

**Class: VI**  
**Subject: Mathematics**  
**Topic:**  
**No. of Questions: 30**  
**Duration: 90 Min**  
**Maximum Marks: 90**

1) What is the value of  $\frac{a+b}{a-b}$ , if  $\frac{a}{b} = 4$ ?

- (A)  $\frac{3}{5}$
- (B)  $\frac{5}{3}$
- (C)  $\frac{4}{5}$
- (D)  $\frac{5}{4}$

Sol. (B)

$$\frac{a}{b} = 4$$

$$a = 4b$$

On putting the value of a in  $\frac{a+b}{a-b}$ , we get

$$\frac{a+b}{a-b} = \frac{4b+b}{4b-b} = \frac{5b}{3b}$$

On dividing numerator and denominator by b, we get;

$$= \frac{5}{3}$$

2) The value of  $2\frac{1}{25}$  is?

- (A) 2.4
- (B) 2.25
- (C) 2.04
- (D) 2.40

Sol.(C)

$$\begin{aligned}2\frac{1}{25} &= 2 + \frac{1}{25} \\ &= 2 + \frac{1 \times 4}{25 \times 4} \\ &= 2 + \frac{4}{100} \\ &= 2 + 0.04 \\ &= 2.04\end{aligned}$$

- 3) The daily wages of 30 workers (in Rs) in a factory are given below.  
40, 45, 35, 70, 60, 52, 49, 46, 65, 56, 60, 35, 45, 40, 50, 56, 57, 48, 55, 52, 50, 70, 75, 80, 50, 45,  
52, 65, 72, 50  
The number of workers who are earning less than Rs. 50 per day is \_\_\_\_?
- (A) 6  
(B) 8  
(C) 10  
(D) 12

SOL. (C)

Rupees	Tally Marks	Number of workers
35		2
40		2
45		3
46		1
49		1
48		1
		Total 10

From the table it is clear that 10 workers are earning less than Rs 50 per day

- 4) Number of lines that can pass through a given point?
- (A) 1  
(B) 2  
(C) 3  
(D) Infinitely

**SOL. (D)**

Infinitely many lines can pass through a given point.

5)  $32.549 > 32.458$  because?

- (A) Tenth part is more
- (B) Hundredth is more
- (C) Thousandth is more
- (D) Whole part of both number are equal

**SOL. (A)**

$32.549 > 32.458$  because tenth part is more

$$\text{i.e., } \frac{5}{10} > \frac{4}{10}$$

6) Which has larger perimeter?

- (A) a regular pentagon of side 3 cm
- (B) a regular hexagon of side 3 cm
- (C) a regular heptagon of side 3 cm
- (D) a regular octagon of side 3 cm

Sol(D)

A regular octagon of side 3 cm has larger perimeter because it has maximum side.

7) The protractor is a semi-circular device graduated into \_\_\_\_\_ degree parts?

- (A) 270
- (B) 180
- (C) 90
- (D) 360

Sol.(B)

A semi-circular device graduated into 180 degree-parts. The measure starts from  $0^\circ$  on the right hand side and ends with  $180^\circ$  on the left hand side and vice-versa.

8) The value of variable in the expression is?

- (A) fixed
- (B) not fixed
- (C) zero
- (D) one

Sol.(B)

A variable is a symbol used to represent a number in an expression or an equation. The value of this number can vary (change)

9)  $\frac{5}{8} + \frac{3}{4} - \frac{7}{12}$  is equal to?

- (A)  $\frac{15}{24}$
- (B)  $\frac{17}{24}$
- (C)  $\frac{19}{24}$
- (D)  $\frac{21}{24}$

SOL.(C)

$$\frac{5}{8} + \frac{3}{4} - \frac{7}{12}$$

L.C.M of 8, 4, 12 is 24

$$\Rightarrow \frac{5 \times 3}{8 \times 3} + \frac{3 \times 6}{4 \times 6} - \frac{7 \times 2}{12 \times 2}$$

$$\Rightarrow \frac{15}{24} + \frac{18}{24} - \frac{14}{24}$$

$$\Rightarrow \frac{15+18-14}{24}$$

$$\Rightarrow \frac{19}{24}$$

10) 1m is equal to.

- (A) 0.1 km
- (B) 0.0001km
- (C) 0.01km

(D) 0.001 km

Sol.(D)

We know that 1000 m = 1 km

$$\text{Therefore, } 1 \text{ m} = \frac{1}{1000} \text{ m}$$

$$= 0.001 \text{ km}$$

**11)** In Proportion the Symbol :: is used for \_\_\_\_\_?

- (A) To show greater ratio
- (B) Two equate the two ratios
- (C) Two show smaller ratio
- (D) None of these.

Sol.(B)

In Proportion the Symbol :: is used for two equate the two ratios.

