NEW PS QUESTIONS FROM OG REVIEW 2017

PAGE 62, Q1

If $x + y = 2$ and $x^2 + y^2 = 2$, what is the value of xy?

A) -2 B) -1 C) 0 D) 1 E) 2

PAGE 63, Q10

If the average (arithmetic mean) of 5 numbers *j, j + 5, 2j – 1, 4j – 2,* and , *5j – 1* is 8, what is the value of *j*?

A) 1/3 B) 7/13 C) 1 D) 3 E) 8

PAGE 64, Q16

A grocer has 400 pounds of coffee in stock, 20 percent of which is decaffeinated. If the grocer buys another 100 pounds of coffee of which 60 percent is decaffeinated, what percent, by weight, of the grocer's stock of coffee is decaffeinated?

A) 28% B) 30% C) 32% D) 34% E) 40%

PAGE 64, Q19

If x = -5/8 and y = -1/2, what is the value of the expression $-2x - y^2$?

A) -3/2 B) -1 C) 1 D) 3/2 E) 7/4

PAGE 67, Q38

Three people each contributed *x* dollars towards the purchase of a car. They then bough the car for *y* dollars, an amount less than the total number of dollars contributed. If the excess amount is to be refunded to the three people in equal amounts, each person should receive a refund of how many dollars?

A) $\frac{3x - y}{3}$ B) $\frac{x - y}{3}$ C) $\frac{x - 3y}{3}$ D) $\frac{y - 3x}{3}$ E) $3(x - y)$

PAGE 69, Q53

If *a* and *b* are positive integers and $(2^a)^b = 23$, what is the value of $2^a 2^b$?

A) 6 B) 8 C) 16 D) 32 E) 64

PAGE 69, Q59

Stephanie has $2\frac{1}{4}$ cups of milk on hand and makes 2 batches of cookies, using $\frac{2}{3}$ cup of milk for each batch of cookies. Which of the following describes the amount of milk remaining after she makes the cookies?

A) Less than $\frac{1}{2}$ cup
B) Between $\frac{1}{2}$ cup and $\frac{3}{4}$ cup
C) Between $\frac{3}{4}$ cup and 1 cup
D) Between 1 and $1\frac{1}{2}$ cups
E) More than $1\frac{1}{2}$ cups

PAGE 70, Q63

The annual interest rate earned by an investment increased by 10 percent from last year to this year. If the annual interest rate earned by the investment this year was 11 percent, what was the annual interest rate last year?

A) 1% B) 1.1% C) 9.1% D) 10% E) 10.8%

PAGE 71, Q68

What is the larger of the 2 solutions of the equation $x^2 - 4x = 96$?

A) 8 B) 12 C) 16 D) 32 E) 100

PAGE 71, Q69

Of the goose eggs laid at a certain pond, $\frac{2}{3}$ hatched, and $\frac{3}{4}$ of the geese that hatched from those eggs survived the first month. Of the geese that survived the first month. Of the geese that survived the first month, $\frac{3}{5}$ did not survive the first year. If 120 geese survived the first year and if no more than one goose hatched from each egg, how many goose eggs were laid at the pond?

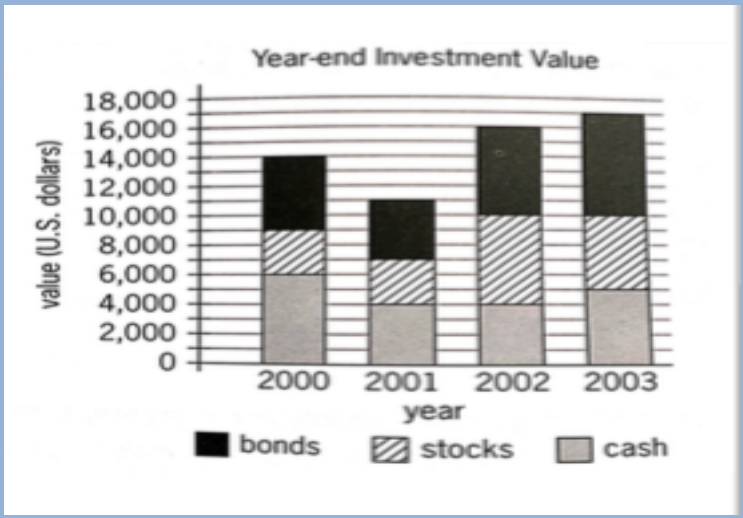
A) 280 B) 400 C) 540 D) 600 E) 840

PAGE 71, Q71

$\frac{(39{,}897)(0.0096)}{198.76}$ **is approximately**

A) 0.02 B) 0.2 C) 2 D) 20 E) 200

PAGE 72, Q76



The chart above shows year-end values for Darnella's investments. For just the stocks, what was the increase in value from year-end 2000 to year0end 2003?

A) \$1,000 B) \$2,000 C) \$3,000 D) \$4,000 E) \$5,000

PAGE 72, Q77

What is the sum of odd integers from 35 to 85, inclusive?

A) 1,560 B) 1,500 C) 1,240 D) 1,120 E) 1,100

PAGE 72, Q79

A certain drive-in movie theater has total of 17 rows of parking spaces. There are 20 parking spaces in the first row and 21 parking spaces in the second row. In each subsequent row there are 2 more parking spaces than in the previous row. What is the total number of parking spaces in the movie theater?

