use outlying airfields?* The argument assumes that if the proposed restriction were put in place, most private-plane traffic would be rerouted to outlying airports. Because the restriction allows private planes that have radar to land at the centrally located airports, it must be assumed that the planes involved in most private-plane traffic at those airports are not equipped with radar.

- A Convenience is not at issue.
- B The capacity of outlying airfields to handle commercial airlines is outside the scope of the question.
- C **Correct.** This statement properly identifies the assumption that most of these private planes lack radar and would no longer be allowed to land at the centrally located airports.
- D Private-plane traffic could be diverted to outlying airfields even if this statement were not true.
- E The future of commercial airline traffic is beyond the scope of the question.

The correct answer is C.

35. Two decades after the Emerald River Dam was built, none of the eight fish species native to the Emerald River was still reproducing adequately in the river below the dam. Since the dam reduced the annual range of water temperature in the river below the dam from 50 degrees to 6 degrees, scientists have hypothesized that sharply rising water temperatures must be involved in signaling the native species to begin the reproductive cycle.

Which of the following statements, if true, would most strengthen the scientists' hypothesis?

- (A) The native fish species were still able to reproduce only in side streams of the river below the dam where the annual temperature range remains approximately 50 degrees.
- (B) Before the dam was built, the Emerald River annually overflowed its banks, creating backwaters that were critical breeding areas for the native species of fish.
- (C) The lowest recorded temperature of the Emerald River before the dam was built was 34 degrees, whereas the lowest recorded temperature of the river after the dam was built has been 43 degrees.
- (D) Nonnative species of fish, introduced into the Emerald River after the dam was built, have begun competing with the declining native fish species for food and space.
- (E) Five of the fish species native to the Emerald River are not native to any other river in North America.

Argument Evaluation

Situation The construction of a dam has significantly reduced the range of water temperatures in the river below the dam. Scientists have implicated this change in the failure of native fish species to reproduce adequately.

Reasoning *What evidence would strengthen the hypothesis?* To test the hypothesis, scientists need to study the same fish in the same river, but with only one variable changed: the temperature range of the water. If the same species of fish successfully reproduce in water that retains the same temperature range that the river had had before the dam was built, then the scientists have likely found the cause of the problem.

- A Correct.** This statement properly identifies evidence that strengthens the scientists' hypothesis.
- B** The overflow's creation of breeding areas offers an alternative hypothesis; it rivals rather than strengthens the hypothesis about temperature range.
- C** These differences in lowest recorded temperatures are simply specific data-points related to the proposed cause; they do nothing to support the hypothesis.
- D** The introduction of nonnative species competing for food and space is an additional variable, and thus offers an alternative hypothesis.
- E** The rareness of certain species points to the severity of the problem, not to its cause.

The correct answer is A.

36. Certain messenger molecules fight damage to the lungs from noxious air by telling the muscle cells encircling the lungs' airways to contract. This partially seals off the lungs. An asthma attack occurs when the messenger molecules are activated unnecessarily, in response to harmless things like pollen or household dust.

Which of the following, if true, points to the most serious flaw of a plan to develop a medication that would prevent asthma attacks by blocking receipt of any messages sent by the messenger molecules referred to above?

- (A) Researchers do not yet know how the body produces the messenger molecules that trigger asthma attacks.
- (B) Researchers do not yet know what makes one person's messenger molecules more easily activated than another's.
- (C) Such a medication would not become available for several years, because of long lead times in both development and manufacture.
- (D) Such a medication would be unable to distinguish between messages triggered by pollen and household dust and messages triggered by noxious air.
- (E) Such a medication would be a preventative only and would be unable to alleviate an asthma attack once it had started.

Evaluation of a Plan

Situation The lungs are partially sealed off when certain molecules signal the muscle cells of the airway to contract. While this process prevents damage to the lungs from noxious air, harmless substances can trigger the process in asthma patients. A medication to block this process is considered.

Reasoning *Why is the plan to develop the medication flawed?* Consider the action that the medication is intended to perform. How might that action be problematic? The process initiated by the messenger molecules has the useful and necessary purpose of protecting the lungs against harmful agents in the air. A medication to block the process completely would not distinguish between when the process is unnecessary, in the presence of harmless substances, and when that process is entirely necessary, in the presence of noxious air. Thus the medication would leave asthma patients unprotected from potential damage to their lungs.

- A Although it might be useful to know how the body produces these messenger molecules, it isn't necessary for the development of the proposed medication; many medications have been developed in cases where the relevant physiology is not very well understood.
- B The greater sensitivity of some people's messenger molecules is not the issue.
- C Pointing out long lead times does not explain a flaw in the medication itself.
- D Correct.** This statement properly identifies the fact that the medication is flawed because it could do harm by preventing a necessary process.
- E The proposed medication makes no claim to alleviate asthma attacks once they have begun.

The correct answer is D.

37. Which of the following most logically completes the argument?

Although the pesticide TDX has been widely used by fruit growers since the early 1960s, a regulation in force since 1960 has prohibited sale of fruit on which any TDX residue can be detected. That regulation is about to be replaced by one that allows sale of fruit on which trace amounts of TDX residue are detected. In fact, however, the change will not allow more TDX on fruit than was allowed in the 1960s, because _____.

- (A) pre-1970 techniques for detecting TDX residue could detect it only when it was present on fruit in more than the trace amounts allowed by the new regulations
- (B) many more people today than in the 1960s habitually purchase and eat fruit without making an effort to clean residues off the fruit
- (C) people today do not individually consume any more pieces of fruit, on average, than did the people in the 1960s
- (D) at least a small fraction of the fruit sold each year since the early 1960s has had on it greater levels of TDX than the regulation allows
- (E) the presence of TDX on fruit in greater than trace amounts has not been shown to cause any harm even to children who eat large amounts of fruit

Argument Construction

Situation A regulation that will allow the sale of fruit with trace amounts of TDX residue, a pesticide in use since the 1960s, is soon to be adopted. This regulation will replace the regulation, in place since 1960, that prohibited the sale of fruit on which trace amounts of TDX residue has been detected.

Reasoning *What point would most logically complete the argument?* How could it be the case that the new regulation will not allow more TDX on fruit now than was allowed in the 1960s? The most important thing to note is that the 1960 regulation prohibited sale of fruit on which TDX residue could be *detected*. Detection techniques in the 1960s might not have been particularly sensitive, which would have allowed some TDX to be present—though undetected—on fruit. If those techniques could not have detected the trace amounts of TDX that are now allowed, then it could be the case that TDX amounts allowed on fruit will not be different under the new regulation.

- A Correct.** This statement properly identifies a point that logically completes the argument.
- B** This statement indicates that *if* the new regulation does allow more TDX on fruit that is sold, then people may end up consuming more TDX. However, it indicates nothing as to whether the regulation will in fact allow more TDX on fruit that is sold.
- C** People's consumption of fruit is irrelevant to the question of what the regulations governing the sale of that fruit allow.
- D** The question is about allowances expressed in the two regulations. The information in this statement only suggests that the older regulation was not always fully enforced; but the same may end up being true of the new regulation.
- E** This might show that the new regulation will not be harmful to consumers, even if the new regulation were to allow more TDX on fruit sold than was allowed in the 1960s. But that is irrelevant to the question at hand, which is whether the new regulation will allow more TDX on fruit than was allowed in the 1960s.

The correct answer is A.

38. Which of the following best completes the passage below?

The more worried investors are about losing their money, the more they will demand a high potential return on their investment; great risks must be offset by the chance of great rewards. This principle is the fundamental one in determining interest rates, and it is illustrated by the fact that _____.

- (A) successful investors are distinguished by an ability to make very risky investments without worrying about their money
- (B) lenders receive higher interest rates on unsecured loans than on loans backed by collateral
- (C) in times of high inflation, the interest paid to depositors by banks can actually be below the rate of inflation
- (D) at any one time, a commercial bank will have a single rate of interest that it will expect all of its individual borrowers to pay
- (E) the potential return on investment in a new company is typically lower than the potential return on investment in a well-established company

Argument Construction

Situation The principle of determining interest rates is related to the risk involved in making the investment of a loan. Potentially greater rewards will lead lenders (investors) to accept greater risks.

Reasoning *Which example illustrates the principle that greater risks should produce greater rewards?* The example must be about the relationship of risk to benefit. Lenders take a greater risk when loans are unsecured (not backed by collateral) because there is a chance they could lose their money entirely. The principle indicates that the lenders—who by definition are investors—would demand the reward of higher interest rates.

- A The freedom from anxiety enjoyed by some investors is not relevant. While risky investments are mentioned, this statement does not mention their return.
- B Correct.** This statement properly identifies an example that shows that riskier loans—those not backed by collateral—receive the benefit of higher interest rates.
- C This discussion of interest rates in times of inflation does not mention potential risk or potential benefit.
- D A single rate of interest for all investments, no matter the level of risk, contradicts the principle and so cannot possibly be an example of it.
- E New companies are generally riskier than established ones. A lower rate of return for such riskier new companies contradicts the principle.

The correct answer is B.

39. A certain mayor has proposed a fee of five dollars per day on private vehicles entering the city, claiming that the fee will alleviate the city's traffic congestion. The mayor reasons that, since the fee will exceed the cost of round-trip bus fare from many nearby points, many people will switch from using their cars to using the bus.

Which of the following statements, if true, provides the best evidence that the mayor's reasoning is flawed?

- (A) Projected increases in the price of gasoline will increase the cost of taking a private vehicle into the city.
- (B) The cost of parking fees already makes it considerably more expensive for most people to take a private vehicle into the city than to take a bus.
- (C) Most of the people currently riding the bus do not own private vehicles.
- (D) Many commuters opposing the mayor's plan have indicated that they would rather endure traffic congestion than pay a five-dollar-per-day fee.
- (E) During the average workday, private vehicles owned and operated by people living within the city account for 20 percent of the city's traffic congestion.

Evaluation of a Plan

Situation In order to alleviate traffic congestion, the mayor proposes a five-dollar daily fee on private vehicles entering the city. Since the fee is more than the round-trip bus fare, the mayor believes many drivers will switch to buses.

Reasoning *What flaw exists in the mayor's reasoning?* The mayor apparently believes that saving money is the decisive issue for drivers. If, however, drivers are already paying considerably more in parking fees than they would in fares as bus commuters, then saving money is not the primary reason they are choosing to drive their cars rather than take the bus. This suggests that drivers may not change their behavior simply to save money.

- A This statement does not indicate whether the increased cost will dissuade people from taking private vehicles into the city, and therefore does not indicate whether the mayor's reasoning is flawed.
- B Correct.** This statement properly identifies a flaw in the mayor's reasoning.
- C Current bus riders are not relevant to the mayor's plan, which anticipates only that people currently driving private vehicles into the city will become bus riders.
- D Many drivers may continue to commute in their private vehicles, but others might switch to buses. The mayor's plan does not anticipate a switch by all drivers.
- E The 20 percent figure shows that most congestion is caused by vehicles entering from outside the city; this does not point out a weakness in the mayor's plan.

The correct answer is B.

40. Journalist: Well-known businessman Arnold Bergeron has long been popular in the state, and he has often talked about running for governor, but he has never run. However, we have just learned that Bergeron has fulfilled the financial disclosure requirement for candidacy by submitting a detailed list of his current financial holdings to the election commission. So, it is very likely that Bergeron will be a candidate for governor this year.

The answer to which of the following questions would be most useful in evaluating the journalist's argument?

- (A) Has anybody else who has fulfilled the financial disclosure requirement for the upcoming election reported greater financial holdings than Bergeron?
- (B) Is submitting a list of holdings the only way to fulfill the election commission's financial disclosure requirements?
- (C) Did the information recently obtained by the journalist come directly from the election commission?
- (D) Have Bergeron's financial holdings increased in value in recent years?
- (E) Had Bergeron also fulfilled the financial disclosure requirements for candidacy before any previous gubernatorial elections?

Argument Evaluation

Situation The journalist states that Bergeron, a popular businessman, has often talked about running for governor but has never done so. Bergeron recently disclosed his finances to the election commission, and such disclosure is required of candidates. So, the journalist concludes, Bergeron will probably run for governor this year.

Reasoning *What would it be most useful to know in evaluating the journalist's argument?* What might suggest, contrary to what the journalist concludes, that Bergeron is *not*, in fact, likely to run? The journalist is relying on Bergeron's financial disclosure as an indicator of his intentions. But what if Bergeron has filed this financial paperwork before and then not run? In that case, his disclosure would not be nearly as strong an indicator of his intentions, and the journalist's argument would be much weaker.

- A Bergeron's holdings relative to other potential candidates are not relevant to the journalist's argument regarding the likelihood of Bergeron's running for governor.
- B Whether Bergeron could have fulfilled the disclosure requirements in some other way is irrelevant to the journalist's argument, which is based on the fact that Bergeron *did* fulfill the disclosure requirements.
- C It would be somewhat useful to know whether the journalist's information is reliable, but there is no way to determine whether the journalist's actual source, if it was not the election commission, is more or less reliable than the election commission. So this is not the best answer.
- D Any changes in Bergeron's financial holdings are irrelevant to the journalist's argument, which is based on Bergeron's having fulfilled the financial disclosure requirements.
- E **Correct.** It would be useful in evaluating the journalist's argument to know the answer to this question.

