

## Critical Reasoning

- CR is largely composed of arguments and arguments parts
- It checks skills of Logical Thinking and Critical Evaluation. One needs eye for detail.
- There are 12-14 questions interspersed throughout the Verbal Section
- It is possibly the best tool to check Managerial Aptitude

### Argument Parts:

An argument (passage) generally consists of

- CONCLUSION(s)
- SUPPORT TO CONCLUSIONS (Reason, Evidence, Premise, Facts etc.)

**Conclusion is what the author tries to establish using facts.** Also known as Judgment reached; Opinion, Suggestion, View, Idea, Belief, Proposal, Warning, Forecast, Claim, Stand, Prediction, Hypothesis, POSITION, Stance, Point, Main Point, Inference, Implication, Generalization (about future), Contention, Consequence, Argument, To Posit, etc.

**Support to conclusion:** also called Fact, Assertion, Evidence, Premise, Proof, Supposition, Data, Information, Research, Consideration, Pattern, Explanation, Justification, Situation, Circumstance, Reasoning, Line of Reasoning, Generalization (about past or present), Judgment in support, Observation, Support, Example, Finding, Phenomenon, Illustration, Reason, To Acknowledge, etc.

So, finding the correct conclusion is the **half the job done** in CR. If we can identify the conclusion, everything else becomes FACT automatically.

### Find the conclusion

1. Environmental organizations want to preserve the land surrounding the Wilgrinn Wilderness Area from residential development. They plan to do this by purchasing that land from the farmers who own it. That plan is ill-conceived: if the farmers did sell their land, they would sell it to the highest bidder, and developers would outbid any other bidders. On the other hand, these farmers will never actually sell any of the land, provided that farming it remains viable. But farming will not remain viable if the farms are left unmodernized, and most of the farmers lack the financial resources modernization requires. And that is exactly why a more sensible preservation strategy would be to assist the farmers to modernize their farms to the extent needed to maintain viability.
2. Local authorities are considering an amendment to the litter law that would raise the fine for littering in the community picnic area to \$1,000. Since the inception of the litter law, incremental increases in the littering fine have proven to be consistently effective at further reducing the amount of litter in the community picnic area. However, raising the fine to \$1,000 would actually have the unintended effect of increasing the amount of litter in the picnic area. Picnic area users would perceive this fine to be unreasonable and unenforceable, and would disregard the litter law altogether.
3. **Political analyst:** A party that temporarily positions itself in the negligible crack between the American right and left will do little to expand the public debate. What America needs is a permanent third party. Some claim that America's success stems from the two party system. These people say that a third party would make the passage of legislation and thus governance impossible. Furthermore, they point to the current sluggish pace of government as proof that the country cannot bear the burden of a third party. Yet, most European countries have multi-party systems and few complain about any inability to govern there.

4. Traditionally, video game manufacturers have been most strongly influenced by serious video gamers. Because devoted gamers have historically purchased the majority of video games, companies react to the desires of this market segment. Normally, devoted gamers crave speed and action; thus, most manufacturers continue to produce games with faster chips and flashier graphics. Unfortunately, faster chips and flashier graphics are no longer in the industry's best interest. The devoted gaming market is deeply stagnant, and it won't soon expand. To infuse new life into the video game market, manufacturers must simplify the functionality of their games. By doing so, current non-gamers will be attracted to join the ranks of video game fans.
5. Musical composers have generally made their most significant contributions to the musical canon before they reached the age of thirty. It is commonly believed that this is the case because aging brings about a loss of cognitive ability and creative capacity. However, a study pointed out that a disproportionately large number of those composers who made their most significant contributions to the canon after the age of thirty became musicians at an older age than is generally the case. Since by the age of thirty many composers have been engaged as musicians for a decade or more, these findings suggest that the real reason why musicians over thirty rarely make significant contributions to the musical canon is not that they have aged but rather that they have spent too much time as musicians.
6. The city government should invest surplus funds in improving the city's transportation network. Most of the network was put in place at a time when the city was much smaller in both area and population. The subway system is outdated and understaffed. The buses rarely run on schedule and their routes are inconvenient. If the city does not make changes soon to the network, it will see many of its prized industries relocate to more convenient cities and, as a result, the city's financial health will be jeopardized.
7. **Astronomer:** Observations of the Shoemaker-Levi comet on its collision course with Jupiter showed that the comet broke into fragments before entering Jupiter's atmosphere in 1994, but they did not show how big those fragments were. Nevertheless, some indication of their size can be inferred from spectrographic analyses of Jupiter's outer atmosphere. After the fragments' entry, these analyses revealed unprecedented traces of sulfur. The fragments themselves almost certainly contained no sulfur, but astronomers believe that the cloud layer below Jupiter's outer atmosphere does contain sulfur. Since sulfur would have seeped into the outer atmosphere if comet fragments had penetrated this cloud layer, it is likely that some of the fragments were at least large enough to have passed through Jupiter's outer atmosphere without being burned up.
8. **Economist:** Tropicorp, which constantly seeks profitable investment opportunities, has been buying and clearing sections of tropical forest for cattle ranching, although pastures newly created there become useless for grazing after just a few years. The company has not gone into rubber tapping, even though greater profits can be made from rubber tapping, which leaves the forest intact. Thus, some environmentalists conclude that Tropicorp has not acted wholly out of economic self-interest. However, these environmentalists are probably wrong. The initial investment required for a successful rubber-tapping operation is larger than that needed for a cattle ranch. Furthermore, there is a shortage of workers employable in rubber-tapping operations, and finally, taxes are higher on profits from rubber tapping than on profits from cattle ranching.
9. Rain-soaked soil contains less oxygen than does drier soil. The roots of melon plants perform less efficiently under the low-oxygen conditions present in rain-soaked soil. When the efficiency of melon roots is impaired, the roots do not supply sufficient amounts of the proper nutrients for the plants to perform photosynthesis at their usual levels. It follows that melon plants have a lower-than-usual rate of photosynthesis when their roots are in rain-soaked soil. When the photosynthesis of the plants slows, sugar stored in the fruits is drawn off to supply the plants with energy. Therefore, ripe melons harvested after a prolonged period of heavy rain should be less sweet than other ripe melons.
10. Every year many people become ill because of airborne mold spores in their homes. After someone becomes ill, specialists are often hired to eradicate the mold. These specialists look in damp areas of the house, since mold is almost always found in places where there is substantial moisture. If one wishes to avoid mold poisoning, then, one should make sure to keep all internal plumbing in good condition to prevent leakage that could serve as a breeding ground for mold.

## Find the conclusion

1. **Sub-Conclusion:** That plan is ill-conceived.

**Main Conclusion:** A more sensible preservation strategy would be to assist the farmers to modernize their farms to the extent needed to maintain viability.

2. **Main Conclusion:** However, raising the fine to \$1,000 would actually have the unintended effect of increasing the amount of litter in the picnic area.

**Supporting Reason:** Picnic area users would perceive this fine to be unreasonable and unenforceable, and would disregard the litter law altogether.

3. **Sub-conclusion:** A party that temporarily positions itself in the negligible crack between the American right and left will do little (sort of prediction / opinion / view) to expand the public debate.

**Main Conclusion:** What America needs is a permanent third party.

**Conclusion of the other side (usually the author opposes this conclusion):** America's success stems from the two party system.

4. **Main-conclusion:** To infuse new life into the video game market, manufacturers must simplify the functionality of their games.
5. **Conclusion of the other side:** It is commonly believed that this is the case because aging brings about a loss of cognitive ability and creative capacity.

**Main conclusion of the argument:** These findings suggest that the real reason why musicians over thirty rarely make significant contributions to the musical canon is not that they have aged but rather that they have spent too much time as musicians. (This is not the explicit opinion of the author but the author implicitly agrees with the findings' suggestion – so this statement serves as author's conclusion).

6. **Main Conclusion:** The city government should invest surplus funds in improving the city's transportation network.

**Sub-conclusion:** If the city does not make changes soon to the network, it will see many of its prized industries relocate to more convenient cities and, as a result, the city's financial health will be jeopardized.

7. **Main Conclusion:** It is likely that some of the fragments were at least large enough to have passed through Jupiter's outer atmosphere without being burned up.
8. **Conclusion of the other side (Environmentalists):** Tropicorp has not acted wholly out of economic self-interest.

**Main Conclusion:** However, these environmentalists are probably wrong.

9. **Sub-Conclusion:** It follows that melon plants have a lower-than-usual rate of photosynthesis when their roots are in rain-soaked soil.

