

Class: VI
Subject: Mathematics
Topic: ASK1506UT05
No. of Questions: 30
Duration: 90 Min
Maximum Marks: 90

1) The ratio 384 : 480 in its simplest form is?

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

Sol. (C)

The given ratio is $384 : 480 = \frac{384}{480}$

To express this ratio in the simplest form, we have H.C.F of 384 and 480 is 96

$$\frac{384}{480} = \frac{384 \div 96}{480 \div 96} = \frac{4}{5}$$

Hence, the simplest form of the ratio 384 : 480 is 4 : 5

2) The total number of lines of symmetry of a scalene triangle is?

- (A) 1
- (B) 2
- (C) 3
- (D) None of these

Sol. (D)

This is because the line of symmetry of a scalene triangle is 0

3) A ratio equivalent to 2 : 3 is ?

- (A) 4 : 3
- (B) 2 : 6

- (C) 6 : 9
- (D) 10 : 9

SOL. (C)

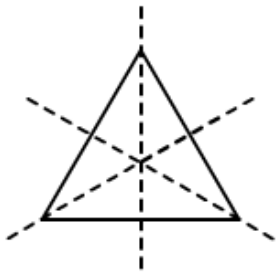
2 : 3 is equivalent to 6 : 9 by dividing by 3

4) An equilateral triangle is symmetrical about each of its?

- (A) Altitudes
- (B) medians
- (C) Angle bisectors
- (D) All the above

Sol. (D)

In equilateral triangle altitudes, angle bisectors and medians are all same.



5) An airplane flies 4000 km in 5 hours. How far does it travel in 3 hours?

- (A) 2400 km
- (B) 2000 km
- (C) 2100 km
- (D) 1800 km

SOL. (A)

We have,

Distance travelled in 5 hours = 4000 km

$$\therefore \text{Distance travelled in 1 hours} = \frac{4000}{5} \text{ km} = 800 \text{ km}$$

Hence, the distance travelled in 3 hours = $(800 \times 3) \text{ km} = 2400 \text{ km}$

Thus, the airplane travels 2400 km in 3 hours

6) A _____ is used to draw and measure angles?

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

Sol(A)

A protractor is used to draw and measure angles.

7) The angle of a triangle are in ratio 1 : 2 : 3. The measure of the largest angle is?

- (A) 30°
- (B) 60°
- (C) 90°
- (D) 120°

Sol. (C)

Sum of all the angles of a triangle = 180°

$$\text{Largest angle} = \frac{3}{(1+2+3)} \times 180 = \frac{3}{6} \times 180 = 90^\circ$$

8) Which of the following letters has a horizontal line of symmetry?

- (A) H
- (B) S
- (C) P
- (D) All of the above

Sol.(A)

Letter H has a horizontal line of symmetry

9) Two numbers are in the ratio 7 : 9. If sum of the number is 112, then the larger number is ?

- (A) 63
- (B) 42
- (C) 49
- (D) 72

SOL.(A)

Let the larger number be x

Then

$$\frac{9}{(7+9)} = \frac{x}{112}$$

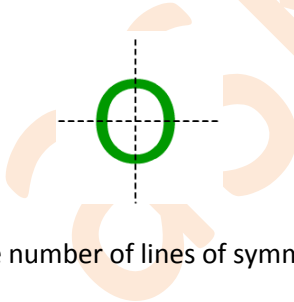
$$x = \frac{9}{16} \times 112$$

$$= 63$$

10) The number of lines of symmetry of the letter O of the English alphabet is?

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

Sol.(C)



The number of lines of symmetry of the letter O of the English alphabet is 2

11) The ratio of the income to the expenditure of a family is 7 : 6. Find the savings if the income is Rs1400.

- (A) Rs.500
- (B) Rs.220
- (C) Rs.200
- (D) Rs.180

Sol. (C)

The ratio of the income to the expenditure of family is 7 : 6

Savings = total income - expenditure

∴ Ratio of savings in income = $(7 - 6) : 7 = 1 : 7$

∴ income of the family = Rs.1400

∴ Savings = $1400 \times \frac{1}{7} = \text{rs } 200$

12) Find the ratio of 300 cm to 1.5 m.

- (A) 2 : 1
- (B) 1 : 3
- (C) 3 : 5
- (D) 4 : 5

Sol.(A)

The two quantities are not in the same units. Therefore we have to convert them into same units.

1.5 m = 1.5×100 cm = 150 cm

Therefore, the required ratio is 300: 150

$$= \frac{300}{150} = \frac{2}{1}$$

Required Ratio = 2 : 1

13) If a bus travels 126 km in 3 hours and a train travels 315 km in 5 hours, then ratio of their speeds is?

- (A) 2 : 5
- (B) 2 : 3
- (C) 5 : 2
- (D) 25 : 6

Sol.(B)

$$\text{Speed} = \frac{\text{Distance}}{\text{Time}}$$

$$\text{Speed of the bus} = \frac{126}{3} = 42 \text{ km/hr}$$

$$\text{Speed of the train} = \frac{315}{5} = 63 \text{ km/hr}$$

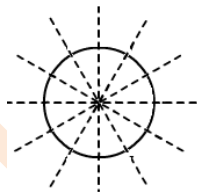
$$\text{Ratio of their speeds} = 42 : 63 = 2 : 3$$

14) The number of lines of symmetry of a circle is?

- (A) 0
- (B) 1
- (C) 2
- (D) unlimited

Sol.(D)

A circle has an infinite number of lines of symmetry all along the diameters. It has an infinite number of diameters.