The correct answer is E.

41. Dental researchers recently discovered that toothbrushes can become contaminated with bacteria that cause pneumonia and strep throat. They found that contamination usually occurs after toothbrushes have been used for four weeks. For that reason, people should replace their toothbrushes at least once a month.

Which of the following, if true, would most weaken the conclusion above?

- (A) The dental researchers could not discover why toothbrush contamination usually occurred only after toothbrushes had been used for four weeks.
- (B) The dental researchers failed to investigate contamination of toothbrushes by viruses, yeasts, and other pathogenic microorganisms.
- (C) The dental researchers found that among people who used toothbrushes contaminated with bacteria that cause pneumonia and strep throat, the incidence of these diseases was no higher than among people who used uncontaminated toothbrushes.
- (D) The dental researchers found that people who rinsed their toothbrushes thoroughly in hot water after each use were as likely to have contaminated toothbrushes as were people who only rinsed their toothbrushes hurriedly in cold water after each use.
- (E) The dental researchers found that, after six weeks of use, greater length of use of a toothbrush did not correlate with a higher number of bacteria being present.

Argument Evaluation

Situation Researchers have found that, after four weeks of use, toothbrushes may become contaminated with disease bacteria. Therefore, toothbrushes should be replaced once a month.

Reasoning *What information weakens the conclusion?* The passage concludes that contaminated toothbrushes should be replaced monthly. Clearly, the assumption underlying this conclusion is that such replacement is necessary because the bacterial contamination is potentially harmful to the user of the toothbrush. Do people actually become ill because of their use of contaminated toothbrushes? If a comparison of disease rates for people using uncontaminated toothbrushes and for people using contaminated toothbrushes shows no difference between the groups, then the assumption about the potential harm is proven wrong and support for the conclusion is thereby weakened.

- A The recommendation to change every four weeks is not weakened simply because researchers cannot explain why it takes that long for contamination to occur.
- B The failure to investigate other possible contaminants of toothbrushes does not weaken the recommendation.
- C **Correct.** This statement properly identifies the information that weakens the conclusion: using contaminated toothbrushes is no more likely to result in disease than using uncontaminated ones, and thus changing toothbrushes every month is unnecessary.
- D Since even careful maintenance of toothbrushes does not reduce contamination, the recommendation is strengthened.
- E If the contamination still remains at six weeks, even if it is not worse, the recommendation based on the bacteria existing at four weeks is not weakened.

The correct answer is C.

42. Leaders of a miners' union on strike against Coalco are contemplating additional measures to pressure the company to accept the union's contract proposal. The union leaders are considering as their principal new tactic a consumer boycott against Gasco gas stations, which are owned by Energy Incorporated, the same corporation that owns Coalco.

The answer to which of the following questions is LEAST directly relevant to the union leaders' consideration of whether attempting a boycott of Gasco will lead to acceptance of their contract proposal?

- (A) Would revenue losses by Gasco seriously affect Energy Incorporated?
- (B) Can current Gasco customers easily obtain gasoline elsewhere?
- (C) Have other miners' unions won contracts similar to the one proposed by this union?
- (D) Have other unions that have employed a similar tactic achieved their goals with it?
- (E) Do other corporations that own coal companies also own gas stations?

Evaluation of a Plan

Situation In an effort to pressure Coalco to accept their contract proposal, union leaders consider organizing a consumer boycott of gas stations owned by Coalco's parent company.

Reasoning *Which question is LEAST relevant to the boycott decision?* Union leaders have a number of questions to consider in deciding what to do. This problem requires finding the one question that is NOT relevant to deciding if a boycott would be an effective tactic. Examine each in turn. Whether other corporations that own coal companies also own gas stations is NOT directly relevant to whether a boycott of Gasco gas stations will coerce Coalco to accept a proposal.

- A Knowing how seriously the parent corporation would be hurt by revenue losses from the boycott is relevant.
- B If consumers cannot easily get gas elsewhere, the boycott is likely to fail, so this question is relevant.
- C If other miners' unions have won similar contracts, then the union's proposal is reasonable. This question is relevant.
- D If other unions have succeeded (or failed) with a similar plan, that information is relevant to the likely success (or failure) of this plan.
- E **Correct.** This question is the only one that does not clearly bear upon the plan; an answer to it is the one least directly relevant to the boycott decision.

The correct answer is E.

43. Laws requiring the use of headlights during daylight hours can prevent automobile collisions. However, since daylight visibility is worse in countries farther from the equator, any such laws would obviously be more effective in preventing collisions in those countries. In fact, the only countries that actually have such laws are farther from the equator than is the continental United States.

Which of the following conclusions could be most properly drawn from the information given above?

- (A) Drivers in the continental United States who used their headlights during the day would be just as likely to become involved in a collision as would drivers who did not use their headlights.
- (B) In many countries that are farther from the equator than is the continental United States, poor daylight visibility is the single most important factor in automobile collisions.
- (C) The proportion of automobile collisions that occur in the daytime is greater in the continental United States than in the countries that have daytime headlight laws.
- (D) Fewer automobile collisions probably occur each year in countries that have daytime headlight laws than occur within the continental United States.
- (E) Daytime headlight laws would probably do less to prevent automobile collisions in the continental United States than they do in the countries that have the laws.

Argument Construction

Situation Laws requiring the use of headlights during the daytime are more effective at preventing car collisions in countries with lower daylight visibility, that is, in countries at greater distances from the equator. The only countries having these laws are those located farther from the equator than is the continental United States.

Reasoning *What conclusion can be drawn from this information?* Countries with daytime headlight laws are all farther from the equator than is the continental United States. The location is significant because daytime visibility is worse in those countries than it is in the continental United States. How effective at preventing collisions would such laws be in the continental United States with its greater proximity to the equator? It is reasonable to conclude that such laws would be less effective at preventing collisions there than they are in the countries farther from the equator.

- A Although daytime headlight use may be less effective in countries with more daylight, it cannot be concluded that U.S. drivers using daytime headlights would gain no benefit from them and would be just as likely to have collisions as those who do not use them.
- B The passage offers no evidence for the conclusion that poor visibility is the *greatest* cause for collisions in these countries.
- C Many factors besides use of headlights during daylight hours influence accident rates, and these factors may vary widely from one country to another. We are given no information about these other factors or about their relative impact in various countries.
- D Without specific data, no conclusion can be drawn about the relative number of accidents that occur.
- E **Correct.** This statement properly identifies a conclusion to be drawn from the given information.

The correct answer is E.

44. Bank depositors in the United States are all financially protected against bank failure because the government insures all individuals' bank deposits. An economist argues that this insurance is partly responsible for the high rate of bank failures, since it removes from depositors any financial incentive to find out whether the bank that holds their money is secure against failure. If depositors were more selective, then banks would need to be secure in order to compete for depositors' money.

The economist's argument makes which of the following assumptions?

- (A) Bank failures are caused when big borrowers default on loan repayments.
- (B) A significant proportion of depositors maintain accounts at several different banks.
- (C) The more a depositor has to deposit, the more careful he or she tends to be in selecting a bank.
- (D) The difference in the interest rates paid to depositors by different banks is not a significant factor in bank failures.
- (E) Potential depositors are able to determine which banks are secure against failure.

Argument Construction

Situation An economist contends that the high rate of bank failures can partly be blamed on federal insurance of bank deposits. The insurance removes any financial incentive for depositors to seek those banks that are the most secure against failure. In the absence of more selective depositors, the banks need not be secure to compete for deposits.

Reasoning *What assumption underlies the economist's argument?* The economist argues that banks would have to be more secure in a competitive environment with more discriminating depositors. The economist encourages potential depositors to be *more selective* in choosing a bank and therefore must believe that many depositors have sufficiently sound ideas about what makes a bank secure against failure and can often apply those ideas in determining which banks are secure.

- A Although this statement explains how a bank failure may occur, it is not a necessary assumption for the economist's argument about how depositors choose a bank.
- B The argument never discusses multiple accounts, so this statement cannot be assumed.
- C The economist argues that depositors are not careful in selecting banks; this statement contradicts that position, at least for some depositors, so it cannot be assumed.
- D In arguing about choosing banks, the economist mentions nothing about the relation of interest rates to bank failures, so this statement is not assumed.
- E **Correct.** This statement properly identifies the economist's underlying assumption that potential depositors are able to determine which banks are more secure.

The correct answer is E.

45. Often patients with ankle fractures that are stable, and thus do not require surgery, are given follow-up x-rays because their orthopedists are concerned about possibly having misjudged the stability of the fracture. When a number of follow-up x-rays were reviewed, however, all the fractures that had initially been judged stable were found to have healed correctly. Therefore, it is a waste of money to order follow-up x-rays of ankle fractures initially judged stable.

Which of the following, if true, most strengthens the argument?

- (A) Doctors who are general practitioners rather than orthopedists are less likely than orthopedists to judge the stability of an ankle fracture correctly.
- (B) Many ankle injuries for which an initial x-ray is ordered are revealed by the x-ray not to involve any fracture of the ankle.
- (C) X-rays of patients of many different orthopedists working in several hospitals were reviewed.
- (D) The healing of ankle fractures that have been surgically repaired is always checked by means of a follow-up x-ray.
- (E) Orthopedists routinely order follow-up x-rays for fractures of bones other than ankle bones.

Argument Evaluation

Situation Often patients with ankle fractures that their orthopedists have judged not to require surgery are given follow-up x-rays to check whether the fracture healed correctly. An examination of a sample of those x-rays found that the ankle had, in each case, healed properly.

Reasoning *The question is which of the options, if true, would most strengthen the argument.* The argument is based on data concerning follow-up x-rays, each of which revealed no problem with the orthopedist's initial judgment that the ankle fracture was stable (and would heal without surgery). This invites the question whether the follow-up x-rays are really needed. The argument concludes that they are a waste of money. But was the x-ray data truly representative of orthopedists generally? After all, some orthopedists—perhaps more experienced, better-trained, or employed at a facility with better staff or facilities—may be much better than others at judging ankle fractures. If we add the information that the data for the conclusion comes from many orthopedists working at many different hospitals, we have greater assurance that the x-ray data is representative, and the argument will be made much stronger.

- A Neither the study nor the conclusion that is drawn from it concerns general practitioners, so this point is irrelevant.
- B Naturally many ankle injuries do not involve fractures—x-rays may sometimes be used to determine this—but the argument concerns only cases where there have been ankle fractures.
- C **Correct.** This shows that the sample of x-ray data examined was probably sufficiently representative of cases of ankle fracture judged to be stable by orthopedists.
- D The argument does not concern cases of ankle fracture that have been surgically repaired.
- E The argument concerns only x-rays of ankles. From the information given here, we cannot infer that orthopedists are generally wasteful in routinely ordering follow-up x-rays.

The correct answer is C.

46. A study of marital relationships in which one partner's sleeping and waking cycles differ from those of the other partner reveals that such couples share fewer activities with each other and have more violent arguments than do couples in a relationship in which both partners follow the same sleeping and waking patterns. Thus, mismatched sleeping and waking cycles can seriously jeopardize a marriage.

Which of the following, if true, most seriously weakens the argument above?

- (A) Married couples in which both spouses follow the same sleeping and waking patterns also occasionally have arguments that can jeopardize the couple's marriage.
- (B) The sleeping and waking cycles of individuals tend to vary from season to season.
- (C) The individuals who have sleeping and waking cycles that differ significantly from those of their spouses tend to argue little with colleagues at work.
- (D) People in unhappy marriages have been found to express hostility by adopting a different sleeping and waking cycle from that of their spouses.
- (E) According to a recent study, most people's sleeping and waking cycles can be controlled and modified easily.

Argument Evaluation

Situation A study of married couples reveals that spouses with different sleeping and waking cycles tend to have fewer activities in common and more intense arguments than spouses with similar sleeping and waking cycles. Thus, different sleep-wake cycles may severely endanger a marriage.

Reasoning *Which of the options, if added to the argument's premises, would most undermine the argument's support for the conclusion?* The given premises in the passage provide information that different sleep-wake cycles tend to be accompanied by marital discord. The conclusion then asserts that the different sleep-wake cycles cause the marital problems. But what if the different sleep-wake cycles result from preexisting marital problems? The argument would be weakened if data shows that unhappily married spouses express hostility by deliberately adopting cycles different from those of their spouses.

- A The argument does not say that mismatched cycles are the *only* cause of the arguments jeopardizing a marriage or that only couples with such a mismatch have such arguments.
- B This statement does not relate seasonal variability to mismatched cycles in marriage, and so it is irrelevant.
- C The argument is about the effect of mismatched cycles on a marriage, and the relationship with colleagues is not directly relevant to that issue.
- D **Correct.** This information provides a new perspective on the situation: instead of blaming the different sleep patterns for the hostility, it blames the hostility for those different patterns. This alternative explanation of the study's findings weakens the argument.
- E While suggesting that sleep-wake behaviors can be modified, this statement still does not provide evidence that weakens the argument.

The correct answer is D.