**Main Conclusion:** Therefore, ripe melons harvested after a prolonged period of heavy rain should be less sweet than other ripe melons.

10. **Main Conclusion:** If one wishes to avoid mold poisoning, then, one should make sure to keep all internal plumbing in good condition to prevent leakage that could serve as a breeding ground for mold.

**Implied Conclusion:** Moisture causes mold.

**Write down the conclusion, premises, and assumptions in the following examples:**

1. Jeannie studied for the GMAT for four months, and she scored a perfect 800 on it. So, Annette should also study for four months if she is targeting at a perfect 800 on the GMAT.
2. A recent research shows that CEOs of US based organizations want to add diversity to their organization's employee base as it translates into increased competitiveness of the organization. So, all CEOs will increase employment opportunities for members of minority groups in the corporate world.
3. A recent study found that across all age groups, cutting down of fats and carbohydrates intake alleviated symptoms of asthma. Therefore, decrease in intake of carbohydrates and fats can be an effective non-pharmacological approach to treating asthma.
4. A scientist found that all those who suffer from migraine drink more than four cups of coffee a day. So the scientist suggested that completely avoiding coffee can solve the migraine problem.
5. The only effective cure for migraine is a balm prepared according to the Chinese system of medicine from skull bones of the Siberian tiger. The Siberian tiger is an endangered species and as the demand for the balm is very high, conservationists fear that continued production of the balm will lead to extinction of Siberian tigers.
6. A proposed change to federal income tax laws would eliminate deductions from taxable income for donations a taxpayer has made to charitable NGOs involved in increasing the employability of minority groups. If this change were adopted, wealthy individuals would no longer be permitted such deductions. Therefore, many NGOs would have to reduce services, and some would have to close their doors.
7. Vegheaven, a food processing giant has built hydroponic orange "factories" which have a completely controlled environment for growing oranges in a pesticide free process, producing on 1 acre of floor space what it takes 100 acres of fields to produce. Expenses, especially for electricity, are high, however, and the oranges produced cost about four times as much as field grown oranges. The marketing department of Vegheaven is confident of successfully marketing the produce in a month's time.
8. A psychometric test is an essential part of a successful placement program because, with it, job applicants who have personalities that are unsuited to the requirements of the job will be eliminated from consideration.
9. Most trees near busy highways and industrial regions in Japan do not show visible symptoms of damage by air pollution, such as abnormal loss of leaves, slower rates of growth, or higher mortality." So the Weather Watch Division of United Nations decided to raise Japan's carbon credits to 17million as a reward for decreasing the Carbon Footprint.
10. 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.
11. It is a well known fact that the nature of reporting boss decides the number of sick days employees take. So it must be true that good natured bosses affect the revenue of private doctors and hospitals.
12. Advocates of large-scale industries quote their employment generation while asking for tax rebates with the state governments, but the impact on employee lives on shutdown of a large-scale industry is never compensated. So, large-scale industries should maintain a separate corpus for such eventualities.

**Write down the conclusion, premises, and assumptions in the following examples:**

**1.**

**Conclusion-** Annette should also study for four months

**Premises-** She is targeting at a perfect 800 on the GMAT. Jeannie studied for the GMAT for four months, and she scored a perfect 800 on it.

**Assumptions-** Annette is similar to Jeannie.  
Amount of time decides score.  
Four months enough to get a score of 800.

Here Jeannie's example is being given to show that whatever happened in **Jeannie's** case will happen in **Annette's** case also. This requires that they should be similar to each other or different from each other? SIMILAR, so it has been assumed that they are similar. Here we are drawing an analogy or a parallel so this kind of assumption is called as an ANALOGY ASSUMPTION.

We can do more of the dominoes thing to find a domino match between **study for four months and 800 on the GMAT**. The logical connection that I can get is that 800 on the GMAT depends on amount of time and four months of study is enough time to get an 800.

**2.**

**Conclusion** - All CEOs will increase employment opportunities for members of minority groups in the corporate world.

**Premises-** A recent research shows that CEOs of US based organizations want to add diversity to their organization's employee base as it translates into increased competitiveness of the organization.

**Assumptions-** CEOs of US based organizations represent all CEOs  
Minorities add diversity  
CEOs will be able to do what they want

**3.**

**Conclusion-** Decrease in intake of carbohydrates and fats can be an effective non-pharmacological approach to treating asthma.

**Premises-** Across all age groups, cutting down of fats and carbohydrates intake alleviated symptoms of asthma.

**Assumptions-** Alleviating the symptoms of asthma is equivalent to treating it.  
Nothing else except decrease in intake of carbohydrates and fats can be an effective non-pharmacological approach to treating asthma.

**4.**

**Conclusion-** Completely avoiding coffee can solve the migraine problem

**Premises-** All those who suffer from migraine drink more than four cups of coffee a day.

**Assumptions-** Nothing else except coffee leads to migraine  
Migraine does not cause people to drink more coffee.

5.

**Conclusion** – Continued production of the balm will lead to extinction of Siberian tigers.

**Premise** – The only effective cure for migraine is a balm prepared according to the Chinese system of medicine from skull bones of the Siberian tiger. The Siberian tiger is an endangered species.

**Assumptions** – Removing the skull bones leads to death of Siberian tiger. The birth rate of Siberian tiger cannot be increased artificially. Nothing else except skull bones of tiger can be used to prepare the balm. Nothing else except the balm can cure migraine

6.

**Conclusion** – Many NGOs would have to reduce services, and some would have to close their doors.

**Premise** – A proposed change to federal income tax laws would eliminate deductions from taxable income for donations a taxpayer has made to charitable NGOs involved in increasing the employability of minority groups. If this change were adopted, wealthy individuals would no longer be permitted such deductions.

**Assumptions** – Donations by wealthy individuals made for tax deductions are an important part of donations made to NGOs. Charitable NGOs involved in increasing the employability of minority groups represent all NGOs

7.

**Conclusion** –The marketing department of Vegheaven is confident of successfully marketing the produce in a month's time.

**Premise** – Vegheaven, a food processing giant has built hydroponic orange "factories" which have a completely controlled environment for growing oranges in a pesticide free process, producing on 1 acre of floor space what it takes 100 acres of fields to produce. Expenses, especially for electricity, are high, however, and the oranges produced cost about four times as much as field grown oranges.

**Assumptions** – A market for Vegheaven's oranges is present even if they are 4 times costlier.

8.

**Conclusion** – A psychometric test is an essential part of a successful placement program

**Premise** – With a psychometric test, job applicants who have personalities that are unsuited to the requirements of the job will be eliminated from consideration.

**Assumptions** – A psychometric will be able to identify job applicants who have personalities that are unsuited to the requirements of the job

9.

**Conclusion** – Japan has decreased its carbon footprint.

**Premise** – Most trees near busy highways and industrial regions in Japan do not show visible symptoms of damage by air pollution, such as abnormal loss of leaves, slower rates of growth, or higher mortality." So the Weather Watch Division of United Nations decided to raise Japan's carbon credits to 17million as a reward for decreasing the Carbon Footprint.

**Assumptions** – If most trees near busy highways and industrial regions in Japan do not show visible symptoms of damage by air pollution, such as abnormal loss of leaves, slower rates of growth, or higher mortality, this shows decrease in carbon footprint. Nothing else except visible symptoms on trees is indicative of air pollution damage

10.

**Conclusion** – Mismatched sleeping and waking cycles can seriously jeopardize a marriage

**Premise** – 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.

**Assumptions** – Nothing else except mismatched sleeping and waking cycles can seriously jeopardize a marriage. Jeopardized marriages do not result in mismatched sleeping and waking cycles.

11.

**Conclusion** – Good natured bosses affect the revenue of private doctors and hospitals

**Premise** – The nature of reporting boss decides the number of sick days employees take

**Assumptions** - Number of sick days employees take is proportional to revenue of private doctors and hospitals. Good natured bosses decrease the number of sick days employees take

12.

**Conclusion** – Large-scale industries should maintain a separate corpus for impact on employee lives on shutdown of a large-scale industry

**Premise** – Advocates of large-scale industries quote their employment generation while asking for tax rebates with the state governments, but the impact on employee lives on shutdown of a large-scale industry is never compensated.