**12)** The diameter of a circle whose radius is  $r/2$  is equal to?

- (A)  $r$
- (B)  $2r$
- (C)  $\frac{r}{4}$
- (D)  $r^2$

sol.(A)

$$\text{Radius of circle} = \frac{r}{2}$$

$$\text{Diameter of circle} = 2 \times r$$

$$= 2 \times \frac{r}{2}$$

$$= r$$

**13)** The quotient of  $x$  by 2 is added by  $y$  is written as.

- (A)  $\frac{x}{2} + 5$

- (B)  $\frac{2}{x} + 5$
- (C)  $\frac{x+2}{5}$
- (D)  $\frac{x}{2+5}$

Sol.(A)

The quotient of x by 2 =  $\frac{x}{2}$

$\frac{x}{2}$  added to 5 =  $\frac{x}{2} + 5$

$$\Rightarrow \frac{x}{2} + 5$$

**14)** Shubham painted  $\frac{2}{3}$  of the wall and his sister painted  $\frac{1}{3}$  of the wall space. How much did they paint together?

- (A)  $\frac{2}{3}$
- (B)  $\frac{1}{3}$
- (C) 1
- (D)  $\frac{1}{2}$

Sol.(C)

Shubham painted  $\frac{2}{3}$  of the wall space

His sister painted  $\frac{1}{3}$  of the wall space

$$\text{Wall space painted by both of them together} = \frac{2}{3} + \frac{1}{3} = \frac{2+1}{3} = \frac{3}{3} = 1$$

**15)** The length of a lizard is 20cm and the length of a crocodile is 4m what is the ratio of the length of the crocodile to the length of the lizard?

- (A) 1 : 20
- (B) 20 : 1

- (C) 4 : 2
- (D) 1 : 5

Sol.(B)

The length of a lizard = 20 cm

The length of a crocodile = 4 m

$$= 400 \text{ cm } [ \because 1\text{m} = 100 \text{ cm} ]$$

Ratio of the length of the crocodile to the length of the lizard = 400 : 20

[ Dividing the first and second term by their H.C.F = 20 ]

$$= 20 : 1$$

**16)** What will be the distance covered by Shalini by taking three rounds around a square park of side 2 cm

- (A) 18 cm
- (B) 12 cm
- (C) 6 cm
- (D) 24 cm

Sol.(D)

Distance covered by Shalini in one round = Perimeter of square park of side 2 cm

$$= 4 \times \text{Length of a side}$$

$$= 4 \times 2 = 8 \text{ cm}$$

Distance covered by Shalini in three rounds =  $8 \times 3 = 24 \text{ cm}$

**17)** If  $\frac{45}{60}$  is equivalent to  $\frac{3}{x}$ , then x =?

- (A) 5
- (B) 4
- (C) 6
- (D) 20

Sol. (B)

$$\frac{45}{60} = \frac{3}{x}$$

On cross-multiplying, we get

$$45 \times x = 3 \times 60$$

$$X = \frac{3 \times 60}{45}$$

$$\Rightarrow x = \frac{180}{45}$$

On dividing the numerator and denominator by H.C.F of 180 and 45 we get;

$$\frac{180 \div 45}{45 \div 45} = 4$$

**18)** 0.35 – 0.035 is equal to?

- (A) 0.3
- (B) 0.349
- (C) 0.315
- (D) 0.353

Sol.(C)

Converting the given decimals to like decimals, we have

$$0.35 - 0.035 = 0.350 - 0.035$$

Now,

$$\begin{array}{r} 0.350 \\ - 0.035 \\ \hline 0.315 \end{array}$$

Hence,  $0.35 - 0.035 = 0.315$

**19)** Eight times a number p is x less than a number y is written as

- (A)  $8p = y - x$
- (B)  $p = 8x - y$



(C)  $p = -8x + y$

(D)  $8p = x - y$

Sol.(A)

We have,

8 times a number  $p = 8p$

x less than a number  $y = y - x$

∴ Eight times a number  $p$  is  $x$  less than a number  $y$  means

$8p = y - x$

**20)** A square pyramid has \_\_\_\_ vertices.

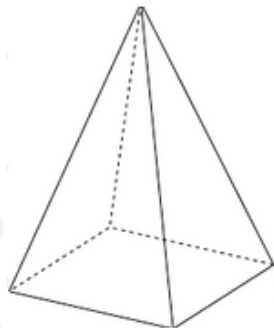
(A) 5

(B) 4

(C) 6

(D) 3

Sol.(A)



A square pyramid has 5 vertices.

