

Q1: $\frac{1}{2} - \frac{2}{4} + \frac{1}{6} - \frac{1}{6} \div 2 - \frac{1}{4} = ?$

- A) $\frac{1}{6}$ B) $\frac{1}{3}$ C) $-\frac{1}{3}$ D) $-\frac{1}{6}$

Q2: $\left[\left(\frac{0.025}{0.05} \right) \div \left(\frac{1}{2} - 1 \right) \right] = ?$

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

Q3: $\left(2 + \frac{3}{8} \right) \div \left(\frac{2}{3} - \frac{1}{6} \right) = ?$

- A) $\frac{17}{4}$ B) $\frac{19}{4}$ C) $\frac{17}{8}$ D) $\frac{19}{8}$

Q4: If a is an odd number, which of the following is always even number?

- A) $a^2 + 3$ B) $4a - 1$ C) $11a$ D) a^{2016}

Q5: $\frac{\sqrt{2.25} - \sqrt{1.96}}{\sqrt{0.09} - \sqrt{0.16}} = ?$

- A) 1 B) -1 C) 0.1 D) -0.1

Q6: What is the remainder when the sum of three consecutive even integers is divided by 3?

- A) 0 B) 1 C) 2 D) 3

Q7: $\left. \begin{array}{l} x + y = 12 \\ a - b = -7 \end{array} \right\} \Rightarrow -bx - by + ax + ay = ?$

- A) -84 B) 5 C) -19 D) -5

Q8: Find the value of x in the equation

$$x - 2 \left\{ x - [x - 2(x - 2)] \right\} = 14.$$

- A) 3 B) 2 C) -2 D) -3

Q9: If $\left. \begin{array}{l} x + y + z = 4 \\ xy + xz = 4 \end{array} \right\}$, then $x = ?$

- A) $\frac{3}{5}$ B) $\frac{5}{3}$ C) 2 D) -2

Q10: What is x if $\frac{3}{x-12} = \frac{8}{2x+14}$?

- A) 77 B) 73 C) 71 D) 69

Q11: $\frac{K}{L} = \frac{1}{7}$, $\frac{L}{M} = \frac{1}{4}$, $K + L + M = 72 \Rightarrow L = ?$

- A) 2 B) 14 C) 21 D) 42

Q12: How many of the following are correct?

- i. 0 is a positive integer
- ii. The greatest negative integer is -1
- iii. 5 is a rational number
- iv. 2 is a prime number
- v. -2.5 is an integer

- A) 1 B) 2 C) 3 D) 4

Q13:
$$\frac{\left(1 + \frac{1}{2}\right) \times \left(1 + \frac{1}{3}\right) \times \left(1 + \frac{1}{4}\right) \times \dots \times \left(1 + \frac{1}{12}\right)}{\left(1 - \frac{1}{2}\right) \times \left(1 - \frac{1}{3}\right) \times \left(1 - \frac{1}{4}\right) \times \dots \times \left(1 - \frac{1}{12}\right)} = ?$$

- A) 78 B) $\frac{57}{11}$ C) $\frac{66}{11}$ D) $\frac{78}{11}$

Q14: Which of the following is correct if $\frac{x - \frac{1}{y}}{y - \frac{1}{x}} = 4$?

- A) x is $\frac{1}{4}$ times y B) y is $\frac{1}{4}$ times x
 C) y is 4 times x D) x and y are equal

Q15: $\frac{1+2+3}{2} + \frac{4+5+6}{5} + \dots + \frac{100+101+102}{101} = ?$

- A) 96 B) 99 C) 102 D) 105

Q16: If $\begin{array}{l} a = 3 \\ b = -2 \end{array}$, then find the value $2a - b - (b - a)$.

- A) 13 B) 12 C) 11 D) 10

Q17: A tap can fill a tank in 12 minutes and another tap can fill the same tank in 24 minutes. How long will they take to fill the same tank together?