**Assumptions** – Employees do not immediately get employment on shutdown of a large scale industry.

## **CR – types of Questions**

### **Group 1 (about 11 questions)**

- Assumptions
- Weaken
- Flaw
- Strengthen
- Evaluate
- Passage Completion
- Cause and Effect
- Boldface

### **Group 2 (about 2-3 questions)**

- Draw a Conclusion / Inference
- Paradox
- Explain a Situation
- Method of Responding / Two Speakers

## The concept of Assumption Centrality – the most powerful technique in CR

### ASSUMPTION is the CENTRALITY OF CR

**All the group 1 questions can be solved if one has 100% mastery over ASSUMPTIONS**

- **Assumptions** – Approach: ID Conclusion, Negate Choices one by one. The negated choice must break the conclusion
- **Weaken** - Approach: Facts respected. Break the Assumption → break the conclusion.
- **Flaw** - Approach: The assumption is questionable... that itself is the flaw. Facts respected. Break the Assumption → break the conclusion.
- **Strengthen** - Approach: Strengthen is either the same as the assumption (100%) or a diluted form of assumption (< 100%).
- **Evaluate** - Approach: Put a question mark on the assumption. Immediately you will see 2 sides - One strengthens, and the other one weakens.
- **Passage Completion** – the same as Strengthen Type
- **Cause and Effect** – If the conclusion is A causes B, then there are only 2 assumptions: C does not cause B OR B does not cause A
- **Boldface** – these questions are all about finding the "Evidence" and the "Conclusion". The approach is similar to the one for Assumption questions.



**Choose the correct answer asked at the end of each passage.**

1. In response to the increasing cost of producing energy through traditional means, such as combustion, many utility companies have begun investing in renewable energy sources, chiefly wind and solar power, hoping someday to rely on them completely and thus lower energy costs. These sources require significant initial capital investment, but the operating costs are not so high; so the utility companies claim that they will provide stable energy supplies at low costs. As one can easily see, these sources will be less risky for the utilities than non-renewable sources, such as gas, oil, and coal, whose prices can fluctuate dramatically according to availability.  
**The claim of the utility companies assumes which of the following?**
  - A. The public will embrace the development of wind and solar power.
  - B. No new deposits of gas, oil, and coal will be discovered in the near future.
  - C. **Weather patterns are consistent and predictable.**
  - D. The necessary technology for conversion to wind and solar power is not more expensive than the technology needed to create energy through combustion.
  - E. Obtaining energy from non-renewable sources, such as gas, oil and coal, cannot be made less risky.
2. **Doctor:** Research shows that adolescents who play video games on a regular basis are three times as likely to develop carpal tunnel syndrome as are adolescents who do not play video games. Federal legislation that prohibits the sale of video games to minors would help curb this painful wrist condition among adolescents.  
**The doctor's conclusion depends on which of the following assumptions?**
  - A. The majority of federal legislators would vote for a bill that prohibits the sale of video games to minors.
  - B. Not all adolescents who play video games on a regular basis suffer from carpal tunnel syndrome.
  - C. Playing video games is the only way an adolescent can develop carpal tunnel syndrome.
  - D. **Most parents would refuse to purchase video games for their adolescent children.**
  - E. The regular playing of video games by adolescents does not produce such beneficial effects as better hand-eye coordination and improved reaction time.
3. Profits for one of Company X's flagship products have been declining slowly for several years. The CFO investigated and determined that inflation has raised the cost of producing the product but consumers who were surveyed reported that they weren't willing to pay more than the current price. As a result, the CFO recommended that the company stop producing this product because the CEO only wants products whose profit margins are increasing.  
**The answer to which of the following questions would be most useful in evaluating whether the CFO's decision to divest the company of its flagship product is warranted?**
  - A. Does the company have new and profitable products available with which to replace the flagship product?
  - B. What percentage of Company X's revenues is represented by sales of the flagship product in question?
  - C. Are there additional features which could be added to the product and for which consumers might be willing to pay a higher price?
  - D. Will the rest of Company X's management team agree with the CFO's recommendation?
  - E. **Is there a way to alter the manufacturing or distribution processes in order to reduce the cost to produce the flagship product?**
4. There is relatively little room for growth in the overall carpet market, which is tied to the size of the population. Most who purchase carpet do so only once or twice, first in their twenties or thirties, and then perhaps again in their fifties or sixties. Thus as the population ages, companies producing carpet will be able to gain market share in the carpet market only through purchasing competitors, and not through more aggressive marketing.  
**Which one of the following, if true, casts the most doubt on the conclusion above?**
  - A. Two of the three mergers in the industry's last ten years led to a decline in profits and revenues for the newly merged companies.
  - B. Most of the major carpet producers market other floor coverings as well.
  - C. Most established carpet producers market several different brand names and varieties, and there is no remaining niche in the market for new brands to fill.
  - D. **Price reductions, achieved by cost-cutting in production, by some of the dominant firms in the carpet market are causing other producers to leave the market altogether.**
  - E. The carpet market is unlike most markets in that consumers are becoming increasingly resistant to new patterns and styles.

5. **Columnist:** George Orwell's book *1984* has exercised much influence on a great number of this newspaper's readers. One thousand readers were surveyed and asked to name the one book that had the most influence on their lives. The book chosen most often was the Bible; *1984* was second.  
**The answer to which one of the following questions would most help in evaluating the columnist's argument?**
- A. How many of those surveyed had actually read the books they chose?
  - B. How many books had each person surveyed read?
  - C. How many people read the columnist's newspaper?
  - D. How many books by George Orwell other than *1984* were chosen?
  - E. **How many people chose *1984*?**
6. In the 18th and 19th centuries, it was believed in many coastal American cities that the waterfront was an undesirable location for residential buildings. As a result, much of the waterfront in these cities was never developed aesthetically and instead was left to industry and commerce. Today, however, waterfront properties are generally seen as prestigious, as evidenced by the large sums paid for homes along the beach front. A developer who wishes to make a large profit would be wise to buy urban waterfront lots and erect residential buildings on them.  
**Which of the following, if true, most strongly supports the claim made about urban waterfront properties?**
- A. People today have more money, relatively speaking, to spend on real estate than they did in previous centuries.
  - B. Many coastal American cities are encouraging developers to rehabilitate the waterfront through tax incentives.
  - C. **Homeowners will be willing to spend large sums on residential properties in traditionally industrial or commercial districts.**
  - D. Many urban waterfront lots are available for purchase.
  - E. Properties in interior residential districts in coastal American cities are significantly more expensive than those along the waterfront.
7. 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.
8. **Student Advisor:** One of our exchange students faced multiple arguments with her parents over the course of the past year. Not surprisingly, her grade point average (GPA) over the same period showed a steep decline. This is just one example of a general truth: problematic family relationships can cause significant academic difficulties for our students. **Which of the following is an assumption underlying the general truism claimed by the Student Advisor?**
- A. Last year, the exchange student reduced the amount of time spent on academic work, resulting in a lower GPA.
  - B. **The decline in the GPA of the exchange student was not the reason for the student's arguments with her parents.**
  - C. School GPA is an accurate measure of a student's intellectual ability.
  - D. If proper measures are not taken, the decline in the student's academic performance may become irreversible.
  - E. Fluctuations in academic performance are typical for many students.