47. In the past most airline companies minimized aircraft weight to minimize fuel costs. The safest airline seats were heavy, and airlines equipped their planes with few of these seats. This year the seat that has sold best to airlines has been the safest one—a clear indication that airlines are assigning a higher priority to safe seating than to minimizing fuel costs.

Which of the following, if true, most seriously weakens the argument above?

- (A) Last year's best-selling airline seat was not the safest airline seat on the market.
- (B) No airline company has announced that it would be making safe seating a higher priority this year.
- (C) The price of fuel was higher this year than it had been in most of the years when the safest airline seats sold poorly.
- (D) Because of increases in the cost of materials, all airline seats were more expensive to manufacture this year than in any previous year.
- (E) Because of technological innovations, the safest airline seat on the market this year weighed less than most other airline seats on the market.

Argument Evaluation

Situation The safest airline seats were heavy, but since additional weight meant higher fuel costs, airlines had bought few of these seats. Because the best-selling seats this year are the safest ones, the airlines have clearly reset their priorities, choosing safe seating over minimizing fuel costs.

Reasoning *What information weakens this argument?* Previously, the safest seats were heavy, so the airlines purchased lighter—and less safe—seats to minimize fuel costs. But if the safest seat this year is among the lightest, the airlines may simply be pursuing their previous priority of minimizing fuel costs by reducing weight.

- A The new information does little more than corroborate information already provided in the premises.
- B This weakens the argument only if the argument assumes that if such a change in priorities *had* occurred, it *would have* been announced. But this is not assumed.
- C This tends to strengthen rather than weaken the argument. In a time of high fuel costs, if an airline chooses the safest seat regardless of weight, that choice suggests that the airline is making safety a greater priority than fuel economy.
- D This information does not weaken the argument, since it suggests no reason for purchasing one type of seat as opposed to another.
- E **Correct.** This statement disconfirms a critically important assumption made by the argument—namely that the currently safest seat would also be heavier than the less safe seats.

The correct answer is E.

48. Editorial: An arrest made by a Midville police officer is provisional until the officer has taken the suspect to the police station and the watch commander has officially approved the arrest. Such approval is denied if the commander judges that the evidence on which the provisional arrest is based is insufficient. A government efficiency expert has observed that **almost all provisional arrests meet the standards for adequacy of evidence that the watch commanders enforce**. The expert has therefore recommended that, because **the officers' time spent obtaining approval is largely wasted**, the watch commander's approval no longer be required. This recommendation should be rejected as dangerous, however, since there is no assurance that the watch commanders' standards will continue to be observed once approval is no longer required.

In the editorial, the two portions in **boldface** play which of the following roles?

- (A) The first is a claim, the accuracy of which is disputed by the editorial; the second is a conclusion drawn in order to support the main conclusion of the editorial.
- (B) The first is an observation that the editorial disputes; the second is a conclusion that was drawn from that observation.
- (C) The first is a finding that was used in support of a proposal that the editorial opposes; the second is a judgment that was based on that finding and in turn was used to support the proposal.
- (D) The first is a finding introduced to support the main conclusion of the editorial; the second is that main conclusion.
- (E) The first is a conclusion, the evidence for which the editorial evaluates; the second is part of the evidence cited in favor of that conclusion.

Argument Construction

Situation Arrests by Midville police officers are provisional until approved by the watch commander. Because almost all such arrests meet that standard, a government efficiency expert recommends that this requirement be dropped. The editorial opposes this recommendation, on the grounds that without the approval requirement the evidence standard for arrest might not continue to be satisfied by the arresting officers.

Reasoning *What roles do the two portions in boldface play in the editorial?* The first boldface portion asserts that provisional arrests almost always meet the standards for evidence that watch commanders enforce. The second boldface portion states that officers' time obtaining such approval is largely wasted. This is what the efficiency expert infers from the first boldface portion; and from this the efficiency expert, in turn, concludes that the watch commander's approval should no longer be required. But the editorial opposes this position.

- A The editorial does not dispute that almost all provisional arrests meet the standard for adequacy of evidence. The editorial implicitly rejects the second boldface portion, and rejects the conclusion that the efficiency expert draws from it.
- B The editorial does not dispute that the first boldface portion is true.
- C **Correct.** This is the only choice that accords with the analysis of the reasoning given above.
- D The role of the first boldface portion is not to support the editorial's main conclusion but to provide support for the efficiency expert's conclusion. The role of the second boldface portion is not as the main conclusion of the editorial but as support for the efficiency expert's conclusion.
- E The first boldface portion is not inferred or concluded from some other statement in the passage, nor is it challenged by the editorial. The direction of the efficiency expert's inference is from the first portion, not to it.

The correct answer is C.

49. Division manager: I want to replace the Microton computers in my division with Vitech computers.

General manager: Why?

Division manager: It costs 28 percent less to train new staff on the Vitech.

General manager: But that is not a good enough reason. We can simply hire only people who already know how to use the Microton computer.

Which of the following, if true, most seriously undermines the general manager's objection to the replacement of Microton computers with Vitechs?

- (A) Currently all employees in the company are required to attend workshops on how to use Microton computers in new applications.
- (B) Once employees learn how to use a computer, they tend to change employers more readily than before.
- (C) Experienced users of Microton computers command much higher salaries than do prospective employees who have no experience in the use of computers.
- (D) The average productivity of employees in the general manager's company is below the average productivity of the employees of its competitors.
- (E) The high costs of replacement parts make Vitech computers more expensive to maintain than Microton computers.

Argument Evaluation

Situation A division manager wants to replace Microton computers with Vitech computers in order to reduce training costs for new staff. The general manager objects to this reasoning, arguing that the company can hire only those people who already know how to use the Microton computers.

Reasoning *What point weakens the general manager's argument?* The division manager's preference for Vitech equipment is based on reduced training costs for newly hired staff. The general manager rejects this cost-reduction rationale and counters by suggesting a way to avoid these costs altogether. Both managers thus accept costs as the basis for making the decision between the two brands. Any evidence that overall costs would be higher when using the Microton computers weakens the general manager's argument. If the costs associated with employing experienced Microton users are greater, then hiring exclusively from this pool and paying their *much higher* salaries may result in higher overall costs for the company than the costs for training new staff on the Vitechs.

- A This information about Microton suggests that even staff who have Microton skills when hired would still have to be trained with all other staff in new applications. Does this undermine the general manager's reply? No—because the information given about training costs by the division manager refers only to the costs of training newly hired staff.
- B The information that computer-skilled staff move easily to a new job suggests that it might be possible to do what the general manager recommends. Obviously that does not undermine the general manager's recommendation.
- C **Correct.** This statement properly identifies evidence that undermines the general manager's argument.
- D Productivity at the company and at its competitors is not at issue.
- E Only staff-related costs, not the cost of maintaining the computers, are being discussed in the argument.

The correct answer is C.

50. Crops can be traded on the futures market before they are harvested. If a poor corn harvest is predicted, prices of corn futures rise; if a bountiful corn harvest is predicted, prices of corn futures fall. This morning meteorologists are predicting much-needed rain for the corn-growing region starting tomorrow. Therefore, since adequate moisture is essential for the current crop's survival, prices of corn futures will fall sharply today.

Which of the following, if true, most weakens the argument above?

- (A) Corn that does not receive adequate moisture during its critical pollination stage will not produce a bountiful harvest.
- (B) Futures prices for corn have been fluctuating more dramatically this season than last season.
- (C) The rain that meteorologists predicted for tomorrow is expected to extend well beyond the corn-growing region.
- (D) Agriculture experts announced today that a disease that has devastated some of the corn crop will spread widely before the end of the growing season.
- (E) Most people who trade in corn futures rarely take physical possession of the corn they trade.

Argument Evaluation

Situation Crop futures rise when a harvest is expected to be small and drop when a harvest is expected to be large. Today's weather forecast for the corn-growing area predicts much-needed rain, so corn futures will fall today.

Reasoning *What information weakens the argument that corn futures will fall?* The prediction that corn futures will drop sharply today is made solely on the basis of the forecast of rain, which would lead futures buyers to expect an abundant crop. However, if it becomes known that some harmful circumstance such as a devastating disease will severely affect the corn crop before the end of the growing season, this knowledge may lead buyers of futures to expect a smaller harvest, causing prices of futures to rise rather than fall.

- A This statement tells at what exact point in the growing cycle rain is critical to a good harvest, but it gives no information about this year's harvest.
- B This comparison of past price fluctuations does not affect what will happen to today's corn futures on account of the predicted rain. The argument is not weakened.
- C The only rain that matters is the rain that affects the corn-growing region, not areas beyond it; this statement is irrelevant to the prediction.
- D **Correct.** This statement properly identifies information that weakens the argument.
- E Physical possession of the corn is irrelevant to the price of corn futures.

The correct answer is D.

51. A company plans to develop a prototype weeding machine that uses cutting blades with optical sensors and microprocessors that distinguish weeds from crop plants by differences in shade of color. The inventor of the machine claims that it will reduce labor costs by virtually eliminating the need for manual weeding.

Which of the following is a consideration in favor of the company's implementing its plan to develop the prototype?

- (A) There is a considerable degree of variation in shade of color between weeds of different species.
- (B) The shade of color of some plants tends to change appreciably over the course of their growing season.
- (C) When crops are weeded manually, overall size and leaf shape are taken into account in distinguishing crop plants from weeds.
- (D) Selection and genetic manipulation allow plants of virtually any species to be economically bred to have a distinctive shade of color without altering their other characteristics.
- (E) Farm laborers who are responsible for the manual weeding of crops carry out other agricultural duties at times in the growing season when extensive weeding is not necessary.

Evaluation of a Plan

Situation A company plans to develop an automated weeding machine that would distinguish weeds from crop plants by differences in shade of color. It is supposed to reduce labor costs by eliminating the need for manual weeding.

Reasoning *Which option describes a consideration that would favor the company's plan?* The passage supports the plan by claiming that the machine would reduce labor costs by virtually eliminating weeding by hand. The correct option will be one that adds to this support. Labor costs will be reduced only if the machine works well. The machine relies on shade of color to distinguish between weeds and crop plants. If crop plants can be bred to have distinctive color without sacrificing other qualities, it would be more likely that the machine could be used effectively.

- A Greater variation among weed plants would make it more difficult for the machine to distinguish between weeds and crop plants, and this would make it less likely that the machine would be effective.
- B This option tends to disfavor the effectiveness of the machine. The more changeable the colors of the plants to be distinguished, the more complex the task of distinguishing between weeds and crop plants based on their color.
- C This option tends to disfavor the likely benefits of the machine because it indicates that manual weeding distinguishes weeds from crop plants by using criteria that the machine does not take into account. If the machine does not distinguish weeds from crop plants as accurately and reliably as manual weeding does, then the machine is less apt to make manual weeding unnecessary.
- D **Correct.** Making crop plants easily distinguishable from weeds would facilitate the effective use of the weeding machine.
- E This does not favor the company's implementing the plan to develop the machine. There would still be tasks other than weeding that would require hiring staff. Thus there would still be labor costs even if the need for manual weeding were eliminated.

The correct answer is D.

52. The interview is an essential part of a successful hiring program because, with it, job applicants who have personalities that are unsuited to the requirements of the job will be eliminated from consideration.

The argument above logically depends on which of the following assumptions?

- (A) A hiring program will be successful if it includes interviews.
- (B) The interview is a more important part of a successful hiring program than is the development of a job description.
- (C) Interviewers can accurately identify applicants whose personalities are unsuited to the requirements of the job.
- (D) The only purpose of an interview is to evaluate whether job applicants' personalities are suited to the requirements of the job.
- (E) The fit of job applicants' personalities to the requirements of the job was once the most important factor in making hiring decisions.

Argument Construction

Situation The interview is a necessary part of hiring because candidates with unsuitable personalities are eliminated from consideration.

Reasoning *What is being assumed in this argument?* The argument puts forth one reason that the interview is important: it eliminates candidates with unsuitable personalities. This presupposes that interviewers can, with a fair degree of accuracy, rule out those candidates whose personalities do not fit the needs of the job.

- A The argument does not go so far as to say that interviews guarantee a successful hiring program.
- B The argument does not prioritize the parts of a hiring program.
- C Correct.** This statement properly identifies the assumption underlying the argument.
- D The argument gives one reason that the interview is important, but it does not say it is the *only* reason.
- E This concerns past practices in hiring, and is irrelevant to the argument.

The correct answer is C.

53. Useful protein drugs, such as insulin, must still be administered by the cumbersome procedure of injection under the skin. If proteins are taken orally, they are digested and cannot reach their target cells. Certain nonprotein drugs, however, contain chemical bonds that are not broken down by the digestive system. They can, thus, be taken orally.

The statements above most strongly support a claim that a research procedure that successfully accomplishes which of the following would be beneficial to users of protein drugs?

- (A) Coating insulin with compounds that are broken down by target cells, but whose chemical bonds are resistant to digestion
- (B) Converting into protein compounds, by procedures that work in the laboratory, the nonprotein drugs that resist digestion
- (C) Removing permanently from the digestive system any substances that digest proteins
- (D) Determining, in a systematic way, what enzymes and bacteria are present in the normal digestive system and whether they tend to be broken down within the body
- (E) Determining the amount of time each nonprotein drug takes to reach its target cells

Argument Construction

Situation Since protein drugs taken orally are digested and do not reach their target cells, they must be injected under the skin. Some nonprotein drugs have chemical bonds resistant to digestion and may be taken orally.