- A) 6 B) 8 C) 10 D) 12

Q18:
$$\frac{\left(2011 + \frac{1}{2}\right) - \left(2009 - \frac{1}{3}\right)}{\left(2007 + \frac{1}{3}\right) - \left(2005 - \frac{1}{2}\right)} = ?$$

- A) $\frac{13}{11}$ B) $\frac{12}{11}$ C) $\frac{10}{11}$ D) 1

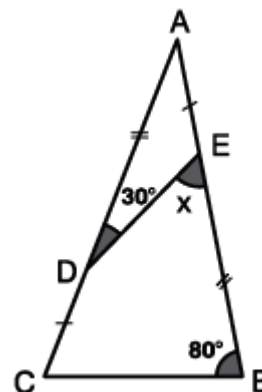
Q19: If $x^2 = 4$ and $y^2 = 9$, what is the greatest possible value of $(x - y)^2$?

- A) 9 B) 25 C) 16 D) 1

Q20: If $a + 2b = 8$ and "a and b" are positive integers. How many possible values of "a" are there?

- A) 1 B) 2 C) 3 D) 4

Q21: What is the value of x in the given triangle?



- A) 40 B) 45 C) 50 D) 55

Q22: Which of the following expressions is one of the factors of $x^2 + 6y - xy - 6x$?

- A) $y + 6$ B) $y - 6$ C) $x + 6$ D) $x - 6$

Q23: After the price of fuel went up by 10%, a man reduced his fuel consumption by 10%. What is the percentage change in his fuel bill?

- A) decreased by 1% B) increased by 1%
C) decreased by 9% D) unchanged

Q24: If $x = 193$ and $y = 82$, what is the value of
$$\frac{(x + y)^2 - 4xy}{3x - 3y} ?$$

- A) 1 B) 37 C) 111 D) 333

Q25: The radii of two circles are 7 and 14. What is the ratio of the circumference of first circle and the area of the second circle?

- A) $\frac{1}{7}$ B) $\frac{1}{14}$ C) $\frac{1}{21}$ D) $\frac{1}{22}$

Q26: The ratio of the number of female passengers in a bus is $\frac{3}{5}$. What is the total number of passengers if the number of male passengers is 8 less than the number of female passengers?

Which of the equation can be used to get the solution of the problem given above?

- A) $\frac{3x}{5} = \frac{2x}{5} + 8$ B) $\frac{3}{5}x - \frac{2}{5} = 8$
 C) $\frac{3x}{5} + \frac{2x}{5} = 8$ D) $\frac{3}{5} = \frac{x}{2x-8}$

Q27: Which of the following numbers cannot be the value of a if $\sqrt{0.ab}$ is a rational number where a and b are digits?

- A) 5 B) 3 C) 2 D) 0

Q28: If $0 < x < \frac{1}{2}$, which of the following has the least value?

- A) x^2 B) x^3 C) x D) $1-x$

Q29: What is the intersection of two sets A and B if A is a set consisting the first 10 positive even numbers and B is a set consisting the first 10 positive odd numbers?

- A) $\{1,2,3,4,5,6,7,8,9,10\}$ B) $\{1,3,5,7,9\}$
 C) $\{2,4,6,8,10\}$ D) $\{ \}$

Q30: $\frac{0.11+0.22+0.44+0.88}{0.33} = ?$

- A) 0.1 B) 0.5 C) 5 D) 0.8

Q31: The length of a certain rectangle is 4 times the width. If the area of the rectangle is 256, what is the length of the rectangle?

- A) 4 B) 8 C) 16 D) 32

Q32: If $\sqrt{x} + 22 = 39$, what is the value of x ?

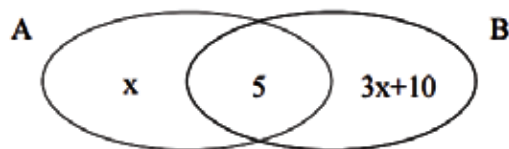
- A) 64 B) 256 C) 289 D) 324

Q33: Which of the following could be cube of an integer?