9. Country B's oil production is not sufficient to meet its domestic demand. In order to sharply reduce its dependence on foreign sources of oil, Country B recently embarked on a program requiring all of its automobiles to run on ethanol in addition to gasoline. Combined with its oil production, Country B produces enough ethanol from agricultural by-products to meet its current demand for energy. **Which of the following must be assumed in order to conclude that Country B will succeed in its plan to reduce its dependence on foreign oil?**
- A. Electric power is not a superior alternative to ethanol in supplementing automobile gasoline consumption.
  - B. In Country B, domestic production of ethanol is increasing more quickly than domestic oil production.
  - C. Ethanol is suitable for the heating of homes and other applications aside from automobiles.
  - D. In Country B, gasoline consumption is not increasing at a substantially higher rate than domestic oil and ethanol production.
  - E. Ethanol is as efficient as gasoline in terms of mileage per gallon when used as fuel for automobiles.
10. An industry analyst asserted in his recent report that the relative scarcity of housing in a particular market leads to larger than normal increases in price. During the late 1990s, according to the analyst's report, occupancy rates—a measure of the percentage of housing occupied at a given time—in crowded urban markets such as New York and San Francisco hovered around 99.5%. During the same period, housing prices increased by as much as 100% per year, compared to more normal past increases in the range of 5% to 15% per year. **Which of the following is an assumption that supports the analyst's assertion?**
- A. In the housing market, there generally must be at least five buyers per seller in order to cause larger than normal increases in price.
  - B. Increases in demand often reflect an influx of new buyers into the marketplace or an unusual increase in buying power on the part of the customer.
  - C. The U.S. housing market showed a larger than average increase in the 1990s across the country, not just in crowded urban areas.
  - D. Price increases do not cause people to withhold their houses from the market in the hopes that prices will increase even further in the future.
  - E. A significant rise in housing prices in a specific area may cause some potential buyers to relocate to other, less pricey areas.
11. Although there has been great scientific debate for decades over global warming, most scientists now agree that human activity is causing the Earth's temperature to rise. Though predictions vary, many global warming experts believe that average global temperatures will rise between three and eight degrees Fahrenheit during the next century. Such an increase would cause an alarming rise in sea levels, displacing millions of people by destroying major population centers along the world's coastlines. **Which of the following is an assumption in support of the argument's conclusion?**
- A. New technological developments in the next century will not divert rising seas from the world's coastal cities.
  - B. Individuals will not become more aware of the steps they can take to reduce the emission of greenhouse gases.
  - C. Rising sea levels similarly affect all coastal population centers.
  - D. Some global warming experts predict a greater than eight degree Fahrenheit increase in global temperatures during the next century.
  - E. Human activity is the sole cause of increasing global temperatures.
12. Until now, only injectable vaccines against influenza have been available. Parents are reluctant to subject children to the pain of injections, but adults, who are at risk of serious complications from influenza, are commonly vaccinated. A new influenza vaccine, administered painlessly in a nasal spray, is effective for children. However, since children seldom develop serious complications from influenza, no significant public health benefit would result from widespread vaccination of children using the nasal spray. **Which of the following is an assumption on which the argument depends?**
- A. Any person who has received the injectable vaccine can safely receive the nasal-spray vaccine as well.
  - B. The new vaccine uses the same mechanism to ward off influenza as injectable vaccines do.
  - C. The injectable vaccine is affordable for all adults.
  - D. Adults do not contract influenza primarily from children who have influenza.
  - E. The nasal spray vaccine is not effective when administered to adults.

13. 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.
14. Agricultural societies cannot exist without staple crops. Several food plants, such as kola and okra, are known to have been domesticated in western Africa, but they are all supplemental, not staple, foods. All the recorded staple crops grown in western Africa were introduced from elsewhere, beginning, at some unknown date, with rice and yams. Therefore, discovering when rice and yams were introduced into western Africa would establish the earliest date at which agricultural societies could have arisen there. **Which of the following is an assumption on which the argument depends?**
- A. People in western Africa did not develop staple crops that they stopped cultivating once rice and yams were introduced.
  - B. There are no plants native to western Africa that, if domesticated, could serve as staple food crops.
  - C. Rice and yams were grown as staple crops by the earliest agricultural societies outside of western Africa.
  - D. Kola and okra are better suited to growing conditions in western Africa than domesticated rice and yams are.
  - E. Kola and okra were domesticated in western Africa before rice and yams were introduced there.
15. In 1992 outlaw fishing boats began illegally harvesting lobsters from the territorial waters of the country of Belukia. Soon after, the annual tonnage of lobster legally harvested in Belukian waters began declining; in 1996, despite there being no reduction in the level of legal lobster fishing activity, the local catch was 9,000 tons below pre-1992 levels. It is therefore highly likely that the outlaw fishing boats harvested about 9,000 tons of lobster illegally that year. **Which of the following is an assumption on which the argument depends?**
- A. The illegal lobster harvesting was not so extensive that the population of catchable lobsters in Belukia's territorial waters had sharply declined by 1996.
  - B. The average annual lobster catch, in tons, of an outlaw fishing boat has increased steadily since 1992.
  - C. Outlaw fishing boats do not, as a group, harvest more lobsters than do licensed lobster-fishing boats.
  - D. The annual legal lobster harvest in Belukia in 1996 was not significantly less than 9,000 tons.
  - E. A significant proportion of Belukia's operators of licensed lobster-fishing boats went out of business between 1992 and 1996.
16. In the past, most children who went sledding in the winter snow in Verland used wooden sleds with runners and steering bars. Ten years ago, smooth plastic sleds became popular; they go faster than wooden sleds but are harder to steer and slow. The concern that plastic sleds are more dangerous is clearly borne out by the fact that the number of children injured while sledding was much higher last winter than it was ten years ago. **Which of the following, if true in Verland, most seriously undermines the force of the evidence cited?**
- A. A few children still use traditional wooden sleds.
  - B. Very few children wear any kind of protective gear, such as helmets, while sledding.
  - C. Plastic sleds can be used in a much wider variety of snow conditions than wooden sleds can.
  - D. Most sledding injuries occur when a sled collides with a tree, a rock, or another sled.
  - E. Because the traditional wooden sled can carry more than one rider, an accident involving a wooden sled can result in several children being injured.

17. Twelve years ago and again five years ago, there were extended periods when Darfir Republic's currency, the pundra, was weak: its value was unusually low relative to the world's most stable currencies. Both times a weak pundra made Darfir's manufactured products a bargain on the world markets, and Darfir's exports were up substantially. Now some politicians are saying that, in order to cause another similarly sized increase in exports, the government should allow the pundra to become weak again. **Which of the following if true provides the government with the strongest grounds to doubt the politician's recommendation, if followed, will achieve its aim?**
- A. several of the politicians no recommending that the pundra be allowed to become weak made that same recommendation before each of the last two periods of currency weakness.
  - B. after several decades of operating well below its peak capacity, Darfir's manufacturing sector is now operating at near-peak levels
  - C. the economy of a country experiencing a rise in exports will become healthier only if the country's currency is strong or the rise in exports is significant.
  - D. those countries whose manufactured products compete with Darfir's on the world market currently all have stable currencies
  - E. a sharp improvement in the efficiency of Darfir's manufacturing plants would make Darfir's products a bargain on the world markets even without weakening of the pundra relative to other currencies.
18. Tiger beetles are such fast runners that they can capture virtually any nonflying insect. However, when running toward an insect, a tiger beetle will intermittently stop and then, a moment later, resume its attack. Perhaps the beetles cannot maintain their pace and must pause for a moment's rest; but an alternative hypothesis is that while running, tiger beetles are unable to adequately process the resulting rapidly changing visual information and so quickly go blind and stop. **Which of the following, if discovered in experiments using artificially moved prey insects, would support one of the two hypotheses and undermine the other?**
- A. When a prey insect is moved directly toward a beetle that has been chasing it, the beetle immediately stops and runs away without its usual intermittent stopping.
  - B. In pursuing a swerving insect, a beetle alters its course while running and its pauses become more frequent as the chase progresses.
  - C. In pursuing a moving insect, a beetle usually responds immediately to changes in the insect's direction, and it pauses equally frequently whether the chase is up or down an incline.
  - D. If, when a beetle pauses, it has not gained on the insect it is pursuing, the beetle generally ends its pursuit.
  - E. The faster a beetle pursues an insect fleeing directly away from it, the more frequently the beetle stops.
19. Kernland imposes a high tariff on the export of unprocessed cashew nuts in order to ensure that the nuts are sold to domestic processing plants. If the tariff were lifted and unprocessed cashews were sold at world market prices, more farmers could profit by growing cashews. However, since all the processing plants are in urban areas, removing the tariff would seriously hamper the government's effort to reduce urban unemployment over the next five years. **Which of the following, if true, most seriously weakens the argument?**
- A. Some of the byproducts of processing cashews are used for manufacturing paints and plastics.
  - B. Other countries in which cashews are processed subsidize their processing plants.
  - C. More people in Kernland are engaged in farming cashews than in processing them.
  - D. Buying unprocessed cashews at lower than world market prices enables cashew processors in Kernland to sell processed nuts at competitive prices
  - E. A lack of profitable crops is driving an increasing number of small farmers in Kernland off their land and into the cities.
20. 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.