Reasoning *What procedure might be beneficial for users of protein drugs?* Clearly it would be beneficial for users if protein drugs could be administered orally rather than by injection. Digestion has been the obstacle to the oral use of such drugs. Some nonprotein drugs have chemical bonds that resist digestion. If protein drugs such as insulin could use similar chemical bonds to resist digestion, thus allowing the protein to reach its target cells, then the protein drugs could be taken orally, a clear benefit to the users of those drugs.

- A Correct.** This statement properly identifies a procedure that would be beneficial for users of protein drugs: coating a protein drug (such as insulin) so that it is resistant to digestion but able to reach its target cells would allow users to take it orally rather than by injection.
- B** No benefit for users of protein drugs is gained by converting nonprotein drugs into protein compounds because then they too would need to be injected rather than taken orally.
- C** The digestive system needs the substances that digest protein in order to function normally, so this procedure would do more harm than good.
- D** Determining whether normally present enzymes and bacteria are broken down in the body does not offer any specific benefits for users of protein drugs.
- E** The time required by nonprotein drugs to reach target cells is irrelevant to the question of benefits to users of protein drugs.

The correct answer is A.

54. Tanco, a leather manufacturer, uses large quantities of common salt to preserve animal hides. New environmental regulations have significantly increased the cost of disposing of salt water that results from this use, and, in consequence, Tanco is considering a plan to use potassium chloride in place of common salt. Research has shown that Tanco could reprocess the by-product of potassium chloride use to yield a crop fertilizer, leaving a relatively small volume of waste for disposal.

In determining the impact on company profits of using potassium chloride in place of common salt, it would be important for Tanco to research all of the following EXCEPT:

- (A) What difference, if any, is there between the cost of the common salt needed to preserve a given quantity of animal hides and the cost of the potassium chloride needed to preserve the same quantity of hides?
- (B) To what extent is the equipment involved in preserving animal hides using common salt suitable for preserving animal hides using potassium chloride?
- (C) What environmental regulations, if any, constrain the disposal of the waste generated in reprocessing the by-product of potassium chloride?
- (D) How closely does leather that results when common salt is used to preserve hides resemble that which results when potassium chloride is used?
- (E) Are the chemical properties that make potassium chloride an effective means for preserving animal hides the same as those that make common salt an effective means for doing so?

Evaluation of a Plan

Situation New environmental regulations will increase the costs of disposing of the salt water that results from the use of large amounts of common salt in leather manufacturing. The manufacturer is considering switching from common salt to potassium chloride, because the by-product of the latter could be reprocessed to yield a crop fertilizer, with little waste left over to be disposed.

Reasoning *In order to determine whether it would be profitable to switch from using common salt to using potassium chloride, which of the five questions does the manufacturer NOT need to answer?* The chemical properties making potassium chloride an effective means of preserving animal hides might be quite different from those that make common salt effective, but there is no particular reason for thinking that this would impact the profitability of switching to potassium chloride. The relevant effects on the preserved hides might be the same even if the properties that brought about those effects were quite different. Thus, without more information than is provided in the passage, this question is irrelevant.

- A The savings in waste disposal costs that would be gained by switching to potassium chloride could be cancelled out if the cost of potassium chloride needed far exceeded that for common salt.
- B If switching to potassium chloride would force the manufacturer to replace the equipment it uses for preserving hides, then it might be less profitable to switch.
- C Even though there is said to be relatively little waste associated with using potassium chloride in the process, if the costs of this disposal are very high due to environmental regulations, it might be less profitable to switch.
- D If the leather that results from the use of potassium chloride looks substantially different from that which results when common salt has been used, then the leather might be less attractive to consumers, which would adversely affect the economics of switching to potassium chloride.
- E **Correct.** Note that the question as stated here presupposes that potassium chloride and salt are both effective means for preserving animal hides—so it does not raise any issue as to whether potassium chloride is adequately effective or as effective as salt (clearly, an issue of effectiveness *would* be relevant to profitability).

The correct answer is E.

55. There is a great deal of geographical variation in the frequency of many surgical procedures—up to tenfold variation per hundred thousand people between different areas in the numbers of hysterectomies, prostatectomies, and tonsillectomies.

To support a conclusion that much of the variation is due to unnecessary surgical procedures, it would be most important to establish which of the following?

- (A) A local board of review at each hospital examines the records of every operation to determine whether the surgical procedure was necessary.
- (B) The variation is unrelated to factors (other than the surgical procedures themselves) that influence the incidence of diseases for which surgery might be considered.
- (C) There are several categories of surgical procedure (other than hysterectomies, prostatectomies, and tonsillectomies) that are often performed unnecessarily.
- (D) For certain surgical procedures, it is difficult to determine after the operation whether the procedures were necessary or whether alternative treatment would have succeeded.
- (E) With respect to how often they are performed unnecessarily, hysterectomies, prostatectomies, and tonsillectomies are representative of surgical procedures in general.

Argument Construction

Situation The frequency of certain surgical procedures, e.g., hysterectomies, prostatectomies, and tonsillectomies, varies dramatically by geographical region. It may be possible to conclude that the disparity is to a large extent the result of the performance of unnecessary surgeries.

Reasoning *What additional information must be true for this conclusion to hold?* Is it possible that different factors in different regions might reasonably account for the variation? Diseases or medical conditions for which these surgical procedures are appropriate might be more common in one geographical area than another. Unless the possibility of such geographical variations in the incidence of pertinent medical conditions is ruled out, it would be risky to conclude that the variation is attributable to unnecessary surgical procedures.

- A This statement undermines such a conclusion since it cites a process in place for preventing or reducing unnecessary procedures.
- B **Correct.** This statement suggests the geographical variation is not due to variations in incidence of certain diseases—and by eliminating this possibility, it helps to support the claim that unnecessary surgeries are being performed in some places.
- C The argument is concerned only with hysterectomies, prostatectomies, and tonsillectomies; other surgical procedures are irrelevant.
- D This information indicates that there is a fuzzy line dividing necessary from unnecessary surgeries—but this would apply in every place, not just in some; so it provides no support for the intended conclusion.
- E The argument involves only the three kinds of surgery cited in the passage, so this statement is irrelevant to the conclusion.

The correct answer is B.

56. Gortland has long been narrowly self-sufficient in both grain and meat. However, as per capita income in Gortland has risen toward the world average, per capita consumption of meat has also risen toward the world average, and it takes several pounds of grain to produce one pound of meat. Therefore, since per capita income continues to rise, whereas domestic grain production will not increase, Gortland will soon have to import either grain or meat or both.

Which of the following is an assumption on which the argument depends?

- (A) The total acreage devoted to grain production in Gortland will not decrease substantially.
- (B) The population of Gortland has remained relatively constant during the country's years of growing prosperity.
- (C) The per capita consumption of meat in Gortland is roughly the same across all income levels.
- (D) In Gortland, neither meat nor grain is subject to government price controls.
- (E) People in Gortland who increase their consumption of meat will not radically decrease their consumption of grain.

Argument Construction

Situation A country previously self-sufficient in grain and meat will soon have to import one or the other or both because its consumption of meat has risen as per capita income has risen. It takes several pounds of grain to produce one pound of meat.

Reasoning *What conditions must be true for the conclusion to be true?* Meat consumption is rising. What about grain consumption? A sharp reduction in the amount of grain directly consumed by meat eaters could compensate for increased meat consumption, making the conclusion false. If people did radically decrease their grain consumption, it might not be necessary to import grain or meat. Since the argument concludes that the imports are necessary, it assumes that direct consumption of grain by those who begin to eat meat will not plunge.

- A The argument makes no assumptions about the acreage devoted to grain; it assumes only that the demand for grain will rise.
- B The argument is based on rising per capita income, not population levels.
- C The argument involves only meat consumption in general, not its distribution by income level.
- D Since the argument does not refer to price controls, it cannot depend on an assumption about them.
- E **Correct.** This statement properly identifies the assumption that those who begin to eat meat do not then greatly decrease their direct consumption of grains.

The correct answer is E.

57. Meteorite explosions in the Earth's atmosphere as large as the one that destroyed forests in Siberia, with approximately the force of a twelve-megaton nuclear blast, occur about once a century.

The response of highly automated systems controlled by complex computer programs to unexpected circumstances is unpredictable.

Which of the following conclusions can most properly be drawn, if the statements above are true, about a highly automated nuclear-missile defense system controlled by a complex computer program?

- (A) Within a century after its construction, the system would react inappropriately and might accidentally start a nuclear war.
- (B) The system would be destroyed if an explosion of a large meteorite occurred in the Earth's atmosphere.
- (C) It would be impossible for the system to distinguish the explosion of a large meteorite from the explosion of a nuclear weapon.
- (D) Whether the system would respond inappropriately to the explosion of a large meteorite would depend on the location of the blast.
- (E) It is not certain what the system's response to the explosion of a large meteorite would be, if its designers did not plan for such a contingency.

Argument Construction

Situation A meteorite explosion equivalent to a nuclear blast occurs approximately once a century. Automated systems, controlled by computer programs, respond to unexpected occurrences unpredictably.

Reasoning *What conclusion can be drawn about such a highly automated defense system?* The response of the system to *unexpected circumstances* is *unpredictable*, which means that no reliable information is available about how the system would respond to such unexpected circumstances, that is, to an event that the system was not designed to handle.

- A The fact that the system's response would be unpredictable does not justify a prediction that such a response would actually be inappropriate; it could just as well be appropriate. Neither are we told whether any particular meteorite event would produce such *unexpected circumstances*.
- B The premises offer no evidence that the system would be destroyed.
- C The given information does not tell us whether a system could be designed to distinguish between a nuclear blast and a meteorite explosion.
- D No information is given in the two premises about how the location of the explosion would affect the system.
- E **Correct.** This statement properly identifies the conclusion that the system's response to a meteorite explosion would be uncertain if the system had not been designed to handle such an event.

The correct answer is E.

58. If there is an oil-supply disruption resulting in higher international oil prices, domestic oil prices in open-market countries such as the United States will rise as well, whether such countries import all or none of their oil.

If the statement above concerning oil-supply disruptions is true, which of the following policies in an open-market nation is most likely to reduce the long-term economic impact on that nation of sharp and unexpected increases in international oil prices?

- (A) Maintaining the quantity of oil imported at constant yearly levels
- (B) Increasing the number of oil tankers in its fleet
- (C) Suspending diplomatic relations with major oil-producing nations
- (D) Decreasing oil consumption through conservation
- (E) Decreasing domestic production of oil

Evaluation of a Plan

Situation International oil prices rise when a disruption in the oil supply occurs; in this event, open-market countries experience a rise in domestic oil prices, even if they do not import any oil.

Reasoning *What policy will reduce the economic impact of oil price increases?* All open-market countries experience a rise in oil prices, even when they do not import oil. Thus importing oil is not the issue. A nation can soften the impact of price hikes by using less oil because decreasing oil consumption would decrease the need to purchase oil at increased prices; conservation is a way to lower consumption.

- A Not all countries import oil; for those that do, maintaining the level of oil imports when prices increase would not soften the economic impact of the price increases.
- B The number of oil tankers is irrelevant to the effect on the economy.
- C The diplomatic relationship between countries is irrelevant to the effect on the economy.
- D Correct.** *Conservation* suggests smaller energy consumption and more efficient use of energy—without curtailing necessary economic activity. Such a measure would help reduce the economic impact of increases in oil prices.
- E Decreasing domestic oil production would only make the situation worse.

The correct answer is D.

59. Boreal owls range over a much larger area than do other owls of similar size. The reason for this behavior is probably that the small mammals on which owls feed are especially scarce in the forests where boreal owls live, and the relative scarcity of prey requires the owls to range more extensively to find sufficient food.

Which of the following, if true, most helps to confirm the explanation above?

- (A) Some boreal owls range over an area eight times larger than the area over which any other owl of similar size ranges.
- (B) Boreal owls range over larger areas in regions where food of the sort eaten by small mammals is sparse than they do in regions where such food is abundant.
- (C) After their young hatch, boreal owls must hunt more often than before in order to feed both themselves and their newly hatched young.
- (D) Sometimes individual boreal owls hunt near a single location for many weeks at a time and do not range farther than a few hundred yards.
- (E) The boreal owl requires less food, relative to its weight, than is required by members of other owl species.

Argument Evaluation

Situation The small mammals on which owls prey are relatively scarce in the forests where boreal owls live. That is why boreal owls range more extensively than do other, similarly sized owls in search of food.

Reasoning *Which choice, if true, would most help confirm the proposed explanation?* One way to confirm an explanation is by finding further information that one would expect to be true *if* the explanation is valid. If the explanation in the passage is valid, then one would expect that variations in the population density of available small-animal prey for boreal owls would be accompanied by variations in the ranges of the boreal owls. Naturally the population density of available small-animal prey is likely to be affected by how plentiful food is for those small animals.