A) 412 B) 544 C) 596 D) 632 E) 692

PAGE 73, Q83

When 24 is divided by the positive integer *n*, the remainder is 4. Which of the following statements about *n* must be true?

I. *n* is even
II. *n* is a multiple of 5
III. *n* is a factor of 20

A) III only B) I and II only C) I and III only D) II and III only E) I, II, and III

PAGE 73, Q85

What is the thousandths digit in the decimal equivalent of $\frac{53}{5000}$?

A) 0 B) 1 C) 3 D) 5 E) 6

PAGE 73, Q87

If x and y are integers such that $2 < x \leq 8$ and $2 < y \leq 9$, what is the maximum value of $\left(\frac{1}{x} - \frac{x}{y}\right)$?

A) $-3\frac{1}{8}$ B) 0 C) $\frac{1}{4}$ D) $\frac{5}{18}$ E) 2

PAGE 74, Q 89

A garden center sells a certain grass seed in 5-pound bags at \$13.85 per bag, 10-pound bags at \$20.43 per bag, and 25-pound bags \$32.25 per bag. If a customer is to buy at least 65 pounds of the grass seed, but no more than 80 pounds, what is the least possible cost of the grass seed that the customer will buy?

A) \$94.03 B) \$96.75 C) \$98.78 D) \$102.07 E) \$105.3

PAGE 75, Q97

A positive integer is divisible by 9 if and only if sum of digits is divisible by 9. If n is a positive integer, for which of the following values of k is $25 \times 10^n + k \times 10^{2n}$ divisible by 9?

A) 9 B) 16 C) 23 D) 35 E) 47

PAGE 76, Q110

On the number line, if $r < s$, if p is halfway between r and s, and if t is halfway between p and r, then $\frac{s-t}{t-r} =$

A) 1/4 B) 1/3 C) 4/3 D) 3 E) 4

PAGE 77, Q114

Jonah drove the first half of a 100-mile trip in x hours and the second half in y hours. Which of the following is equal to Jonah's average speed, in miles per hour, for the entire trip?

A) $\frac{50}{x+y}$ B) $\frac{100}{x+y}$ C) $\frac{25}{x}+\frac{25}{y}$ D) $\frac{50}{x}+\frac{50}{y}$ E) $\frac{100}{x}+\frac{100}{y}$

PAGE 80, Q136

A certain manufacturer sells its products to stores in 113 different regions worldwide, with an average (arithmetic mean) of 181 stores per region. If last year these stores sold an average of 51,752 units of the manufacturer's product per store, which of the following is closest to the total number of units of manufacturer's product sold worldwide last year?

A) 10^6 B) 10^7 C) 10^8 D) 10^9 E) 10^{10}

PAGE 80, Q137

Andrew started saving at the beginning of the year and had saved $240 by the end of the year. He continued to save and by the end of 2 years had saved a total of $540. Which of the following is closest to the percent increase in the amount Andrew saved during the second year compared to the amount he saved during the first year?

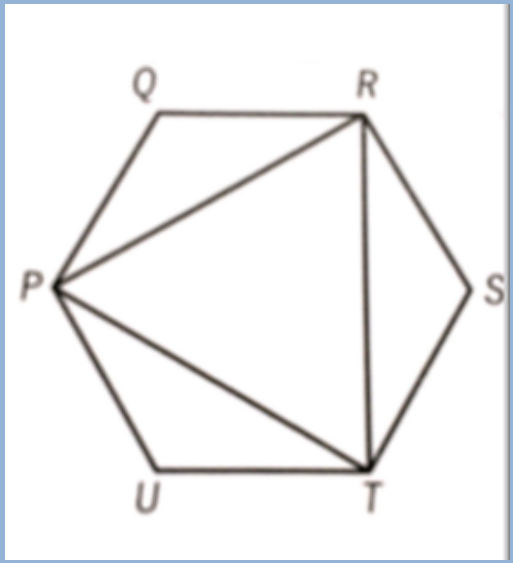
A) 11% B) 25% C) 44% D) 56% E) 125%

PAGE 81, Q139

Two numbers differ by 2 and sum to S. Which of the following is the greater of the numbers in terms of S?

A) $\frac{S}{2} - 1$ B) $\frac{S}{2}$ C) $\frac{S}{2} + \frac{1}{2}$ D) $\frac{S}{2} + 1$ E) $\frac{S}{2} + 2$

PAGE 81, Q145



In the figure shown, PQRSTU is a regular polygon with sides of length of *x*. What is the perimeter of triangle PRT in terms of *x*?

A) $\frac{x\sqrt{3}}{2}$ **B)** $x\sqrt{3}$ **C)** $\frac{3x\sqrt{3}}{2}$ **D)** $3x\sqrt{3}$ **E)** $4x\sqrt{3}$

PAGE 84, Q158

There are 5 cars to be displayed in 5 parking spaces, with all the cars facing the same direction. Of the 5 cars, 3 are red, 1 is blue, and 1 is yellow. If the cars are identical except for color, how many different display arrangements of the 5 cars are possible?

A) 20 B) 25 C) 40 D) 60 E) 125

PAGE 84, Q164

Becky rented a power tool from a rental shop. The rent for the tool was $12 for the first hour and $3 for each additional hour. If Becky paid a total of $27, excluding sales tax, to rent the tool, for how many hours did she rent it?

A) 5 B) 6 C) 9 D) 10 E) 12