- 21.** In general, jobs are harder to get in times of economic recession because many businesses cut back operations. However, any future recessions in Vargonia will probably not reduce the availability of teaching jobs at government-funded schools. This is because Vargonia has just introduced a legal requirement that education in government-funded schools be available, free of charge, to all Vargonian children regardless of the state of the economy, and that current student-teacher ratios not be exceeded. **Which of the following, if true, most strengthens the argument?**
- A. The current student-teacher ratio at Vargonia's government-funded schools is higher than it was during the most recent period of economic recession.
  - B. During recent periods when the Vargonian economy has been strong, almost 25 percent of Vargonian children have attended privately funded schools, many of which charge substantial fees.
  - C. Nearly 20 percent more teachers are currently employed in Vargonia's government-funded schools than had been employed in those schools in the period before the last economic recession.
  - D. Teachers in Vargonia's government-funded schools are well paid relative to teachers in most privately funded schools in Vargonia, many of which rely heavily on part-time teachers.
  - E. During the last economic recession in Vargonia, the government permanently closed a number of the schools that it had funded.
- 22.** 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.
- 23. 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 five million dollars 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.
- 24.** High school students who feel that they are not succeeding in high school often drop out before graduating and go to work. Last year, however, the city's high school dropout rate was significantly lower than the previous year's rate. This is encouraging evidence that the program instituted two years ago to improve the morale of high school students has begun to take effect to reduce dropouts. **Which one of the following, if true about the last year, most seriously weakens the argument?**
- A. There was a recession that caused a high level of unemployment in the city.
  - B. The morale of students who dropped out of high school had been low even before they reached high school.
  - C. As in the preceding year, more high school students remained in school than dropped out.
  - D. High schools in the city established placement offices to assist their graduates in obtaining employment.
  - E. The anti-dropout program was primarily aimed at improving students' morale in those high schools with the highest dropout rates.

- 25.** The number of airplanes equipped with a new anti-collision device has increased steadily during the past two years. During the same period, it has become increasingly common for key information about an airplane's altitude and speed to disappear suddenly from air traffic controllers' screens. The new anti-collision device, which operates at the same frequency as air traffic radar, is therefore responsible for the sudden disappearance of key information. **Which one of the following, if true, most seriously weakens the argument?**
- A. The new anti-collision device has already prevented a considerable number of mid-air collisions.
  - B. It was not until the new anti-collision device was introduced that key information first began disappearing suddenly from controllers' screens.
  - C. The new anti-collision device is scheduled to be moved to a different frequency within the next two to three months.
  - D. Key information began disappearing from controllers' screens three months before the new anti-collision device was first tested.
  - E. The sudden disappearance of key information from controllers' screens has occurred only at relatively large airports.
- 26.** The ice on the front windshield of the car had formed when moisture condensed during the night. The ice melted quickly after the car was warmed up the next morning because the defrosting vent, which blows on the front windshield, was turned on full force. **Which of the following, if true, most seriously jeopardizes the validity of the explanation for the speed with which the ice melted?**
- A. The side windows had no ice condensation on them
  - B. Even though no attempt was made to defrost the back window, the ice there melted at the same rate as did the ice on the front windshield.
  - C. The speed at which ice on a window melts increases as the temperature of the air blown on the window increases
  - D. The warm air from the defrosting vent for the front windshield cools rapidly as it dissipates throughout the rest of the car.
  - E. The defrosting vent operates efficiently even when the heater, which blows warm air toward the feet or faces of the driver and passengers, is on.
- 27.** 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.
- 28. 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 journalists 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?

29. Though sucking zinc lozenges has been promoted as a treatment for the common cold, research has revealed no consistent effect. Recently, however, a zinc gel applied nasally has been shown to greatly reduce the duration of colds. Since the gel contains zinc in the same form and concentration as the lozenges, the greater effectiveness of the gel must be due to the fact that cold viruses tend to concentrate in the nose, not the mouth. **In order to evaluate the argument, it would be most helpful to determine which of the following?**
- A. Whether zinc is effective only against colds, or also has an effect on other virally caused diseases
  - B. Whether there are remedies that do not contain zinc but that, when taken orally, can reduce the duration of colds
  - C. Whether people who frequently catch colds have a zinc deficiency
  - D. Whether either the zinc gel or the lozenges contain ingredients that have an impact on the activity of the zinc
  - E. Whether the zinc gel has an effect on the severity of cold symptoms, as well as on their duration
30. The recording industry is fighting a losing battle: it simply does not have the resources to prosecute all of the individuals who illegally download music from the Internet. Because the number of individuals who will be charged with a crime is so limited, the actions of the recording industry will have a minimal impact on the number of people who illegally download music. **The answer to which of the following questions would best help evaluate the accuracy of the conclusion above?**
- A. Will recording industry lawyers dedicate the majority of their time to prosecuting those who illegally download music?
  - B. Is a small minority of individuals responsible for the majority of illegal song downloads?
  - C. Do many individuals who illegally download songs share their music files with other Internet users?
  - D. Will new Internet security technology permit the recording industry to more quickly and easily identify individuals who illegally download music?
  - E. Will the threat of prosecution alter the behavior of those who illegally download music?
31. The proportion of women among students enrolled in higher education programs has increased over the past decades. This is partly shown by the fact that in 1959, only 11 percent of the women between twenty and twenty-one were enrolled in college, while in 1981, 30 percent of the women between twenty and twenty-one were enrolled in college. **To evaluate the argument above, it would be most useful to compare 1959 and 1981 with regard to which of the following characteristics?**
- A. The percentage of women between twenty and twenty-one who were not enrolled in college
  - B. The percentage of women between twenty and twenty-five who graduated from college
  - C. The percentage of women who, after attending college, entered highly paid professions
  - D. The percentage of men between twenty and twenty-one who were enrolled in college
  - E. The percentage of men who graduated from high school
32. Industrialists from the country Distopia were accused of promoting the Distopian intervention in the Arcadian civil war merely to ensure that the industrialists' facilities in Arcadia made substantial profits during the war. Yet this cannot be the motive since, as the Distopians foresaw, Distopia's federal expenses for the intervention were eight billion dollars, whereas, during the war, profits from the Distopian industrialists' facilities in Arcadia totaled only four billion dollars.
- Which of the following, if true, exposes a serious flaw in the argument made in the second sentence above?**
- A. During the Arcadian war, many Distopian industrialists with facilities located in Arcadia experienced a significant rise in productivity in their facilities located in Distopia.
  - B. The largest proportion of Distopia's federal expenses is borne by those who receive no significant industrial profits.
  - C. Most Distopian industrialists' facilities located in Arcadia are expected to maintain the level of profits they achieved during the war.
  - D. Distopian industrialists' facilities in Arcadia made substantial profits before the events that triggered the civil war.
  - E. Many Distopians expressed concern over the suffering that Arcadians underwent during the civil war.



33. Demographers doing research for an international economics newsletter claim that the average per capita income in the country of Kuptala is substantially lower than that in the country of Bahlton. They also claim, however, that whereas poverty is relatively rare in Kuptala, over half the population of Bahlton lives in extreme poverty. At least one of the demographers' claims must, therefore, be wrong.

**The argument above is most vulnerable to which of the following criticisms?**

- A. It rejects an empirical claim about the average per capita incomes in the two countries without making any attempt to discredit that claim by offering additional economic evidence.
- B. It treats the vague term "poverty" as though it had a precise and universally accepted meaning.
- C. It overlooks the possibility that the number of people in the two countries who live in poverty could be the same even though the percentages of the two populations that live in poverty differ markedly.
- D. It fails to show that wealth and poverty have the same social significance in Kuptala as in Bahlton.
- E. It does not consider the possibility that incomes in Kuptala, unlike those in Bahlton, might all be very close to the country's average per capita income.

34. It is theoretically possible that bacteria developed on Mars early in its history and that some were carried to Earth by a meteorite. However, strains of bacteria from different planets would probably have substantial differences in protein structure that would persist over time, and no two bacterial strains on Earth are different enough to have arisen on different planets. So, even if bacteria did arrive on Earth from Mars, they must have died out.

**The argument is most vulnerable to which of the following criticisms?**

- A. It fails to establish whether bacteria actually developed on Mars.
- B. It fails to establish how likely it is that Martian bacteria were transported to Earth.
- C. It fails to consider whether there were means other than meteorites by which Martian bacteria could have been carried to Earth.
- D. It fails to consider whether all bacteria now on Earth could have arisen from transported Martian bacteria.
- E. It fails to consider whether there could have been strains of bacteria that originated on Earth and later died out.

35. The violent crime rate (number of violent crimes per 1,000 residents) in Meadowbrook is 60 percent higher now than it was four years ago. The corresponding increase for Parkdale is only 10 percent. These figures support the conclusion that residents of Meadowbrook are more likely to become victims of violent crime than are residents of Parkdale.