- A The comparison between different groups of boreal owls is not relevant to the comparison between boreal owls and other owls.
- B Correct.** This indicates that abundance of food for the boreal owls' small-animal prey in an area (and therefore abundance of small animals in that area) correlates with a smaller range for the boreal owls there. This strengthens the proposed explanation.
- C This option concerns a correlation between owls' need for food and the frequency with which owls hunt, whereas the phenomenon described in the passage and the proposed explanation have to do with the range over which owls hunt.
- D If one were to assume that boreal owls never hunt near a single location for weeks, that would in no way undermine the proposed explanation.
- E If anything, this option tends to undermine the proposed explanation, because it suggests the possibility that boreal owls need not make up for the relative scarcity of prey in their habitats by ranging over larger areas.

The correct answer is B.

60. The tobacco industry is still profitable and projections are that it will remain so. In the United States this year, the total amount of tobacco sold by tobacco farmers has increased, even though the number of adults who smoke has decreased.

Each of the following, if true, could explain the simultaneous increase in tobacco sales and decrease in the number of adults who smoke EXCEPT:

- (A) During this year, the number of women who have begun to smoke is greater than the number of men who have quit smoking.
- (B) The number of teenage children who have begun to smoke this year is greater than the number of adults who have quit smoking during the same period.
- (C) During this year, the number of nonsmokers who have begun to use chewing tobacco or snuff is greater than the number of people who have quit smoking.
- (D) The people who have continued to smoke consume more tobacco per person than they did in the past.
- (E) More of the cigarettes made in the United States this year were exported to other countries than was the case last year.

Argument Construction

Situation The number of adult Americans who smoke has decreased, but the amount of tobacco sold has increased.

Reasoning *Which point does NOT help explain the apparent discrepancy between the decrease in adult smokers and the increase in tobacco sales?* Many possible explanations exist: an increase in teenage smokers, tobacco's use in products that are not smoked, increased consumption by the remaining smokers, an increase in tobacco exports, and so on. To answer this question, use the process of elimination to find the choice that does NOT provide an explanation.

- A Correct.** This information is compatible with an overall decrease in adult smokers but also with an overall *increase in adult smokers*. How many new male smokers were there? How many women quit smoking? We are not told—so the information provided in this choice cannot explain the overall decrease in adult smokers. But since it is compatible with an overall decrease, it is not a sufficient explanation of increased tobacco sales.
- B** A rise in teenager smokers would offset the decline in adult smokers and so could explain the paradox.
- C** Rising tobacco sales despite a decrease in smokers could be explained by an increase in the use of snuff and chewing tobacco by nonsmokers.
- D** Even though there are now fewer smokers, if these remaining smokers smoked substantially more, then the rise in tobacco sales could be explained.
- E** Rising exports could explain rising tobacco sales at a time when fewer adult Americans smoke.

The correct answer is A.

61. A milepost on the towpath read “21” on the side facing the hiker as she approached it and “23” on its back. She reasoned that the next milepost forward on the path would indicate that she was halfway between one end of the path and the other. However, the milepost one mile further on read “20” facing her and “24” behind.

Which of the following, if true, would explain the discrepancy described above?

- (A) The numbers on the next milepost had been reversed.
- (B) The numbers on the mileposts indicate kilometers, not miles.
- (C) The facing numbers indicate miles to the end of the path, not miles from the beginning.
- (D) A milepost was missing between the two the hiker encountered.
- (E) The mileposts had originally been put in place for the use of mountain bikers, not for hikers.

Argument Construction

Situation A hiker sees a milepost marked 21 on one side and 23 on the other. She expects the next milepost to read 22 on both sides. However, the actual sign says 20 and 24.

Reasoning *What explains the discrepancy?* The hiker assumes that the number facing her is the distance she has traveled from her journey’s beginning and that the other number is the distance to her journey’s end. That is, at the first milepost she believes she has come 21 miles and has 23 miles left to go. In fact, the numbers are actually the reverse of her reasoning. At the second milepost she has 20 miles left to go and has come 24 miles.

- A Reversing the numbers would not make any difference; according to the hiker’s (incorrect) reasoning, both numbers would be 22.
- B What unit of measurement is used is irrelevant to the hiker’s misinterpretation of the mileposts.
- C **Correct.** This statement resolves the discrepancy between the true meaning of the mileposts and the hiker’s expectation about them by showing how the hiker misinterpreted the mileposts.
- D A missing milepost would not explain the discrepancy. If there had been a missing milepost with 22 on each side, its discrepancy with the 20/24 milepost would also need explanation.
- E The numbers are measures of distance, not time, so the mode of transportation is irrelevant.

The correct answer is C.

62. In response to viral infection, the immune systems of mice typically produce antibodies that destroy the virus by binding to proteins on its surface. Mice infected with a herpesvirus generally develop keratitis, a degenerative disease affecting part of the eye. Since proteins on the surface of cells in this part of the eye closely resemble those on the herpesvirus surface, scientists hypothesize that these cases of keratitis are caused by antibodies to herpesvirus.

Which of the following, if true, gives the greatest additional support to the scientists' hypothesis?

- (A) Other types of virus have surface proteins that closely resemble proteins found in various organs of mice.
- (B) There are mice that are unable to form antibodies in response to herpes infections, and these mice contract herpes at roughly the same rate as other mice.
- (C) Mice that are infected with a herpesvirus but do not develop keratitis produce as many antibodies as infected mice that do develop keratitis.
- (D) There are mice that are unable to form antibodies in response to herpes infections, and these mice survive these infections without ever developing keratitis.
- (E) Mice that have never been infected with a herpesvirus can sometimes develop keratitis.

Argument Evaluation

Situation Scientists hypothesize that the reason most mice infected with a herpesvirus develop keratitis, a degenerative eye disease, is because the antibodies from the mouse's immune system attack proteins on the eye's surface by mistake. This is because proteins in certain eye cells closely resemble the virus proteins that antibodies attack.

Reasoning *Which option, if true, would provide the greatest additional support for the scientists' hypothesis attempting to explain why keratitis occurs?* When x is thought to cause y , it is important to consider whether y occurs even when x is absent: if it does not, that strengthens the notion that x is causing y in those cases where they occur together. If the scientists' hypothesis is correct, and the antibodies produced by the mice's immune systems to combat the herpesvirus are causing the keratitis, we should not expect to find keratitis in herpes-infected mice whose immune systems are not producing those antibodies. Thus, the scientists' hypothesis is supported by the finding that herpes-infected mice that do not produce antibodies do not develop keratitis.

- A The issue at hand concerns only the herpesvirus, so this choice is of little, if any, relevance.
- B This finding has no bearing on the hypothesis, for it concerns merely the connection between the antibodies and the development of the herpesvirus disease, whereas the hypothesis concerns the connection between the antibodies and the development of keratitis.
- C This finding, if anything, undermines the hypothesis, for if antibodies produced in response to the herpesvirus were indeed causing the keratitis, one would expect that at least in some of the cases in which mice with herpesvirus do not develop keratitis it is because they are deficient in antibodies to the virus.
- D Correct.** The fact that herpes-infected mice that are unable to develop antibodies against herpes do not get keratitis confirms the scientists' hypothesis.
- E This finding does not support the hypothesis and may in fact mildly weaken it, for it suggests that keratitis in herpes-infected mice may be unrelated to the organism's response to the virus.

The correct answer is D.

63. Traditionally, decision making by managers that is reasoned step-by-step has been considered preferable to intuitive decision making. However, a recent study found that top managers used intuition significantly more than did most middle- or lower-level managers. This confirms the alternative view that intuition is actually more effective than careful, methodical reasoning.

The conclusion above is based on which of the following assumptions?

- (A) Methodical, step-by-step reasoning is inappropriate for making many real-life management decisions.
- (B) Top managers have the ability to use either intuitive reasoning or methodical, step-by-step reasoning in making decisions.
- (C) The decisions made by middle- and lower-level managers can be made as easily by using methodical reasoning as by using intuitive reasoning.
- (D) Top managers use intuitive reasoning in making the majority of their decisions.
- (E) Top managers are more effective at decision making than middle- or lower-level managers.

Argument Construction

Situation Intuition, used significantly more by top managers than by middle- or lower-level managers, is found to be more effective than step-by-step reasoning in making decisions.

Reasoning *What assumption does the argument make?* The study shows that top managers use intuition more in decision making than the other managers do. The conclusion is then drawn that intuition is more effective. But the stated premises on their own provide inadequate support for the conclusion, so it is reasonable to think that the argument must be based on an unstated assumption, such as the assumption that top managers, when employing intuitive decision making, make more effective decisions than middle- and lower-level managers. Without some such assumption, the argument fails.

- A While the argument is consistent with this idea, the inappropriateness of step-by-step reasoning is not assumed.
- B Top managers' ability to switch decision methods does not help to show that one method is better than the other.
- C The effectiveness of decision-making methods, not the ease with which the methods are applied, is the subject of the argument.
- D The argument would not necessarily fail if something incompatible with this statement were assumed—for example, if it were assumed that top managers use intuition only in *half* of their decisions. Thus this statement does not have to be assumed. Moreover, even if this statement were to be added as an assumption to the stated premises, the support for the conclusion would still be inadequate unless some additional assumption were made.
- E **Correct.** This is the best choice for the missing assumption. Without some such assumption, the argument would fail.

The correct answer is E.

64. High levels of fertilizer and pesticides, needed when farmers try to produce high yields of the same crop year after year, pollute water supplies. Experts therefore urge farmers to diversify their crops and to rotate their plantings yearly.

To receive governmental price-support benefits for a crop, farmers must have produced that same crop for the past several years.

The statements above, if true, best support which of the following conclusions?

- (A) The rules for governmental support of farm prices work against efforts to reduce water pollution.
- (B) The only solution to the problem of water pollution from fertilizers and pesticides is to take farmland out of production.
- (C) Farmers can continue to make a profit by rotating diverse crops, thus reducing costs for chemicals, but not by planting the same crop each year.
- (D) New farming techniques will be developed to make it possible for farmers to reduce the application of fertilizers and pesticides.
- (E) Governmental price supports for farm products are set at levels that are not high enough to allow farmers to get out of debt.

Argument Construction

Situation Farmers are urged to rotate crops annually because the chemicals they must use when continuing to produce the same crops pollute water supplies. On the other hand, farmers may receive federal price-support benefits only if they have been producing the same crop for the past several years.

Reasoning *What conclusion can be drawn from this information?* Farmers wish to receive the price-support benefits offered by the government, so they grow the same crop for several years. In order to continue getting good yields, they use the high levels of chemicals necessary when the same crop is grown from year to year. The result is water pollution. The government's rules for price-support benefits work against the efforts to reduce water pollution.

- A Correct.** This statement properly identifies the conclusion supported by the evidence.
- B** The experts cited in the passage believe that the rotation of crops is the solution, not the removal of farmland from production.
- C** The conclusion that farmers cannot make a profit by producing the same crop year after year is not justified by the information given in the premises. The information given suggests that this conclusion would actually be false, since these farmers would benefit by price-support measures for such a crop.
- D** No information in the passage supports a conclusion about farming techniques other than crop diversification and rotation, which are clearly existing farming techniques and not new or yet to be developed.
- E** This conclusion is unwarranted because there is no information in the two statements about the levels of the price supports and of the farmers' debts.

The correct answer is A.

65. Which of the following most logically completes the argument?

Utrania was formerly a major petroleum exporter, but in recent decades economic stagnation and restrictive regulations inhibited investment in new oil fields. In consequence, Utranian oil exports dropped steadily as old fields became depleted. Utrania's currently improving economic situation, together with less-restrictive regulations, will undoubtedly result in the rapid development of new fields. However, it would be premature to conclude that the rapid development of new fields will result in higher oil exports, because _____.

- (A) the price of oil is expected to remain relatively stable over the next several years
- (B) the improvement in the economic situation in Utrania is expected to result in a dramatic increase in the proportion of Utranians who own automobiles
- (C) most of the investment in new oil fields in Utrania is expected to come from foreign sources
- (D) new technology is available to recover oil from old oil fields formerly regarded as depleted
- (E) many of the new oil fields in Utrania are likely to be as productive as those that were developed during the period when Utrania was a major oil exporter

Argument Construction

Situation A country that had been a major oil exporter has seen its exports decline in recent decades due to economic stagnation, a failure to invest in new fields, and the steady depletion of its old fields. But looser regulations and an improving economy will bring rapid development of new oil fields in the country.

Reasoning *Which of the options would most logically complete the argument?* The passage describes the conditions that led to Utrania's no longer being a major oil exporter: a lack of investment in new oil fields due to a stagnant economy and restrictive regulations. The passage then says that due to changed regulatory and economic conditions, there will now be rapid development of new oil fields. Nonetheless, this might not bring about an increase in Utrania's oil exports. To logically complete the argument, one must explain how oil exports might not increase even when the condition that led to decreased oil exports has been removed. Suppose there were an increase in domestic oil consumption. A dramatic increase in the rate of car ownership in Utrania could reasonably be expected to significantly increase domestic oil consumption, which could eat up the added oil production from the new fields.

