

Question 1

Quantitative Comparison

Quantity A	Quantity B
Length of the segment of the line $4x + 3y = 12$ intercepted between the coordinate axes.	Length of the median to side BC of triangle whose coordinates are A(4, 4), B(10, 4) and C(4, 12)

- A. Quantity A is greater
- B. Quantity B is greater
- C. The two quantities are equal
- D. Cannot be determined

Question 2

For which of the following events will the number of outcomes exceed 50?

Indicate all such events.

- A. The number of outcomes in which at least three heads appears in 6 consecutive tosses of a fair coin.
- B. The number of outcomes in which the sum of the digits that appear on the facing side is odd when a fair die rolled thrice.
- C. The number of outcomes in which the two cards drawn from a pack of well shuffled cards are both red and face cards.
- D. The number of outcomes in which the vowels appear together when the letters of the word 'PRIORITY' are reordered.
- E. The number of ways of posting 6 different letters in 2 different post boxes such that at least one letter is posted in each of the boxes.

- F. The number of ways of selecting at least one Indian and at least one American for a debate from a group comprising 3 Indians and 4 Americans and no one else.

Question 3

N is the smallest positive integer that has 7 factors.

Column A	Column B
Number of factors of \sqrt{N}	Number of factors of $(N - 2)$

- A. Column A is greater
- B. Column B is greater
- C. The two columns are equal
- D. Cannot be determined

Question 4

Quantity A	Quantity B
The probability that a word selected from the set of all rearrangements of the letters of the word "Math" results in "Math"	The probability that a word selected from the set of all rearrangements of the letters of the word "Good" results in "Good"

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

Question 5

The profit generated by company ABC is divided between its two founders Jack and Mark in a 4:3 ratio respectively.

Column 1

Column 2

Jack's share when the profit generated by company ABC is \$ 8000

\$5000

What is the correct answer?

1. Quantity in column 1 is higher
2. Quantity in column 2 is higher
3. The data provided isn't enough to determine the answer
4. Both the quantities given are equal

Question 6

What is the correct answer?

1. Quantity in column 1 is higher
2. Quantity in column 2 is higher
3. The data provided isn't enough to determine the answer
4. Both the quantities given are equal

Question 7

Assume that y is greater than 3.

Quantity 1: $(4y+2)/5$

Quantity 2: Y

What is the correct answer?

1. Quantity in column 1 is higher
2. Quantity in column 2 is higher
3. The data provided isn't enough to determine the answer
4. Both the quantities given are equal

Question 8

If $8x+64 = 8-6x$, what is the value of x ?

1. -4
2. -56
3. 12
4. 7
5. 4

Question 9

There is a glass jar containing 60 jelly beans. Out of these 60 jelly beans, 22 are black, 18 are blue, 11 are orange, 5 are maroon and 4 are violet. Assume that a single jelly bean has to be chosen at random. Then what is the probability that the jelly bean will be neither maroon nor violet?

1. 0.09
2. 0.15
3. 0.54
4. 0.85
5. 0.91

Question 10

The average of 10 numbers is 7. Which of the following statements is true? Indicate all true statements.

1. The average increases by 1 if each number increases by 1
2. The average becomes 3 times, if each number becomes three times
3. If the sum of the numbers increases by 7, the average increases by 1
4. If seven numbers increase by 3 each and three numbers decrease by 7 each, the average remains the same
5. The sum of the numbers is 70

Question 11

One pen costs \$0.25 and one marker costs \$0.35. At those prices, what is the total cost of 18 pens and 100 markers?

\$The answer space consists of a dollar sign, followed by a box for the answer.

Question 12

Rectangle R has length 30 and width 10, and square S has length 5. The perimeter of S is what fraction of the perimeter of R ?

The answer space consists of a fraction bar, and two boxes, one above and one below the fraction bar.

Question 13

Working alone at its constant rate, machine A produces k liters of a chemical in 10 minutes. Working alone at its constant rate, machine B produces k liters of the chemical in 15 minutes. How many minutes does it take machines A and B, working simultaneously at their respective constant rates, to produce k liters of the chemical?

The answer space consists of a fraction bar, and two boxes, one above and one below the fraction bar

Question 14

If $x^2 + 6x = -9$, how many values of x are possible?

- A. none
- B. one
- C. two
- D. three
- E. infinitely many

Question 15

If $p \circ q = p(q - p)$, which of the following specific operations yields $2p - 4$?

- A. $2p \text{ O } 2$
- B. $p \text{ O } 2$
- C. $2p \text{ O } p$
- D. $2 \text{ O } 2p$
- E. $2 \text{ O } p$

Question 16

Assume that $x > 5$ and that $2x$ is a multiple of 5. If $2x + 1 < 100$, how many values for x are possible?

Question 17

OmniCorp's call center operates 24 hours a day and receives an average of 40 customer-service calls per hour. 78 percent of all calls are received during the night shift. How many customer-service calls are received during this shift, on average?

Round your answer to the nearest integer.

Question 18

If Jason draws two marbles randomly from a bag containing six marbles — three red and three blue — what is the probability that he will draw two blue marbles from the bag?

Give your answer as a fraction.

Question 19

At a minimum, how many complete buckets of water, each with a capacity of 3 cubic meters, are needed to fill an empty cylindrical tank whose height is 3 meters and whose base has a radius of 2 meters?

Note: The value of pi (π) \approx 3.14.

Question 20

Distribution A: $\{m, 2m, 3m\}$

Distribution B: $\{m, m + 2, m + 3\}$

Quantity A

The arithmetic mean
(simple average)
of Distribution A

Quantity B

The arithmetic mean
(simple average)
of Distribution B

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