**The argument above is flawed because it fails to take into account**

- A. changes in the population density of both Parkdale and Meadowbrook over the past four years
- B. how the rate of population growth in Meadowbrook over the past four years compares to the corresponding rate for Parkdale
- C. the ratio of violent to nonviolent crimes committed during the past four years in Meadowbrook and Parkdale
- D. the violent crime rates in Meadowbrook and Parkdale four years ago
- E. how Meadowbrook's expenditures for crime prevention over the past four years compare to Parkdale's expenditures

**36. Which of the following most logically completes the passage?**

Concerned about financial well-being of its elderly citizens, the government of Runagia decided two years ago to increase by 20 percent the government-provided pension paid to all Runagians over 65. Inflation in the intervening period has been negligible, and the increase has been duly received by all eligible Runagians. Nevertheless, many of them are no better off financially than they were before the increase, in large part because \_\_\_\_\_.

- A. They rely entirely on the government pension for their income
- B. Runagian banks are so inefficient that it can take up to three weeks to cash a pension check
- C. They buy goods whose prices tend to rise especially fast in times of inflation
- D. The pension was increased when the number of elderly Runagians below the poverty level reached an all-time high
- E. In Runagia children typically supplement the income of elderly parents, but only by enough to provide them with a comfortable living

**37. Which of the following most logically completes the argument?**

When people engage in activities that help others, their brain releases endorphins, the brain's natural opiates, which induce in people a feeling of well-being. It has been suggested that regular release of endorphins increases people's longevity. And a statistic on adults who regularly engage in volunteer work helping others shows that they live longer, on average, than adults who do not volunteer. However, that statistic would be what we would expect even if volunteering does not boost longevity, because \_\_\_\_\_.

- A. in the communities studied, women were much more likely to do regular volunteer work than men were, and women tend to live longer than men do.
- B. the number of young adults who do regular volunteer work is on the increase
- C. the feelings of well-being induced by endorphins can, at least for a time, mask the symptoms of various conditions and diseases, provided the symptoms are mild.
- D. it is rare for a person to keep up a regular schedule of volunteer work throughout his or her life.
- E. Some people find that keeping a commitment to do regular volunteer work becomes a source of stress in their lives.

**38. Which of the following, if true, most logically completes the passage?**

A recent poll found that over 80 percent of the residents of Nalmed Province favored a massive expansion of the commuter rail system as a means of significantly easing congestion on the province's highways and were willing to help pay for the expansion through an increase in their taxes. Nevertheless, the poll results indicate that expansion of the rail system, if successfully completed, would be unlikely to achieve its goal of easing congestion, because \_\_\_\_\_.

- A. most people in favor of expanding the rail system reported less congestion during their highway commute as the primary benefit they would experience
- B. of the less than 20 percent of residents not counted as favoring the expansion, about half claimed to have no opinion one way or the other
- C. the twice-daily periods of peak congestion caused by people commuting in cars have grown from about an hour each to almost two and a half hours each in the past 20 years
- D. expanding the commuter rail system will require the construction of dozens of miles of new railbed
- E. the proposed expansion to the commuter rail system will make it possible for some people who both live and work at suburban locations to commute by rail

**39. Which of the following most logically completes the passage?**

Appendicitis (inflammation of the appendix) is potentially fatal; consequently, patients with symptoms strongly suggesting appendicitis almost always have their appendix removed. The appropriate surgery is low-risk but performed unnecessarily in about 20 percent of all cases. A newly developed internal scan for appendicitis is highly accurate, producing two misdiagnoses for every 98 correct diagnoses. Clearly, using this test, doctors can largely avoid unnecessary removals of the appendix without, however, performing any fewer necessary ones than before, since \_\_\_\_\_.

- A. the patients who are correctly diagnosed with this test as not having appendicitis invariably have medical conditions that are much less serious than appendicitis
- B. the misdiagnoses produced by this test are always instances of attributing appendicitis to someone who does not, in fact, have it
- C. all of the patients who are diagnosed with this test as having appendicitis do, in fact, have appendicitis
- D. every patient who is diagnosed with this test as having appendicitis has more than one of the symptoms generally associated with appendicitis
- E. the only patients who are misdiagnosed using this test are patients who lack one or more of the symptoms that are generally associated with appendicitis

**40. Which of the following most logically completes the argument?**

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 herb have discovered that it produces large amounts of histidine, an amino acid that, in test-tube solutions, renders these metals chemically inert. Possibly, therefore, the herb's high histidine production is what allows it to grow in metal-rich soils, a hypothesis that would gain support if \_\_\_\_\_.

- A. histidine is found in all parts of the plant—roots, stem, leaves, and flowers
- B. the herb's high level of histidine production is found to be associated with an unusually low level of production of other amino acids
- C. others of the closely related group of plants are also found to produce histidine in large quantities
- D. cultivation of the herb in soil with high concentrations of the metals will, over an extended period, make the soil suitable for plants to which the metals are toxic
- E. the concentration of histidine in the growing herb declines as the plant approaches maturity

## CR Part 2

1. Nitrogen dioxide is a pollutant emitted by automobiles. Catalytic converters, devices designed to reduce nitrogen dioxide emissions, have been required in all new cars in Donia since 1993, and as a result, nitrogen dioxide emissions have been significantly reduced throughout most of the country. Yet although the proportion of new cars in Donia's capital city has always been comparatively high, nitrogen dioxide emissions there have showed only an insignificant decline since 1993. **Which of the following, if true, most helps to explain the insignificant decline in nitrogen dioxide emissions in Donia's capital city?**
  - A. More of the cars in Donia's capital city were made before 1993 than after 1993.
  - B. The number of new cars sold per year in Donia has declined slightly since 1993.
  - C. Pollutants other than nitrogen dioxide that are emitted by automobiles have also been significantly reduced in Donia since 1993.
  - D. Many Donians who own cars made before 1993 have had catalytic converters installed in their cars.
  - E. Most car trips in Donia's capital city are too short for the catalytic converter to reach its effective working temperature.
  
2. Twenty years ago, Balzania put in place regulations requiring operators of surface mines to pay for the reclamation of mined-out land. Since then, reclamation technology has not improved. Yet, the average reclamation cost for a surface coal mine being reclaimed today is only four dollars per ton of coal that the mine produced, less than half what it cost to reclaim surface mines in the years immediately after the regulations took effect. **Which of the following, if true, most helps to account for the drop in reclamation costs described?**
  - A. Even after Balzania began requiring surface mine operators to pay reclamation costs, coal mines in Balzania continued to be less expensive to operate than coal mines in almost any other country.
  - B. In the twenty years since the regulations took effect, the use of coal as a fuel has declined from the level it was at in the previous twenty years.
  - C. Mine operators have generally ceased surface mining in the mountainous areas of Balzania because reclamation costs per ton of coal produced are particularly high for mines in such areas.
  - D. Even after Balzania began requiring surface mine operators to pay reclamation costs, surface mines continued to produce coal at a lower total cost than underground mines.
  - E. As compared to twenty years ago, a greater percentage of the coal mined in Balzania today comes from surface mines.
  
3. In order to raise revenue, the federal government planned a tax amnesty program that allows tax delinquents to pay all owed tax without added financial penalty. However, economists projected that the federal government would collect a far lower percentage of total tax owed by delinquents than did state governments implementing similar programs. **Which of the following, if true, would most contribute to an explanation of the economists' projections?**
  - A. Tax amnesty programs are only successful if they are widely publicized.
  - B. Most people who honestly pay their state tax are equally honest in paying their federal tax.
  - C. Although federal tax delinquents usually must pay high financial penalties, the states require far lower financial penalties.
  - D. The state tax rate varies considerably from state to state, but the federal tax is levied according to laws which apply to citizens of all the states.
  - E. Unlike most federal tax delinquents, most state tax delinquents fail to pay state tax because of an oversight rather than a decision not to pay.

4. For several years, per capita expenditure on prescription drugs in Voronia rose by fifteen percent or more annually. In order to curb these dramatic increases, the ministry of health prohibited drug manufacturers from raising any of their products' prices. Even though use of prescription drugs did not expand after this price freeze, per capita expenditure for prescription drugs continued to increase by a substantial percentage each year.

**Which of the following, if true, most helps to explain why the ministry's action did not achieve its goal?**

- A. After price increases were prohibited, drug manufacturers concentrated on producing new medications to replace existing products.
- B. The population of Voronia rose steadily throughout the period.
- C. Improvements in manufacturing processes enabled drug manufacturers to maintain high profit levels on drugs despite the price freeze.
- D. In addition to imposing a price freeze, the government encouraged doctors to prescribe generic versions of common drugs instead of the more expensive brand-name versions.
- E. After price increases were prohibited, some foreign manufacturers of expensive drugs ceased marketing them in Voronia.