- A This choice is incorrect. There is no reason why stable oil prices should prevent Utrania's oil exports from increasing.
- B **Correct.** An increase in car ownership would increase Utrania's oil consumption—and this supports the claim that oil exports might not increase.
- C If anything, this suggests that oil exports should increase. So it would not be a good choice for completion of the argument.
- D The advent of new technology allowing oil to be extracted from fields previously thought to be depleted would mean that there is even more reason to think that Utrania's oil exports will increase.
- E This does not help to explain why exports would not increase. On the contrary, it suggests that the new fields will lead to increased exports.

The correct answer is B.

66. Hardin argued that grazing land held in common (that is, open to any user) would always be used less carefully than private grazing land. Each rancher would be tempted to overuse common land because the benefits would accrue to the individual, while the costs of reduced land quality that results from overuse would be spread among all users. But a study comparing 217 million acres of common grazing land with 433 million acres of private grazing land showed that the common land was in better condition.

The answer to which of the following questions would be most useful in evaluating the significance, in relation to Hardin's claim, of the study described above?

- (A) Did any of the ranchers whose land was studied use both common and private land?
- (B) Did the ranchers whose land was studied tend to prefer using common land over using private land for grazing?
- (C) Was the private land that was studied of comparable quality to the common land before either was used for grazing?
- (D) Were the users of the common land that was studied at least as prosperous as the users of the private land?
- (E) Were there any owners of herds who used only common land, and no private land, for grazing?

Argument Evaluation

Situation Hardin claims that common grazing land is used less carefully than private grazing land because each rancher tries to get the most benefit from the common land, thus overusing it. Contrary to this claim, a study comparing common grazing land with private grazing land found the common land to be in better condition.

Reasoning *What other information might be useful in evaluating the study?* The study finds that common grazing land was in better condition than private grazing land, which seems to undermine Hardin's argument. To decide whether the study finding really undermines the argument, we need to ask whether the comparison between the common and the private grazing land was sound. In determining this, we need to know, not just how the lands compared *after* grazing use, but also how the lands compared *before* that use. For example, the private land may have been greatly inferior to the public land even before grazing began. If this were the case, the comparison providing the study finding would have been invalid, and the study finding would not succeed in undermining Hardin's argument.

- A It does not matter whether ranchers used one or both types of lands; only the relative condition of the two kinds of lands matters.
- B The ranchers' preferences are not being questioned.
- C **Correct.** This question raises the issue of whether the study finding was based on a valid comparison of like with like.
- D The prosperity of the ranchers is irrelevant to the condition of the two types of grazing lands.
- E It does not matter if some ranchers used only common lands because it is the relative condition of the lands that is important.

The correct answer is C.

67. A compelling optical illusion called the illusion of velocity and size makes objects appear to be moving more slowly the larger the objects are. Therefore, a motorist's estimate of the time available for crossing a highway with a small car approaching is bound to be lower than it would be with a large truck approaching.

The conclusion above would be more properly drawn if it were made clear that the

- (A) truck's speed is assumed to be lower than the car's
- (B) truck's speed is assumed to be the same as the car's
- (C) truck's speed is assumed to be higher than the car's
- (D) motorist's estimate of time available is assumed to be more accurate with cars approaching than with trucks approaching
- (E) motorist's estimate of time available is assumed to be more accurate with trucks approaching than with cars approaching

Argument Construction

Situation An optical illusion makes objects appear to be moving more slowly the larger they are. It is concluded that a driver's estimate of the time available to cross a highway is lower with a small car approaching than with a large truck approaching.

Reasoning *What underlying assumption is made in the reasoning?* From the given premise about the optical illusion, we can infer that, to a motorist crossing a highway, a car actually approaching at 60 miles an hour seems significantly faster than a large truck that is approaching at the same speed. The motorist's estimate of time available to cross will thus be larger for the truck than for the car. The assumption stated here, but not stated in the passage, is that the car and truck are approaching *at the same speed*.

- A If the truck is moving more slowly than the car, then the driver's perception is accurate, and not affected by the optical illusion.
- B Correct.** This statement properly identifies an assumption implicit in the reasoning.
- C If the truck is moving faster than the car, the motorist might judge that the two vehicles were moving at the same speed—or even that the truck was moving faster.
- D It does not matter for which type of vehicle the driver's estimate of lead time is more accurate; this assumption is not helpful in explaining the conclusion that the illusion makes larger objects appear to be moving more slowly than small objects.
- E This contradicts information in the passage indicating that the larger the vehicle, the larger the distortion in the perceived speed.

The correct answer is B.

68. Manufacturers sometimes discount the price of a product to retailers for a promotion period when the product is advertised to consumers. Such promotions often result in a dramatic increase in amount of product sold by the manufacturers to retailers. Nevertheless, the manufacturers could often make more profit by not holding the promotions.

Which of the following, if true, most strongly supports the claim above about the manufacturers' profit?

- (A) The amount of discount generally offered by manufacturers to retailers is carefully calculated to represent the minimum needed to draw consumers' attention to the product.
- (B) For many consumer products the period of advertising discounted prices to consumers is about a week, not sufficiently long for consumers to become used to the sale price.
- (C) For products that are not newly introduced, the purpose of such promotions is to keep the products in the minds of consumers and to attract consumers who are currently using competing products.
- (D) During such a promotion retailers tend to accumulate in their warehouses inventory bought at discount; they then sell much of it later at their regular price.
- (E) If a manufacturer fails to offer such promotions but its competitor offers them, that competitor will tend to attract consumers away from the manufacturer's product.

Argument Construction

Situation During promotion periods, manufacturers discount prices and dramatically increase the amount of product sold to retailers. However, manufacturers might make more profit without the promotions.

Reasoning *How could promotion periods cut profits?* It is stated that promotion periods result in increased product sales to retailers. How could such sales decrease the manufacturers' potential profits? If retailers buy more than they can sell during the promotion period, they will store the surplus in warehouses and sell it later at the regular price. Manufacturers lose their normal profits on these sales; moreover, the manufacturer will not be filling orders while the surplus exists. The resulting losses may be greater than any gains from increasing sales or winning new customers during the brief promotion period.

- A Calculating the minimum amount of discount should lead to greater profit for manufacturers, so this statement does not explain the potential loss of profit.
- B The brevity of the promotion period favors manufacturers because consumers do not become accustomed to the lower price.
- C Attracting customers' attention should contribute to higher, not lower, profit.
- D Correct.** This statement properly identifies a factor that strengthens the argument.
- E Since the failure to offer promotions results in loss of customers to competitors, this statement shows that manufacturers gain by promotions.

The correct answer is D.

69. When people evade income taxes by not declaring taxable income, a vicious cycle results. Tax evasion forces lawmakers to raise income tax rates, which causes the tax burden on nonevading taxpayers to become heavier. This, in turn, encourages even more taxpayers to evade income taxes by hiding taxable income.

The vicious cycle described above could not result unless which of the following were true?

- (A) An increase in tax rates tends to function as an incentive for taxpayers to try to increase their pretax incomes.
- (B) Some methods for detecting tax evaders, and thus recovering some tax revenue lost through evasion, bring in more than they cost, but their success rate varies from year to year.
- (C) When lawmakers establish income tax rates in order to generate a certain level of revenue, they do not allow adequately for revenue that will be lost through evasion.
- (D) No one who routinely hides some taxable income can be induced by a lowering of tax rates to stop hiding such income unless fines for evaders are raised at the same time.
- (E) Taxpayers do not differ from each other with respect to the rate of taxation that will cause them to evade taxes.

Argument Construction

Situation When some people evade income taxes by hiding taxable income, income tax rates must be raised, placing a heavier tax burden on honest taxpayers. The higher rate, in turn, encourages more people to conceal taxable income.

Reasoning *What must be true in order for this cycle to occur?* Consider the factors that are assumed to drive this cycle. It is said that tax evasion *forces* legislative increases in tax rates to cover the loss of tax revenues. This would be true only if lawmakers, when considering what income tax rates to establish, had failed to sufficiently take into account the amount of revenue that would inevitably be lost to evasion.

- A Any incentive to increase pretax incomes would counter the reported tendency to conceal income and thus break the cycle.
- B Success in detecting tax evaders, no matter how variable or cost-effective, inhibits tax evasion and breaks the cycle.
- C **Correct.** This statement properly identifies the argument's underlying assumption that lawmakers fail to consider the revenue lost to evasion when they determine tax rates, forcing the increased tax rates that drive the cycle.
- D Higher fines deter evaders and thus break the cycle.
- E This is not an assumption of the argument. If it were true, the cycle could never get started. Either everyone would evade taxes or no one would.

The correct answer is C.

70. Plantings of cotton bioengineered to produce its own insecticide against bollworms, a major cause of crop failure, sustained little bollworm damage until this year. This year the plantings are being seriously damaged by bollworms. Bollworms, however, are not necessarily developing resistance to the cotton's insecticide. Bollworms breed on corn, and last year more corn than usual was planted throughout cotton-growing regions. So it is likely that the cotton is simply being overwhelmed by corn-bred bollworms.

In evaluating the argument, which of the following would it be most useful to establish?

- (A) Whether corn could be bioengineered to produce the insecticide
- (B) Whether plantings of cotton that does not produce the insecticide are suffering unusually extensive damage from bollworms this year
- (C) Whether other crops that have been bioengineered to produce their own insecticide successfully resist the pests against which the insecticide was to protect them
- (D) Whether plantings of bioengineered cotton are frequently damaged by insect pests other than bollworms
- (E) Whether there are insecticides that can be used against bollworms that have developed resistance to the insecticide produced by the bioengineered cotton

Argument Evaluation

Situation Although plantings of cotton bioengineered to produce an insecticide to combat bollworms were little damaged by the pests in previous years, they are being severely damaged this year. Since the bollworms breed on corn, and there has been more corn planted this year in cotton-growing areas, the cotton is probably being overwhelmed by the corn-bred bollworms.

Reasoning *In evaluating the argument, which question would it be most useful to have answered?* The argument states that the bioengineered cotton crop failures this year (1) have likely been due to the increased corn plantings and (2) not due to the pests having developed a resistance to the insecticide. This also implies (3) that the failures are not due to some third factor.

It would be useful to know how the bioengineered cotton is faring in comparison to the rest of this year's cotton crop. If the bioengineered cotton is faring better against the bollworms, that fact would support the argument because it would suggest that the insecticide is still combating bollworms. If, on the other hand, the bioengineered cotton is being more severely ravaged by bollworms than is other cotton, that suggests that there is some third cause that is primarily at fault.

- A This would probably be useful information to those trying to alleviate the bollworm problem in bioengineered cotton. But whether such corn could be developed has no bearing on what is causing the bioengineered cotton to be damaged by bollworms this year.
- B Correct.** If bollworm damage on non-bioengineered cotton is worse than usual this year, then bollworm infestation in general is simply worse than usual, so pesticide resistance does not need to be invoked to explain the bollworm attacks on the bioengineered cotton.
- C Even if other crops that have been bioengineered to resist pests have not successfully resisted them, that fact would not mean that the same is true of this cotton. Furthermore, the facts already suggest that the bioengineered cotton has resisted bollworms.
- D Whether other types of pests often damage bioengineered cotton has no bearing on why bollworms are damaging this type of cotton more this year than in the past.
- E This, too, might be useful information to those trying to alleviate the bollworm problem in bioengineered cotton, but it is not particularly useful in evaluating the argument. Even if there are pesticides that could be used against bollworms that have developed resistance to the insecticide of the bioengineered cotton, that does not mean that such pesticides are being used this year.

The correct answer is B.

71. Because postage rates are rising, *Home Decorator* magazine plans to maximize its profits by reducing by one-half the number of issues it publishes each year. The quality of articles, the number of articles published per year, and the subscription price will not change. Market research shows that neither subscribers nor advertisers will be lost if the magazine's plan is instituted.

Which of the following, if true, provides the strongest evidence that the magazine's profits are likely to decline if the plan is instituted?

- (A) With the new postage rates, a typical issue under the proposed plan would cost about one-third more to mail than a typical current issue would.
- (B) The majority of the magazine's subscribers are less concerned about a possible reduction in the quantity of the magazine's articles than about a possible loss of the current high quality of its articles.
- (C) Many of the magazine's long-time subscribers would continue their subscriptions even if the subscription price were increased.
- (D) Most of the advertisers that purchase advertising space in the magazine will continue to spend the same amount on advertising per issue as they have in the past.
- (E) Production costs for the magazine are expected to remain stable.

Evaluation of a Plan

Situation In the face of rising postage costs, a magazine decides to cut in half the number of issues it publishes a year, though the quality and quantity of the articles as well as the subscription price will remain the same. Market research indicates that this plan will not cost the magazine any subscribers or advertisers.

Reasoning *How might the plan cause profits to decline?* The magazine plans to maximize profits by reducing costs. What could lead to lower profits despite lower costs? Profits could decline if revenue is lost—and revenue will be lost if advertisers spend the same amount on advertising per issue when the number of issues is reduced by half. Therefore, the advertising revenues will be cut in half and a significant decline in profits is likely to result.

