

GRE Quant School

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KMF Math Sprint Practice - Section 13 Hard

Question: 1

Yesterday, 40 percent of the employees who were at work at Company X left for the day before 5 P.M and 70 percent of the remaining employees left for the day before 6 P.M.

Quantity A

The percent of the employees at Company X yesterday who did not leave for the day before 6 P.M

Quantity B

20%

- ☐ Quantity A is greater.
- ☐ Quantity B is greater.
- ☐ The two quantities are equal.
- ☐ The relationship cannot be determined from the information given.

Question: 2

A list of 6 nonzero numbers has a range of 20. For every number in the list, the negative of the number is also in the list.

Quantity A

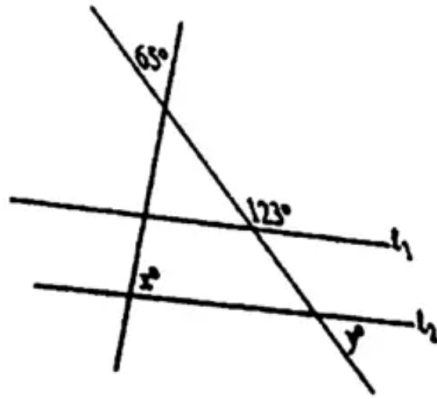
The value of the greatest number in the list

Quantity B

10

- ☐ Quantity A is greater.
- ☐ Quantity B is greater.
- ☐ The two quantities are equal.
- ☐ The relationship cannot be determined from the information given.

Question: 3



l_1 is parallel to l_2

Quantity A

x

Quantity B

y

- ☐ Quantity A is greater.
- ☐ Quantity B is greater.
- ☐ The two quantities are equal.
- ☐ The relationship cannot be determined from the information given.

Question: 4

-8, -3, 5, 8, 3, 5.....

In the sequence, each term after the first two terms is the absolute value of the difference of the two preceding terms.

Quantity A

The first number to occur three times in the sequence

Quantity B

3

- ☐ Quantity A is greater.
- ☐ Quantity B is greater.
- ☐ The two quantities are equal.
- ☐ The relationship cannot be determined from the information given.

Question: 5

The median of the five measurements in set X is 65 and the median of the five measurements in set Y is 75. All ten measurements in sets X and Y are between 60 and 80.

Quantity A

The median of the ten measurements in sets X and Y combined

Quantity B

70

- ☐ Quantity A is greater.
- ☐ Quantity B is greater.
- ☐ The two quantities are equal.
- ☐ The relationship cannot be determined from the information given.

Question: 6

$$|3r+2|=r+6$$

Quantity A

r

Quantity B

0

- ☐ Quantity A is greater.
- ☐ Quantity B is greater.
- ☐ The two quantities are equal.
- ☐ The relationship cannot be determined from the information given.

Question: 7

Quantity A

$89! - 88! - 87!$

Quantity B

$88^2 * 87!$

- ☐ Quantity A is greater.
- ☐ Quantity B is greater.
- ☐ The two quantities are equal.
- ☐ The relationship cannot be determined from the information given.

Question: 8

In a herd of 90 cows, some are brown, some are white, and the rest are both brown and white. In the herd, 55 cows are entirely or partially white, and 75 cows are entirely or partially brown. If the cows are randomly selected for inoculation, what is the probability that the first cow selected will be entirely white?

- ☐ $\frac{1}{6}$
- ☐ $\frac{3}{11}$
- ☐ $\frac{7}{18}$
- ☐ $\frac{4}{9}$
- ☐ $\frac{11}{18}$

Question: 9

The integer k is the product of four different prime numbers. If the result when k is divided by 10 is a multiple of 11, which of the following could be the result when k divided by 5?

- ☐ 50
- ☐ 55
- ☐ 66
- ☐ 121
- ☐ 198

Question: 10

In the xy -plane, line m passes through the point $(7, 7)$ and is perpendicular to the line $x+y=4$. The point (a, b) is on line m and is halfway between the point $(7, 7)$ and the line $x+y=4$. What is the value of $a+b$?

☐ 8

☐ 9

☐ 10

☐ 11

☐ 12

Question: 11

During a certain month, 20 percent of all the electricity used by a household was used by the water heater. The cost per kilowatt-hour of the electricity used by the water heater was half the cost per kilowatt-hour of the rest of the electricity used. For that month, the cost of the electricity used by the water heater was what fraction of the cost of the electricity used by the household?