5. In Rubaria, excellent health care is available to virtually the entire population, whereas very few people in Terland receive adequate medical care. Yet, although the death rate for most diseases is higher in Terland than in Rubaria, the percentage of the male population that dies from prostate cancer is significantly higher in Rubaria than in Terland. **Which of the following, if true, most helps to explain the disparity between the prostate cancer death rate in Rubaria and Terland?**

- A. Effective treatment of prostate cancer in its early stages generally requires medical techniques available in Rubaria but not in Terland.
- B. Most men who have prostate cancer are older than the average life expectancy for male inhabitants of Terland.
- C. Being in poor general health does not increase one's risk of developing prostate cancer.
- D. It is possible to decrease one's risk of getting prostate cancer by eating certain kinds of foods, and such foods are more readily available in Rubaria than in Terland.
- E. Among men in Rubaria, the death rate from prostate cancer is significantly higher for those who do not take full advantage of Rubaria's health care system than for those who do.

6. 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.

7. 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 counties 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% 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.
8. **Historian:** In the Drindian Empire, censuses were conducted annually to determine the population of each village. **Village census records for the last half of the 1600's are remarkably complete.** This very completeness makes one point stand out; in five different years, villages overwhelmingly reported significant population declines. Tellingly, each of those five years immediately followed an increase in a certain Drindian tax. This tax, which was assessed on villages, was computed by the central government using the annual census figures. Obviously, whenever the tax went up, villages had an especially powerful economic incentive to minimize the number of people they recorded; and concealing the size of a village's population from government census takers would have been easy. Therefore, it is reasonable to think that **the reported declines did not happen.** *In the historian's argument, the two portions in boldface play which of the following roles?*
- A. The first supplies a context for the historian's argument; the second acknowledges a consideration that has been used to argue against the position the historian seeks to establish.
  - B. The first presents evidence to support the position that the historian seeks to establish; the second acknowledges a consideration that has been used to argue against that position.
  - C. The first provides a context for certain evidence that supports the position that the historian seeks to establish; the second is that position.
  - D. The first is a position for which the historian argues; the second is an assumption that serves as the basis of that argument.
  - E. The first is an assumption that the historian explicitly makes in arguing for a certain position; the second acknowledges a consideration that calls that assumption into question.
9. 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 **a disproportionately large number of the scientists who produce highly creative work beyond the age of forty 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 simply aged but rather that they generally have spent too long in a given field. **In the argument given, the two portions in boldface play which of the following roles?**
- A. The first is the position that the argument as a whole opposes; the second is an objection that has been raised against a position defended in the argument.
  - B. The first is a claim that has been advanced in support of a position that the argument opposes; the second is a finding that has been used in support of that position.
  - C. The first is an explanation that the argument challenges; the second is a finding that has been used in support of that explanation.
  - D. The first is an explanation that the argument challenges; the second is a finding on which that challenge is based.
  - E. The first is an explanation that the argument defends; the second is a finding that has been used to challenge that explanation.

10. 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' 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' 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' 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 boldfaced portions play which of the following roles?
- The first provides evidence in support of the overall position that the historian defends; the second is evidence that has been used to support an opposing position.
  - The first provides evidence in support of the overall position that the historian defends; the second is that position.
  - The first provides evidence in support of an intermediate conclusion that is drawn to provide support for the overall position that the historian defends; the second provides evidence against that intermediate conclusion.
  - The first is evidence that has been used to support a conclusion that the historian criticizes; the second is evidence offered in support of the historian's own position.
  - The first is evidence that has been used to support a conclusion that the historian criticizes; the second is further information that substantiates that evidence.
11. City Official: At City Hospital, uninsured patients tend to have shorter stays and fewer procedures performed than do insured patients, even though insured patients, on average, have slightly less serious medical problems at the time of admission to the hospital than uninsured patients have. Critics of the hospital have concluded that **the uninsured patients are not receiving proper medical care.** However, **this conclusion is almost certainly false.** Careful investigation has recently shown two things: insured patients have much longer stays in the hospital than necessary, and they tend to have more procedures performed than are medically necessary. In the city official's argument, the two **boldface** portions play which of the following roles?
- The first states the conclusion of the city official's argument; the second provides support for that conclusion.
  - The first is used to support the conclusion of the city official's argument; the second states that conclusion.
  - The first was used to support the conclusion drawn by hospital critics; the second states the position that the city official's argument opposes.
  - The first was used to support the conclusion drawn by hospital critics; the second provides support for the conclusion of the city official's argument.
  - The first states the position that the city official's argument opposes; the second states the conclusion of the city official's argument.
12. **Several of a certain bank's top executives have recently been purchasing shares in their own bank.** This activity has occasioned some surprise, since it is widely believed that the bank, carrying a large number of bad loans, is on the brink of collapse. Since the executives are well placed to know their bank's true condition, it might seem that their share purchases show that the danger of collapse is exaggerated. However, the available information about the bank's condition is from reliable and informed sources, and corporate executives do sometimes buy shares in their own company in a calculated attempt to calm worries about their company's condition. **On balance, therefore, it is likely that the executives of the bank are following this example.** In the argument given, the two **boldfaced** portions play which of the following roles?
- The first describes the circumstance the explanation of which is the issue that the argument addresses; the second states the main conclusion of the argument.
  - The first describes the circumstance the explanation of which is the issue the argument addresses; the second states a conclusion that is drawn in order to support the main conclusion of the argument.
  - The first provides evidence to defend the position that the argument seeks to establish against opposing positions; the second states the main conclusion of the argument.
  - The first provides evidence to support the position that the argument seeks to establish; the second states a conclusion that is drawn in order to support the argument's main conclusion.
  - Each provides evidence to support the position that the argument seeks to establish.



13. **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 that the level of output is held constant.** In the argument given, the two **boldface** portions play which of the following roles?
- The first identifies the content of the conclusion of the argument; the second provides support for that conclusion.
  - The first provides support for the conclusion of the argument; the second identifies the content of that conclusion.
  - The first states the position that the argument opposes; the second states the conclusion of the argument.
  - Each provides evidence that calls the conclusion of the argument into question.
  - Each provides support for the conclusion of the argument.
14. Ecologist: The Scottish Highlands were once the site of extensive forests, but these forests have mostly disappeared and been replaced by peat bogs. The common view is that the Highlands' deforestation was caused by human activity, especially agriculture. However, **agriculture began in the Highlands less than 2,000 years ago.** Peat bogs, which consist of compressed decayed vegetable matter, build up by only about one foot per 1,000 years and, **throughout the Highlands, remains of trees in peat bogs are almost all at depths great than four feet.** Since climate changes that occurred between 7,000 and 4,000 years ago favored the development of peat bogs rather than the survival of forests, the deforestation was more likely the result of natural processes than of human activity. In the ecologist's argument the two portions in **boldface** play which of the following roles?
- The first is evidence that has been used in support of a position that the ecologist rejects; the second is a finding that the ecologist uses to counter that evidence.
  - The first is evidence that, in light of the evidence provided in the second, serves as grounds for the ecologist's rejection of a certain position.
  - The first is a position that the ecologist rejects; the second is evidence that has been used in support of that position.
  - The first is a position that the ecologist rejects; the second provides evidence in support of that rejection.
  - The first is a position for which the ecologist argues; the second provides evidence to support that position.
15. As a large corporation in a small country, Hachnut wants its managers to have international experience, so **each year it sponsors management education abroad for its management trainees.** Hachnut has found, however, that the attrition rate of graduates from this program is very high, with many of them leaving Hachnut to join competing firms soon after completing the program. Hachnut does use performance during the program as a criterion in deciding among candidates for management positions, but **both this function and the goal of providing international experience could be achieved in other ways.** Therefore, if the attrition problem cannot be successfully addressed, Hachnut should discontinue the sponsorship program. In the argument given, the two **boldfaced** portions play which of the following roles?
- The first describes a practice that the argument seeks to justify; the second states a judgment that is used in support of a justification for that practice.
  - The first describes a practice that the argument seeks to explain; the second presents part of the argument's explanation of that practice.
  - The first introduces a practice that the argument seeks to evaluate; the second provides grounds for holding that the practice cannot achieve its objective.
  - The first introduces a policy that the argument seeks to evaluate; the second provides grounds for holding that the policy is not needed.
  - The first introduces a consideration supporting a policy that the argument seeks to evaluate; the second provides evidence for concluding that the policy should be abandoned.