- I. 1
- II. 125
- III. 343

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

Q34: x , 5 and $3x+10$ represent the number of elements in $A-B$, $A \cap B$ and $B-A$ respectively in the Venn Diagram below.



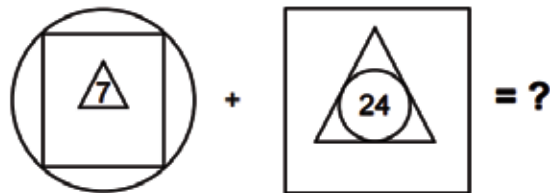
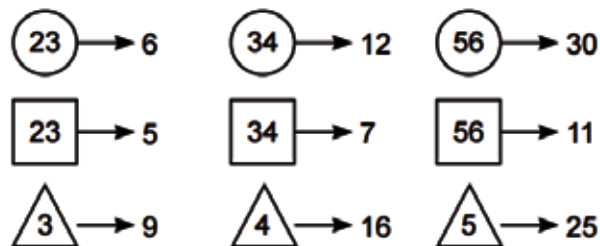
What is the value of x if the number of elements in the set $A \cup B$ is 27?

- A) 2
- B) 3
- C) 4
- D) 5

Q35: Faisal purchased 18 mouse pads for m rupees each. The total cost was Rs. 7200 more if he had purchased 14 mouse pads for m rupees each. What is the cost of one mouse pad?

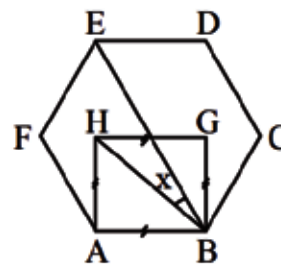
- A) Rs. 1200
- B) Rs. 1400
- C) Rs. 1600
- D) Rs. 1800

Q36: What is the number indicated by question mark in the below number patterns?



- A) 13
- B) 11
- C) 9
- D) 7

Q37: $ABGH$ is a square and $ABCDEF$ is a regular hexagon. What is the measure of $\angle HBE$ which is indicated by x ?



- A) 15
- B) 22
- C) 25
- D) 30

Q38: What will be replaced in the question mark?

$$1 \odot 3 = 2$$

$$3 \odot 5 = 12$$

$$5 \odot 7 = 30$$

$$6 \odot 9 = ?$$

- A) 54 B) 52 C) 48 D) 44

Q39: Which of the following is the shaded part of the square if numbers are arranged in a certain rule?

| | | | |
|---|----|----|---|
| 2 | 7 | 9 | 3 |
| 5 | | | 6 |
| 7 | 12 | | 8 |
| 8 | 13 | 15 | |

- A)**

| | | |
|----|----|---|
| 10 | 12 | |
| | 14 | |
| | | 9 |

B)

| | | |
|---|----|----|
| 9 | 11 | |
| | 10 | |
| | | 17 |
- C)**

| | | |
|----|----|----|
| 15 | 19 | |
| | 21 | |
| | | 14 |

D)

| | | |
|----|----|----|
| 18 | 21 | |
| | 8 | |
| | | 11 |

Q40: What will be the product of next two integers in the number pattern given below?

12, 11, 9, 6, 2,

- A) -27 B) -3 C) 12 D) 27

Q41: In a school, 60% of the students are girls and 40% of the students like Maths. If 20 new boys join the school and all of them like Maths then the percentage of girls becomes 58%. Now what is the number of students who like Maths?

- A) 232 B) 252 C) 318 D) 348

Q42: If a rectangular swimming pool has a volume of 16500 cm^3 , a uniform depth of 10 cm and a length of 75 cm, what is the width of the pool, in cm?

- A) 22 B) 26 C) 32 D) 110

Q43: Six cups of flour are required to make a pack of cookies. How many cups of flour are required to make enough cookies to fill 12 cookies jars, if each cookie jar holds 1.5 packs?