- A If the number of issues is cut in half and the postage rate per issue goes up by a third, then mailing costs still go down. This statement does not suggest that the plan will cause a decline in profits.
- B This statement is irrelevant to the magazine's profitability given the stated point that the quantity and quality of articles will not change.
- C The passage says that the subscription price will not increase under the plan, so this statement provides no useful evidence.
- D **Correct.** This statement properly identifies evidence of a flaw in the plan. While market research shows that *advertisers* will not be lost, this statement shows that a significant amount of *advertising* will be lost.
- E Stable production costs would not lead to a decline in profits.

The correct answer is D.

72. A discount retailer of basic household necessities employs thousands of people and pays most of them at the minimum wage rate. Yet following a federally mandated increase of the minimum wage rate that increased the retailer's operating costs considerably, the retailer's profits increased markedly.

Which of the following, if true, most helps to resolve the apparent paradox?

- (A) Over half of the retailer's operating costs consist of payroll expenditures; yet only a small percentage of those expenditures go to pay management salaries.
- (B) The retailer's customer base is made up primarily of people who earn, or who depend on the earnings of others who earn, the minimum wage.
- (C) The retailer's operating costs, other than wages, increased substantially after the increase in the minimum wage rate went into effect.
- (D) When the increase in the minimum wage rate went into effect, the retailer also raised the wage rate for employees who had been earning just above minimum wage.
- (E) The majority of the retailer's employees work as cashiers, and most cashiers are paid the minimum wage.

Argument Evaluation

Situation A discount retailer of household necessities pays the minimum wage to most of its employees. When the minimum wage rate went up, the retailer's operating costs rose. However, its profits also rose.

Reasoning *What information helps explain the paradoxical situation that the retailer's profits rose even though its costs rose?* Consider the nature of the cost increase: wages have gone up. If the retailer's customer base includes many people who earn minimum wage, their buying power has risen with the minimum wage and they can spend more. This would explain the rise in profits.

- A This statement helps explain the impact of the wage-rate increase on costs but does not explain how rising costs could lead to profits.
- B Correct.** This statement properly explains the surprising impact of the wage-rate increase on profits.
- C If the retailer's other costs also rose, then the paradox of the retailer's profits is even more mysterious.
- D Increasing other wages contributes to even higher operating costs; there is no information to explain how higher costs could lead to profits.
- E This detail about minimum-wage jobs does not explain how the retailer could be gaining profits when costs are rising.

The correct answer is B.

73. The cotton farms of Country Q became so productive that the market could not absorb all that they produced. Consequently, cotton prices fell. The government tried to boost cotton prices by offering farmers who took 25 percent of their cotton acreage out of production direct support payments up to a specified maximum per farm.

The government's program, if successful, will not be a net burden on the budget. Which of the following, if true, is the best basis for an explanation of how this could be so?

- (A) Depressed cotton prices meant operating losses for cotton farms, and the government lost revenue from taxes on farm profits.
- (B) Cotton production in several countries other than Q declined slightly the year that the support-payment program went into effect in Q.
- (C) The first year that the support-payment program was in effect, cotton acreage in Q was 5 percent below its level in the base year for the program.
- (D) The specified maximum per farm meant that for very large cotton farms the support payments were less per acre for those acres that were withdrawn from production than they were for smaller farms.
- (E) Farmers who wished to qualify for support payments could not use the cotton acreage that was withdrawn from production to grow any other crop.

Evaluation of a Plan

Situation Overproduction of cotton had led to falling prices. To boost prices, the government offered direct support payments to farmers who took 25 percent of their cotton acreage out of production. Surprisingly, this plan, if successful, will not be a net burden on the budget.

Reasoning *What would explain why the plan will not a net burden?* It will not be a net burden only if as much or more will be added to the budget revenue as the amount paid out in support payments. What government revenues would account for such an increase in receipts? If, when cotton prices were falling, the cotton farmers had lower profits, they were paying lower taxes to the government. When cotton prices increase (because less cotton is offered in the market) and cotton farmers make greater profits, the government is able to tax those profits. In the program, the increased tax revenue compensates for the added expenditure.

- A **Correct.** This statement properly explains how no net budget loss would result from the plan.
- B The decline in cotton production in other countries does not explain why the program will not be a net burden on the budget.
- C The difference in cotton acreage does not explain how the government can recover the costs of the direct-payment plan.
- D This statement spells out an implication of the plan but does not help to explain how the plan would not be a net burden on the budget. The passage states that payments are made *up to* a specified maximum per farm, which suggests that large farms will get less per acre than smaller farms.
- E This does not help to explain how the plan could fail to produce a net budget loss. It suggests that farmers cannot use the idled land for other revenue-producing activities—so the idled land is unlikely to be a revenue source for the government budget.

The correct answer is A.

74. A product that represents a clear technological advance over competing products can generally command a high price. Because **technological advances tend to be quickly surpassed** and companies want to make large profits while they still can, **many companies charge the maximum possible price for such a product**. But large profits on the new product will give competitors a strong incentive to quickly match the new product's capabilities. Consequently, the strategy to maximize overall profit from a new product is to charge less than the greatest possible price.

In the argument above, the two portions in **boldface** play which of the following roles?

- (A) The first is a consideration raised to argue that a certain strategy is counterproductive; the second presents that strategy.
- (B) The first is a consideration raised to support the strategy that the argument recommends; the second presents that strategy.
- (C) The first is a consideration raised to help explain the popularity of a certain strategy; the second presents that strategy.
- (D) The first is an assumption, rejected by the argument, that has been used to justify a course of action; the second presents that course of action.
- (E) The first is a consideration that has been used to justify adopting a certain strategy; the second presents the intended outcome of that strategy.

Argument Construction

Situation Often, when a company comes out with an innovative product, it will price the product as high as it can to maximize profits before the competitors quickly catch up. But this is not a good strategy because the very high price of the new product only encourages competitors to match the technological advance more quickly.

Reasoning *Which option best describes the roles that the boldface portions play in the argument?* This type of item concerns only the argument's structure—the way it is intended to work, not the quality of the argument or what might strengthen or weaken the argument. So even if a boldface portion could be used by the argument in a certain way, all that matters is its actual intended role. The fact that *technological advances tend to be quickly surpassed* serves to partly explain why *many companies charge the maximum possible price for such a product*. In other words, the first boldface portion helps explain the popularity of the strategy presented in the second boldface portion. The conclusion of the argument, however, is that the strategy exemplified in this latter boldface portion is unwise, so the argument as a whole opposes that strategy.

- A Although the first boldface portion could be used as part of an argument that the strategy presented in the second boldface portion is counterproductive, that is not how it is used here. Rather, it immediately follows the word *because* and serves to explain the occurrence of what is described in the second boldface portion.
- B This is clearly wrong because the second boldface portion presents the strategy that the argument opposes.
- C **Correct.** It is the only choice that is consistent with the analysis of the reasoning presented above.
- D The first boldface portion is not an assumption rejected by the argument; rather, it is affirmed in the argument.
- E The argument does not expressly claim that the first boldface portion has been used to justify the strategy of setting the price as high as possible, although it implies that this is part of the justification that those adopting the strategy would give. More clearly, the second boldface portion does not describe the intended outcome of the strategy, but rather the means of bringing about that intended outcome (maximizing profits, by means of high prices).

The correct answer is C.

75. United States hospitals have traditionally relied primarily on revenues from paying patients to offset losses from unreimbursed care. Almost all paying patients now rely on governmental or private health insurance to pay hospital bills. Recently, insurers have been strictly limiting what they pay hospitals for the care of insured patients to amounts at or below actual costs.

Which of the following conclusions is best supported by the information above?

- (A) Although the advance of technology has made expensive medical procedures available to the wealthy, such procedures are out of the reach of low-income patients.
- (B) If hospitals do not find ways of raising additional income for unreimbursed care, they must either deny some of that care or suffer losses if they give it.
- (C) Some patients have incomes too high for eligibility for governmental health insurance but are unable to afford private insurance for hospital care.
- (D) If the hospitals reduce their costs in providing care, insurance companies will maintain the current level of reimbursement, thereby providing more funds for unreimbursed care.
- (E) Even though philanthropic donations have traditionally provided some support for the hospitals, such donations are at present declining.

Argument Construction

Situation Hospitals have historically used the revenues from paying patients to compensate for the costs of unreimbursed care, and most paying patients rely on insurance to pay the hospital bills. However, health insurers have recently begun to strictly limit what is paid to the hospitals to amounts at or below the hospital's actual costs.

Reasoning *What conclusion can be drawn from the information in the passage?* The passage shows that with the recent change, paying patients will no longer be helping to cover the costs of unreimbursed care. What will happen to unreimbursed care? Either the hospitals must figure out a new way to cover the costs, or they must deny care. The only other option is to suffer the losses incurred by unreimbursed care.

- A The passage does not examine specific medical procedures, so the conclusion that they are available only to some is not warranted.
- B Correct.** This statement properly identifies a conclusion that can be drawn from the passage.
- C The passage does not discuss differences between health insurance plans, so no conclusion about them can be drawn.
- D The passage states that insurance companies will only reimburse *amounts at or below actual costs*, so any reductions in the costs of health care delivery will result in lower reimbursements.
- E No information is provided about the role of philanthropic donations, so no conclusion about them may be drawn.

The correct answer is B.

76. Generally scientists enter their field with the goal of doing important new research and accept as their colleagues those with similar motivation. Therefore, when any scientist wins renown as an expounder of science to general audiences, most other scientists conclude that this popularizer should no longer be regarded as a true colleague.

The explanation offered above for the low esteem in which scientific popularizers are held by research scientists assumes that

- (A) serious scientific research is not a solitary activity, but relies on active cooperation among a group of colleagues
- (B) research scientists tend not to regard as colleagues those scientists whose renown they envy
- (C) a scientist can become a famous popularizer without having completed any important research
- (D) research scientists believe that those who are well known as popularizers of science are not motivated to do important new research
- (E) no important new research can be accessible to or accurately assessed by those who are not themselves scientists

Argument Construction

Situation Research scientists desire to do important new research and treat as colleagues just those who have a similar desire. When a scientist becomes popular among a general audience for explaining principles of science, other scientists have less esteem for this popularizer, no longer regarding such a scientist as a serious colleague.

Reasoning *What assumption do research scientists make about scientists who become popularizers?* The community of scientists shares a common goal: to do important new research. What would cause this community to disapprove of a popularizer and to cease to regard the popularizer as a colleague? It must be because many scientists believe that becoming a popularizer is incompatible with desiring to do important new research.

- A Many scientists make this assumption, of course—but it is not an assumption on which the explanation specifically depends. The explanation concerns the scientists' motivation, not their style of doing research.
- B This statement gives another reason that scientists may reject a popularizer, but because it is not the reason implied in the passage, it is not assumed.
- C Even if this is true, it does not address the core issue of the argument: what scientists believe about the *motivation* of popularizers.
- D **Correct.** This statement properly identifies an assumption on which the explanation for scientists' rejection of popularizers depends.
- E The passage is not concerned with whether nonscientists can understand new research, but rather with the beliefs and motivations of scientists who reject popularizers as colleagues.

The correct answer is D.

77. Country Y uses its scarce foreign-exchange reserves to buy scrap iron for recycling into steel. Although the steel thus produced earns more foreign exchange than it costs, that policy is foolish. Country Y's own territory has vast deposits of iron ore, which can be mined with minimal expenditure of foreign exchange.

Which of the following, if true, provides the strongest support for Country Y's policy of buying scrap iron abroad?

- (A) The price of scrap iron on international markets rose significantly in 1987.
- (B) Country Y's foreign-exchange reserves dropped significantly in 1987.
- (C) There is virtually no difference in quality between steel produced from scrap iron and that produced from iron ore.
- (D) Scrap iron is now used in the production of roughly half the steel used in the world today, and experts predict that scrap iron will be used even more extensively in the future.
- (E) Furnaces that process scrap iron can be built and operated in Country Y with substantially less foreign exchange than can furnaces that process iron ore.

Evaluation of a Plan

Situation A country could mine its vast deposits of iron ore with minimal expenditure of foreign exchange. Nevertheless, it uses its scarce foreign-exchange reserves to buy scrap iron for recycling into steel; this steel earns more foreign exchange than it costs to produce.

Reasoning *Which statement supports the policy of buying scrap iron abroad?* The country is using scant foreign-exchange reserves to buy scrap iron when it could instead be mining its own iron ore with minimal expenditure of foreign exchange. But if processing the scrap iron involves far less expenditure of foreign exchange than processing the raw iron ore, the policy is justified.

- A A significant increase in the international price of scrap iron would be a reason against the policy.
- B A significant drop in foreign-exchange reserves means that conserving the reserves is all the more important, so this statement provides no support for the current policy.
- C This statement helps to preempt a possible objection to the present policy—namely that steel from scrap iron is inferior to steel from iron ore. But it equally helps to preempt a possible objection to *changing* the present policy—namely that steel from iron ore is inferior to steel from scrap iron. It therefore provides no evidence that would weigh distinctly in favor of maintaining the present policy, as opposed to changing it.
- D The increasing use of scrap iron for recycling into steel merely suggests that steel from scrap iron is an acceptable alternative to steel from iron ore. This general claim does not address the issue of whether Country Y's policy involves a prudent use of foreign exchange.
- E **Correct.** This statement properly identifies a factor that supports the policy.

The correct answer is E.