## INFERENCE QUESTIONS IN CR

1. In an experiment, two-year-old boys and their fathers made pie dough together using rolling pins and other utensils. Each father-son pair used a rolling pin that was distinctively different from those used by the other father-son pairs, and each father repeated the phrase "rolling pin" each time his son used it. But when the children were asked to identify all of the rolling pins among a group of kitchen utensils that included several rolling pins, each child picked only the one that he had used. **Which one of the following inferences is most supported by the information above?**
  - a) The children did not grasp the function of a rolling pin.
  - b) No two children understood the name "rolling pin" to apply to the same object.
  - c) The children understood that all rolling pins have the same general shape.
  - d) Each child was able to identify correctly only the utensils that he had used.
  - e) The children were not able to distinguish the rolling pins they used from other rolling pins.
2. Mystery stories often feature a brilliant detective and the detective's dull companion. Clues are presented in the story, and the companion wrongly infers an inaccurate solution to the mystery using the same clues that the detective uses to deduce the correct solution. Thus, the author's strategy of including the dull companion gives readers a chance to solve the mystery while also diverting them from the correct solution. **Which one of the following is most strongly supported by the information above?**
  - a) Most mystery stories feature a brilliant detective who solves the mystery presented in the story.
  - b) Mystery readers often solve the mystery in a story simply by spotting the mistakes in the reasoning of the detective's dull companion in that story.
  - c) Some mystery stories give readers enough clues to infer the correct solution to the mystery.
  - d) The actions of the brilliant detective in a mystery story rarely divert readers from the actions of the detective's dull companion.
  - e) The detective's dull companion in a mystery story generally uncovers the misleading clues that divert readers from the mystery's correct solution.
3. A recent research study of undergraduate students analyzed the effects of music on human emotions. Each of the 200 participants attended at least 1 two-hour concert of classical music per week over the course of 12 weeks of their spring semester. At the end of the experiment, all of the students filled out a questionnaire assessing their emotional state. Based on the results of the questionnaires, all of the 10 students who attended the greatest number of concerts reported lower stress levels and higher satisfaction with their lives. Also, most of the 20 students who attended the fewest number of concerts reported below-average levels of emotional comfort. **Which of the following must be true based on the evidence presented above?**
  - a) Most of the 200 participants improved their emotional state and lowered their stress levels.
  - b) During each week of the experiment, the participants spent at least 2 hours less on their academic work as a result of concert attendance.
  - c) Listening to classical music for at least 2 hours per week improves the emotional well-being of the majority of young adults.
  - d) More than 6 participants attended at least 14 concerts during the course of the experiment.
  - e) At least some of the students participated in the study in order to gain free access to classical concerts.
4. Everyone who has graduated from TopNotch High School has an intelligence quotient (IQ) of over 120. Most students with an IQ of over 120 and all students with an IQ of over 150 who apply to one or more Ivy League universities are accepted to at least one of them. **The statements above, if true, best support which of the following conclusions?**
  - a) Every graduate of TopNotch High School with an IQ of 150 has been accepted to at least one Ivy-League school.
  - b) If a person is a high-school graduate and has an IQ of less than 100, he or she could not have been a student at TopNotch High School.
  - c) If a person has an IQ of 130 and is attending an Ivy-League school, it is possible for him or her to have graduated from TopNotch High School.
  - d) At least one graduate from TopNotch high school who has applied to at least one Ivy-League university has been accepted to one of them.
  - e) If a high-school graduate has an IQ of 150 and is not attending an Ivy-League school, then he or she did not apply to one of them.



5. The number of North American children who are obese—that is, who have more body fat than do 85 percent of North American children their age—is steadily increasing, according to four major studies conducted over the past 15 years. **If the finding reported above is correct, it can be properly concluded that:**
- when four major studies all produce similar results, those studies must be accurate
  - North American children have been progressively less physically active over the past 15 years
  - the number of North American children who are not obese increased over the past 15 years**
  - over the past 15 years, the number of North American children who are underweight has declined
  - the incidence of obesity in North American children tends to increase as the children grow older
6. Students from outside the province of Markland, who in any given academic year pay twice as much tuition each as do students from Markland, had traditionally accounted for at least two-thirds of the enrollment at Central Markland College. Over the past 10 years academic standards at the college have risen, and the proportion of students who are not Marklanders has dropped to around 40 percent. **Which one of the following can be properly inferred from the statements above?**
- If it had not been for the high tuition paid by students from outside Markland, the college could not have improved its academic standards over the past 10 years.
  - If academic standards had not risen over the past 10 years, students who are not Marklanders would still account for at least two-thirds of the college's enrollment.
  - Over the past 10 years, the number of students from Markland increased and the number of students from outside Markland decreased.
  - Over the past 10 years, academic standards at Central Markland College have risen by more than academic standards at any other college in Markland.
  - If the college's per capita revenue from tuition has remained the same, tuition fees have increased over the past 10 years.**
7. Shipping Clerk: The five specially ordered shipments sent out last week were sent out on Thursday. Last week, all of the shipments that were sent out on Friday consisted entirely of building supplies, and the shipping department then closed for the weekend. Four shipments were sent to Truax Construction last week, only three of which consisted of building supplies. **If the shipping clerk's statements are true, which of the following must also be true?**
- At least one of the shipments sent to Truax Construction last week was specially ordered.
  - At least one of last week's specially ordered shipments did not consist of building supplies.
  - At least one of the shipments sent to Truax Construction was not sent out on Thursday of last week.
  - At least one of the shipments that were sent out on Friday of last week was sent to Truax Construction.
  - At least one of the shipments sent to Truax Construction last week was sent out before Friday.**
8. **Finding of a survey of Systems magazine subscribers:** Thirty percent of all merchandise orders placed by subscribers in response to advertisements in the magazine last year were placed by subscribers under age thirty-five.
- Finding of a survey of advertisers in Systems magazine:** Most of the merchandise orders placed in response to advertisements in Systems last year were placed by people under age thirty-five.
- For both of the findings to be accurate, which of the following must be true?**
- More subscribers to Systems who have never ordered merchandise in response to advertisements in the magazine are age thirty-five or over than are under age thirty-five.
  - Among subscribers to Systems, the proportion who are under age thirty-five was considerably lower last year than it is now.
  - Most merchandise orders placed in response to advertisements in Systems last year were placed by Systems subscribers over age thirty-five.
  - Last year, the average dollar amount of merchandise orders placed was less for subscribers under age thirty-five than for those age thirty-five or over.
  - Last year many people who placed orders for merchandise in response to advertisements in Systems were not subscribers to the magazine.**

9. Parasitic wasps lay their eggs directly into the eggs of various host insects in exactly the right numbers for any suitable size of host egg. If they laid too many eggs in a host egg, the developing wasp larvae would compete with each other to the death for nutrients and space. If too few eggs were laid, portions of the host egg would decay, killing the wasp larvae. **Which of the following conclusions can properly be drawn from the information above?**
- a) The size of the smallest host egg that a wasp could theoretically parasitize can be determined from the wasp's egg-laying behavior.
  - b) Host insects lack any effective defenses against the form of predation practiced by parasitic wasps.
  - c) Parasitic wasps learn from experience how many eggs to lay into the eggs of different host species.
  - d) Failure to lay enough eggs would lead to the death of the developing wasp larvae more quickly than would laying too many eggs.
  - e) Parasitic wasps use visual clues to calculate the size of a host egg.
10. Federal efforts to aid minority businesses began in the 1960's when the Small Business Administration (SBA) began making federally guaranteed loans and government-sponsored management and technical assistance available to minority business enterprises. While this program enabled many minority entrepreneurs to form new businesses, the results were disappointing, since managerial inexperience, unfavorable locations, and capital shortages led to high failure rates. Even 15 years after the program was implemented, minority business receipts were not quite two percent of the national economy's total receipts. **Which of the following statements about the SBA program can be inferred from the passage?**
- a) The maximum term for loans made to recipient businesses was 15 years.
  - b) Business loans were considered to be more useful to recipient businesses than was management and technical assistance.
  - c) The anticipated failure rate for recipient businesses was significantly lower than the rate that actually resulted.
  - d) Recipient businesses were encouraged to relocate to areas more favorable for business development.
  - e) The capitalization needs of recipient businesses were assessed and then provided for adequately.