- A) 108 B) 90 C) 81 D) 78

Q44: Computer production in a factory occurs in two shifts as shown in the chart below. If computers are produced only during the morning and afternoon shifts, in which of the following pairs of days is the greatest total number of computer produced?

| Computer Production | | |
|---------------------|---------------|-----------------|
| Day | Morning Shift | Afternoon Shift |
| Monday | 200 | 378 |
| Tuesday | 245 | 330 |
| Wednesday | 255 | 340 |
| Thursday | 250 | 315 |
| Friday | 225 | 360 |

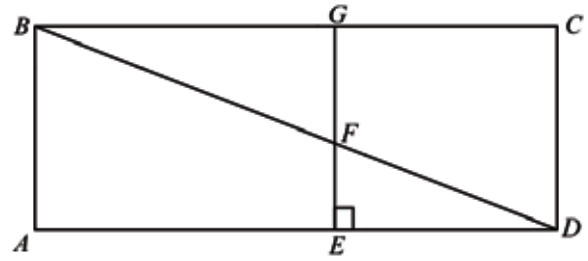
- A) Monday and Wednesday
- B) Tuesday and Thursday
- C) Wednesday and Friday
- D) Tuesday and Friday

Q45: What is $A+B+C$ if the numbers in the table are arranged according to a certain rule?

| | | |
|----|----|----|
| 2 | 3 | 6 |
| 7 | 8 | 16 |
| 17 | 18 | 36 |
| A | B | C |

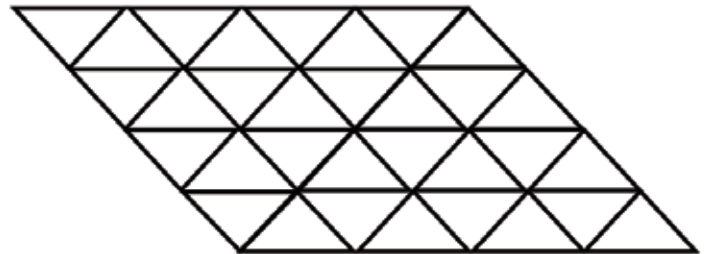
- A) 131
- B) 132
- C) 133
- D) 141

Q46: In the figure below, the area of rectangle $ABCD$ is 120. If $\overline{AD} \perp \overline{EG}$, $CD = 6$ and $AE = 12$, what is the length of \overline{ED} ?



- A) 6
- B) 8
- C) 9
- D) 10

Q47: How many triangles are there in the following figure?



- A) 32
- B) 52
- C) 54
- D) 56

Q48: If y is directly proportional to the square of x , then which of the following tables could represent values of x and y ?

A)

| x | y |
|-----|-----|
| 2 | 4 |
| 3 | 6 |
| 4 | 8 |

B)

| x | y |
|-----|-----|
| 1 | 2 |
| 4 | 8 |
| 9 | 18 |

C)

| x | y |
|-----|-----|
| 2 | 3 |
| 4 | 9 |
| 16 | 27 |

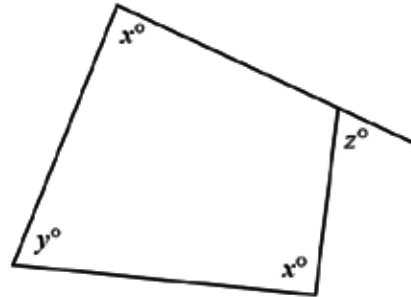
D)

| x | y |
|-----|-----|
| 1 | 1 |
| 2 | 4 |
| 3 | 9 |

Q49: Mustafa rides his motorbike with the speed of 30 km/hrs. in sunny weather and 20 km/hrs. in rainy weather. He rode his motorbike in the morning sunny weather and in the afternoon rainy weather today. It took 40 minutes to cover 16 km distance. How much time did he take to ride in rainy weather?

A) 16 min B) 20 min C) 24 min D) 28 min

Q50: In quadrilateral below, if $x = 85$ and $y = 72$, what is the value of z ?



A) 58 B) 62 C) 64 D) 118