**21)** The ruler in an instrument box is graduated into centimeters on one side and \_\_\_\_ on the other side?

(A) grams

(B) milliliters

(C) feet

(D) inches

Sol.(D)

The ruler in an instrument box is graduated into centimeters on one side and inches on the other side

**22)** If Rs 460 is distributed between A and B in the ratio 4 : 1, then A will get Rs \_\_\_\_?

- (A) 398
- (B) 350
- (C) 400
- (D) 368

Sol.(D)

Given, Rs 460 is distributed between A and B in the ratio 4 : 1.

Here, the two terms of the ratio 4 : 1 are 4 and 1.

Sum of these terms = 4 + 1

= 5

Now, A's share =  $\frac{4}{5} \times 460$

= Rs 368

Hence, A will get Rs 368.

**23)** The distance covered by an insect crawling along the edge of a square table-top having side of 15 cm is \_\_\_\_?

- (A) 30 cm
- (B) 45 cm
- (C) 60 cm
- (D) 65 cm

Sol.(C)

Given, side of the table-top is 15 cm.

We know that,

Perimeter of square =  $4 \times \text{Side}$

=  $4 \times 15$

= 60 cm

Hence, the insect will cover a distance of 60 cm along the edge of the square table-top.

**24)** A \_\_\_\_ is an instrument used to mark off equal lengths, but not to measure them?

- (A) compass
- (B) divider
- (C) ruler
- (D) set-square

Sol.(A)

A compass is an instrument used to mark off equal lengths, but not to measure them.

**25)**  $2x-3$  may be expressed as?

- (A) Ram's age is 3 years less than Shyam's age
- (B) Ram's age is 3 years less than twice Shyam's age.
- (C) Ram's age is 3 years more than twice the Shyam's age.
- (D) Ram's age is 3 years more than Shyam's age.

Sol. (B)

$2x-3$  may be expressed as Ram's age is 3 years less than twice Shyam's age.

**26)**  $\frac{3}{100} + \frac{5}{10000}$  is equal to?

- (A) 0.35
- (B) 0.305
- (C) 0.0305
- (D) 0.03005

Sol (C)

$$\frac{3}{100} = 0.03$$

$$\frac{5}{10000} = 0.0005$$

$$\begin{aligned}\text{Therefore, } \frac{3}{100} + \frac{5}{10000} &= 0.03 + 0.0005 \\ &= 0.0305\end{aligned}$$

27) In the following table, how many bicycles were manufactured from 1998 to 2002?

Years	No.of bicycles manufactured
1998	800
1999	600
2000	900
2001	1100
2002	1200

- (A) 2400
- (B) 4000
- (C) 4600
- (D) 2800

Sol.(C)

$$\begin{aligned}\text{Bicycles were manufactured from 1998 to 2002} &= 800 + 600 + 900 + 1100 + 1200 \\ &= 4600\end{aligned}$$

Hence, 4600 bicycles are manufactured

28) A train runs 255 kilometers in 5 hours. How many kilometers does it run in 8 hours?

- (A) 480
- (B) 408
- (C) 508
- (D) 308

Sol.(B)

Distance covered by the train in 5 hours = 255 km

$$\text{Distance covered by the train in 1 hour} = \frac{255}{5} = 51 \text{ km}$$

$$\text{Distance covered by the train in 8 hours} = 51 \times 8 = 408 \text{ km}$$

29) Adam starts from Delhi at 8 AM to Jaipur. If his car is running at the speed of  $x$  km/hr and at 1 PM he observes that he is 20 km away from Jaipur. Find the distance between Delhi and Jaipur.

- (A)  $5x + 20$  km
- (B)  $8x + 20$  km
- (C)  $\frac{x}{5} + 20$  km
- (D)  $x + 25$  km

Sol.(A)

We have,

Total time from 8 A.M to 1 P.M = 5 hours

Adam's car is running at the rate of  $x$  km/hr.

$$\begin{aligned} \therefore \text{Distance travelled by it in 5 hours} &= (5 \text{ times } x) \text{ km} \\ &= 5x \text{ km} \quad \quad \quad [\text{Distance} = \text{Speed} \times \text{time}] \end{aligned}$$

At 1 P.M, i.e. after 5 hours Adam is still 20 km away from Jaipur

$$\begin{aligned} \therefore \text{Distance between Delhi and Jaipur} &= (20 \text{ km more than } 5x) \text{ km} \\ &= 5x + 20 \text{ km} \end{aligned}$$

30) In figure what will be the area of 4 squares on the corners whose each side is 1 cm?



- (A)  $1 \text{ cm}^2$
- (B)  $4 \text{ cm}^2$
- (C)  $64 \text{ cm}^2$
- (D)  $8 \text{ cm}^2$

Sol.(B)

We have,

Area of one square of side 1 cm = side  $\times$  side

$$= 1 \text{ cm}^2$$

Area of 4 squares on the corners =  $4 \times$  area of one square

$$= 4 \times 1 \text{ cm}^2$$

$$= 4 \text{ cm}^2$$

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