78. Which of the following most logically completes the passage?

The figures in portraits by the Spanish painter El Greco (1541–1614) are systematically elongated. In El Greco's time, the intentional distortion of human figures was unprecedented in European painting. Consequently, some critics have suggested that El Greco had an astigmatism, a type of visual impairment, that resulted in people appearing to him in the distorted way that is characteristic of his paintings. However, this suggestion cannot be the explanation, because _____.

- (A) several twentieth-century artists have consciously adopted from El Greco's paintings the systematic elongation of the human form
- (B) some people do have elongated bodies somewhat like those depicted in El Greco's portraits
- (C) if El Greco had an astigmatism, then, relative to how people looked to him, the elongated figures in his paintings would have appeared to him to be distorted
- (D) even if El Greco had an astigmatism, there would have been no correction for it available in the period in which he lived
- (E) there were non-European artists, even in El Greco's time, who included in their works human figures that were intentionally distorted

Argument Construction

Situation Figures in portraits by the Spanish painter El Greco are elongated. Some critics infer that this was because El Greco suffered from an astigmatism that made people appear elongated to him. But this explanation cannot be correct.

Reasoning *Which option would most logically complete the argument?* We need something that provides the best reason for thinking that the explanation suggested by critics—astigmatism—cannot be right. The critics' explanation might seem to work because ordinarily an artist would try to paint an image of a person so that the image would have the same proportions as the perceived person. So if people seemed to El Greco to have longer arms and legs than they actually had, the arms and legs of the painted figures should appear to others to be longer than people's arms and legs normally are. This is how the explanation seems to make sense. But if astigmatism were the explanation, then the elongated images in his pictures should have appeared to El Greco to be too long: he would have perceived the images as longer than they actually are—and therefore as inaccurate representations of what he perceived. So astigmatism cannot be a sufficient explanation for the elongated figures in his paintings.

- A Even if subsequent artists intentionally depicted human forms as more elongated than human figures actually are, and they did so to mimic El Greco's painted figures, that does not mean that El Greco's figures were intentionally elongated.
- B Although this option provides another possible explanation for El Greco's elongated figures, it provides no evidence that the people El Greco painted had such elongated figures.
- C **Correct.** El Greco would have perceived the images of people in his paintings as too long, relative to his perception of the people themselves. This means that even if El Greco did have astigmatism, that factor would not provide an answer to the question: Why did El Greco paint images that he knew were distorted?
- D The absence of an ability to correct astigmatism in El Greco's day does not undermine the hypothesis that it was astigmatism that caused El Greco to paint elongated figures.
- E Again, this suggests another possible explanation for the distortion—namely, that El Greco did it deliberately—but it does not provide any reason to think that this is the correct explanation (and that the critics' explanation is actually incorrect).

The correct answer is C.

79. Consumer health advocate: Your candy company adds caffeine to your chocolate candy bars so that each one delivers a specified amount of caffeine. Since caffeine is highly addictive, this indicates that you intend to keep your customers addicted.

Candy manufacturer: Our manufacturing process results in there being less caffeine in each chocolate candy bar than in the unprocessed cacao beans from which the chocolate is made.

The candy manufacturer's response is flawed as a refutation of the consumer health advocate's argument because it

- (A) fails to address the issue of whether the level of caffeine in the candy bars sold by the manufacturer is enough to keep people addicted
- (B) assumes without warrant that all unprocessed cacao beans contain a uniform amount of caffeine
- (C) does not specify exactly how caffeine is lost in the manufacturing process
- (D) treats the consumer health advocate's argument as though it were about each candy bar rather than about the manufacturer's candy in general
- (E) merely contradicts the consumer health advocate's conclusion without giving any reason to believe that the advocate's reasoning is unsound

Argument Evaluation

Situation A candy manufacturer is accused of adding caffeine, an addictive substance, to its chocolate candy bars with the intent of keeping its customers addicted. The candy manufacturer responds to this accusation by saying that there is less caffeine in each chocolate candy bar than in the unprocessed cacao beans from which the chocolate is made.

Reasoning *What is the flaw in the candy manufacturer's response?* First consider whether the response indeed refutes the advocate's charge. In actuality, instead of focusing on the details of the accusation—adding caffeine to its chocolate bars to keep customers addicted—the manufacturer substitutes an entirely different subject, the amount of caffeine in cacao beans. The manufacturer's response is a diversion, not an answer.

- A Correct.** This statement properly identifies the flaw in the response. The candy manufacturer does not answer the question whether adding caffeine to candy bars is designed to make them addictive.
- B** Even if the manufacturer did make this assumption, the information is not relevant to the accusation, which is not concerned with naturally occurring caffeine in cacao beans.
- C** The precise amount of caffeine lost in the manufacturing process is not at issue.
- D** The manufacturer does not treat the health advocate's argument this way.
- E** The manufacturer does not contradict the accusation, but rather avoids it.

The correct answer is A.

80. To evaluate a plan to save money on office-space expenditures by having its employees work at home, XYZ Company asked volunteers from its staff to try the arrangement for six months. During this period, the productivity of these employees was as high as or higher than before.

Which of the following, if true, would argue most strongly against deciding, on the basis of the trial results, to implement the company's plan?

- (A) The employees who agreed to participate in the test of the plan were among the company's most self-motivated and independent workers.
- (B) The savings that would accrue from reduced office-space expenditures alone would be sufficient to justify the arrangement for the company, apart from any productivity increases.
- (C) Other companies that have achieved successful results from work-at-home plans have workforces that are substantially larger than that of XYZ.
- (D) The volunteers who worked at home were able to communicate with other employees as necessary for performing the work.
- (E) Minor changes in the way office work is organized at XYZ would yield increases in employee productivity similar to those achieved in the trial.

Evaluation of a Plan

Situation To save money on office space expenditures, a company considers having employees work at home. A six-month trial with employees who have volunteered to test the plan shows their productivity to be as high as or higher than before.

Reasoning *Why would the trial results NOT provide a good reason to implement the plan?*
Generalizing from a small sample to the group depends on having a sample that is representative. In this case, the employees who participated in the trial are not representative of all employees. The employees who volunteered for the trial may be the type of employees who would be most likely to work successfully at home. It would not be wise to base a generalization about all employees on this sample.

- A **Correct.** This statement properly identifies a flaw in the trial that is the basis for the plan.
- B This statement supports the implementation of the plan. Moreover, it is not based on the trial results, so it does not answer the question.
- C The passage gives no information about how company size might affect the implementation of the plan or the reliability of the trial results.
- D If anything, this would tend to support the plan.
- E The goal of the plan is to save money on office space, not to increase productivity, so an alternative plan to increase productivity is irrelevant.

The correct answer is A.

81. Political Advertisement:

Mayor Delmont's critics complain about the jobs that were lost in the city under Delmont's leadership. Yet the fact is that not only were more jobs created than were eliminated, but each year since Delmont took office the average pay for the new jobs created has been higher than that year's average pay for jobs citywide. So it stands to reason that throughout Delmont's tenure the average paycheck in this city has been getting steadily bigger.

Which of the following, if true, most seriously weakens the argument in the advertisement?

- (A) The unemployment rate in the city is higher today than it was when Mayor Delmont took office.
- (B) The average pay for jobs in the city was at a ten-year low when Mayor Delmont took office.
- (C) Each year during Mayor Delmont's tenure, the average pay for jobs that were eliminated has been higher than the average pay for jobs citywide.
- (D) Most of the jobs eliminated during Mayor Delmont's tenure were in declining industries.
- (E) The average pay for jobs in the city is currently lower than it is for jobs in the suburbs surrounding the city.

Argument Evaluation

Situation Every year since Mayor Delmont took office, average pay for new jobs has exceeded average pay for jobs citywide. So, the average paycheck in the city has been increasing since Delmont took office.

Reasoning *Which option, if true, would most seriously weaken the argument?* If average pay for new jobs continually exceeds that for jobs generally, new jobs pay better (on average) than old jobs that still exist. But suppose the following occurred. Every year all of the highest paying jobs are eliminated and replaced with somewhat lower-paying jobs that still pay more than the average job. The result would be that every year the average pay for a new job would be greater than that for existing jobs, but the average pay for all jobs would nonetheless decrease. Thus, if every year during the mayor's tenure the jobs that were eliminated paid better on average than jobs citywide, that would seriously weaken the argument: the conclusion could be false even if the information on which it is based is true.

- A The percentage of people in the city who have a job has no direct bearing on whether the average pay for jobs citywide is increasing or decreasing.
- B Whether the average pay was low when the mayor took office in comparison to the ten preceding years is immaterial to the comparison addressed in the argument's conclusion.
- C **Correct.** This information weakens the argument because it opens up the possibility that the jobs eliminated had higher average pay than the jobs created during Mayor Delmont's tenure. This in turn would mean that the average pay was not increasing during Mayor Delmont's tenure.
- D This, too, has no bearing on the argument, because we have no information about the average pay for jobs in those declining industries.
- E This is also irrelevant. No comparison is made (or implied) in the argument between jobs in the city and jobs in the suburbs.

The correct answer is C.

82. Vitacorp, a manufacturer, wishes to make its information booth at an industry convention more productive in terms of boosting sales. The booth offers information introducing the company's new products and services. To achieve the desired result, Vitacorp's marketing department will attempt to attract more people to the booth. The marketing director's first measure was to instruct each salesperson to call his or her five best customers and personally invite them to visit the booth.

Which of the following, if true, most strongly supports the prediction that the marketing director's first measure will contribute to meeting the goal of boosting sales?

- (A) Vitacorp's salespeople routinely inform each important customer about new products and services as soon as the decision to launch them has been made.
- (B) Many of Vitacorp's competitors have made plans for making their own information booths more productive in increasing sales.
- (C) An information booth that is well attended tends to attract visitors who would not otherwise have attended the booth.
- (D) Most of Vitacorp's best customers also have business dealings with Vitacorp's competitors.
- (E) Vitacorp has fewer new products and services available this year than it had in previous years.

Evaluation of a Plan

Situation A manufacturer wants increased sales from its information booth at an industry convention. To boost sales, the marketing department seeks to attract more people to the booth, and the marketing director tells the salespeople to invite their best customers to visit the booth.

Reasoning *Which point best supports the marketing director's plan?* First ask what would be a valid reason for inviting faithful customers to visit the booth. Such invitations should assure that the booth will generally be busy with visitors. If people are more attracted to a well-attended booth than to an empty one, then more potential customers are likely to visit the busy booth, and more visitors should produce more sales. The marketing director is operating on the principle that success breeds success. Making sure that the booth is well attended by Vitacorp's current customers is likely to attract more potential customers and thus boost sales.

- A If the best customers already have all available new product and service information, they are unlikely to respond to the invitation to visit the booth; this point is a weakness in the plan.
- B Competitors' efforts toward the same goal may hurt Vitacorp's efforts, so this point does not support the plan.
- C **Correct.** This statement properly identifies a point supporting the marketing director's plan.
- D The plan simply aims to attract more visitors to Vitacorp's booth to encourage more sales and does not address the fact that Vitacorp shares its customers with its competitors.
- E This information, if anything, would suggest that the plan would be less successful.

The correct answer is C.

83. An eyeglass manufacturer tried to boost sales for the summer quarter by offering its distributors a special discount if their orders for that quarter exceeded those for last year's summer quarter by at least 20 percent. Many distributors qualified for this discount. Even with much merchandise discounted, sales increased enough to produce a healthy gain in net profits. The manufacturer plans to repeat this success by offering the same sort of discount for the fall quarter.

Which of the following, if true, most clearly points to a flaw in the manufacturer's plan to repeat the successful performance of the summer quarter?

- (A) In general, a distributor's orders for the summer quarter are no higher than those for the spring quarter.
- (B) Along with offering special discounts to qualifying distributors, the manufacturer increased newspaper and radio advertising in those distributors' sales areas.
- (C) The distributors most likely to qualify for the manufacturer's special discount are those whose orders were unusually low a year earlier.
- (D) The distributors who qualified for the manufacturer's special discount were free to decide how much of that discount to pass on to their own customers.
- (E) The distributors' ordering more goods in the summer quarter left them overstocked for the fall quarter.

Evaluation of a Plan

Situation A manufacturer successfully boosted sales and gained net profits for the summer quarter by giving distributors a discount if their orders exceeded the previous summer's orders by 20 percent. The manufacturer plans to repeat the success by offering the discount again in the fall quarter.

Reasoning *What is the flaw in the manufacturer's plan?* The plan assumes that an action that succeeded once will work a second time. Why might the plan not work this time? If the distributors increased their orders during the summer simply because they were eager to take advantage of the discount, the result may be that they are now overstocked for the fall quarter. If so, they will not need to place orders for more goods, and the plan of continuing the discount will have less chance of success now.

- A This is irrelevant to the plan since relevant quarters—fall and summer—are not being compared.
- B Increased advertising should continue to contribute to the plan's success.
- C Even if the qualifying distributors reached only normal levels of sales, there may be other distributors who will qualify in the fall because they had low sales one year earlier.
- D The distributors' freedom to decide how much of the discount to pass on to customers is equally true in both summer and fall quarters and should not affect the success of the plan.
- E **Correct.** This statement properly identifies a flaw in the plan.

The correct answer is E.