☐ $\frac{1}{20}$

☐ $\frac{1}{9}$

☐ $\frac{1}{8}$

☐ $\frac{1}{5}$

☐ $\frac{1}{3}$

Question: 12

How many integers are in the solution set of the inequality $x^2 + x - 6 < 0$

☐ Two

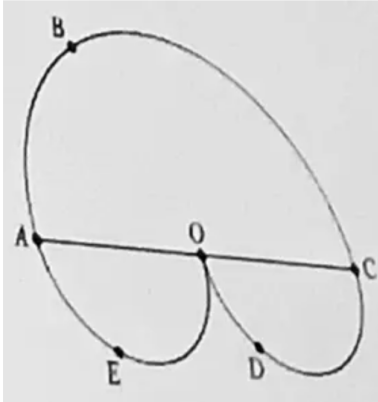
☐ Three

☐ Four

☐ Five

☐ Six

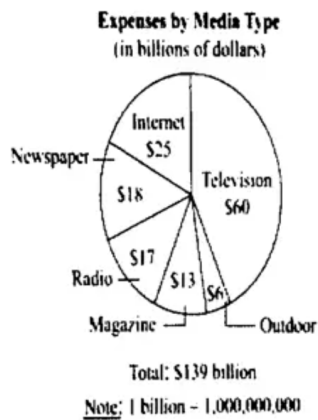
Question: 13



The figure ABCDOE above consists of a large semicircle ABC with center O and two small semicircles AEO and ODC. If the area of figure ABCDOE is 48π , what is the length of diameter AC?

Question: 14

Advertising Expenses in Country X in 2009



**Distribution of Expenses
for Television, by Market**

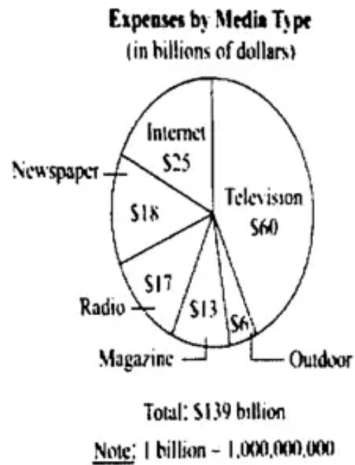
Market	Percent
National cable	35.3%
Local cable	31.3%
Major network	21.5%
Satellite	7.3%
Syndication	4.6%

To the nearest billion dollars, what was the median of the amounts of advertising expenses in the five television markets?

- ☐ \$10 billion
- ☐ \$13 billion
- ☐ \$17 billion
- ☐ \$19 billion
- ☐ \$21 billion

Question: 15

Advertising Expenses in Country X in 2009



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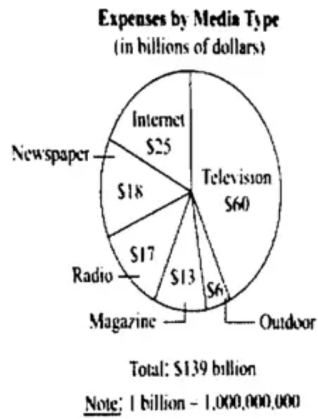
What was the range of the amounts of advertising expenses in the five television markets?

Give your answer to the nearest billion dollars.

\$_____billion

Question: 16

Advertising Expenses in Country X in 2009



Distribution of Expenses for Television, by Market

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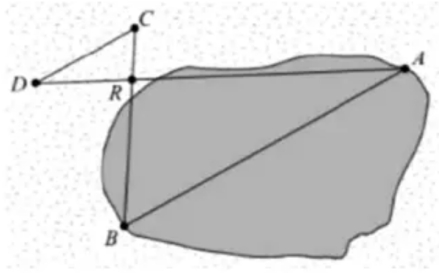
The amount of advertising expenses in the national cable television market was approximately what percent of the total amount of advertising expenses?

- ☐ 10%
- ☐ 15%
- ☐ 24%
- ☐ 35%
- ☐ 43%

Question: 17

On a construction map of a certain college campus, $\frac{1}{3}$ of the area of the campus is marked by landscaping. Of the part of the campus that is not marked by landscaping, $\frac{1}{8}$ of the area is marked for gym buildings. What fraction of the area of the campus is not marked for either landscaping or gym buildings?

Question: 18



The figure above represents a pond and the nearby land that surrounds it. Lucia plans to measure the distance across the pond from point A to point B. First, she will measure the distance from a rock on land at point R to point D on line AR. Next, she will measure the distance, along a line parallel to line AB, from point D to point C, which lies on line BR. Of the following, which additional measurement will be sufficient to determine the distance from A to B?

- ☐ The distance from A to R
- ☐ The distance from B to R
- ☐ The distance from C to R
- ☐ The measure of angle ARB
- ☐ The measure of angle DAB

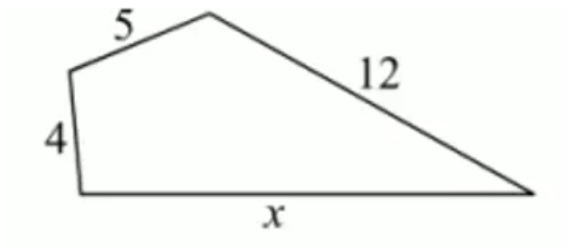
Question: 19

The operation \odot is defined by $x \odot y = \frac{1}{x} + \frac{1}{y}$ for all positive numbers x and y . Which of the following statements must be true for all positive numbers m and r ?

Indicate all such statements.

- ☐ $\frac{1}{m} \odot \frac{1}{r} = m + r$
- ☐ $m \odot r = \frac{m+r}{mr}$
- ☐ $m \odot r = r \odot m$

Question: 20



For the convex polygon above, which of the following intervals contains all possible value of x ?

☐ $1 < x < 17$

☐ $3 < x < 21$

☐ $4 < x < 12$

☐ $4 < x < 21$

☐ $7 < x < 21$