15) For what value of p are the numbers , 96 108, p , and 72 in proportion?

- (A) 48
- (B) 56
- (C) 64
- (D) 52

Sol. (C)

The number a , b , c , and d are said to be proportion, if $a : b :: c : d$

Therefore, the number, 96, 108, p and 72 are in proportion, if $96 : 108 :: p : 72$

$$\text{ie., } \frac{96}{108} = \frac{p}{72}$$

$$\Rightarrow p = \frac{96 \times 72}{108} = 64$$

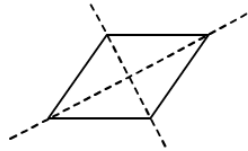
Thus, the value of p for which the number 96, 108, p and 72 are in proportion is 64

16) A rhombus is symmetrical about?

- (A) Each of its diagonals
- (B) The line joining the mid-points of its opposite sides
- (C) Perpendicular bisectors of each sides
- (D) None of these

Sol.(A)

∴ a rhombus has two lines of symmetry along the diagonals of the rhombus.



17) The cost of 30 of polyester cloth is Rs.450. Find the cost of 16 m of cloth.

- (A) Rs.240
- (B) Rs.420
- (C) Rs.320
- (D) Rs.142

Sol.(A)

We have,

Cost of 30 m of cloth = Rs 450

∴ Cost of 1 metre of cloth = $\text{Rs} \frac{450}{30}$

Hence, cost of 16 m of cloth = $\text{Rs} \left(\frac{450}{30} \times 16 \right)$

= Rs (15×16) = Rs 240

18) Find the ratio of 36 minutes to 2 hours.

- (A) 6 : 5

- (B) 3 : 10
- (C) 3 : 5
- (D) 5 : 4

Sol(B)

We have,

$$36 \text{ minutes to } 2 \text{ hours} = 36 \text{ min} : 2 \text{ hours} \quad [\because 1 \text{ hr} = 60 \text{ min} , \therefore 2 \text{ hr} = 120 \text{ min}]$$

$$= 36 \text{ min} : 120 \text{ min}$$

$$= 36 : 120$$

\Rightarrow Dividing the first and the second term by their H.C.F = 12

$$= 3 : 10$$

19) If 4, a, a, 36 are in proportion, then a =?

- (A) 25
- (B) 12
- (C) 3
- (D) 6

Sol.(B)

4, a, a, 36 are in proportion; therefore, we get

$$4 : a :: a : 36$$

$$\Rightarrow \frac{4}{a} = \frac{a}{36}$$

$$\Rightarrow 4 \times 36 = a \times a$$

$$\Rightarrow 144 = a^2$$

$$\Rightarrow a = 12$$

20) The number of lines of symmetry of an n-sided regular polygon is?

- (A) n

- (B) $2n$
- (C) $\frac{n}{2}$
- (D) None of these

Sol.(A)

The number of lines of symmetry of a regular polygon is equal to the sides of the polygon

If it has 'n' number of sides, then there are 'n' lines of symmetry

21) If $57 : x = 51 : 85$, then the value of x is?

- (A) 95
- (B) 52
- (C) 69
- (D) 66

Sol.(A)

Consider

$$\frac{57}{x} = \frac{51}{85}$$

$$\Rightarrow 57 \times \frac{85}{51} = x$$

$$\Rightarrow x = 95$$

22) The ratio of the length of school ground to its width is 3 : 2 . Find the length if the width of the ground is 60m.

- (A) 120m
- (B) 90m
- (C) 100m
- (D) 80m

Sol (B)

Let the ratio of the length of the school ground be x meters

Then, the ratio of the length to the width = x : 60

But, the ratio of the length of the school to its width is 3 : 2

$$\therefore x : 60 = 3 : 2$$

$$\Rightarrow x \times 2 = 60 \times 3$$

$$\Rightarrow 2x = 180$$

$$\Rightarrow x = \frac{180}{2}$$

$$\Rightarrow x = 90$$

Hence, the length of the school playground is 90m

23) If the cost of 5 bars of soaps is Rs.30, then the cost of one dozen bar is

- (A) Rs60
- (B) Rs120
- (C) Rs72
- (D) Rs140

Sol.(C)

Let the cost of one dozen bars be Rs.x

$$\therefore \frac{30}{5} = \frac{x}{12}$$

$$\Rightarrow x = \frac{30}{5} \times 12$$

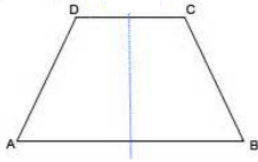
$$= \text{Rs}72$$

Cost of one dozen(12)bars = Rs72

24) Which quadrilateral has only one line of symmetry?

- (A) Square
- (B) Rhombus
- (C) Rectangle
- (D) Isosceles Trapezium

Sol.(D)



It has only one line of symmetry along the line segment joining the mid points of the two parallel sides.

25) The ratio of boys and girls in a school is 12 : 5. If there are 840 girls in the school, then the number of boys is?

- (A) 1190
- (B) 2380
- (C) 2142
- (D) 2016

Sol.(D)

If the numbers of girls in the school is 840,

Let the numbers of boys be x

It is given that the ratio of boys and girls is 12 : 5. Therefore, we get:

$$\therefore \frac{12}{5} = \frac{x}{840}$$

$$x = \frac{12}{5} \times 840$$

$$x = 2016$$

Hence, the numbers of boys in the school is 2016

26) The weight of 72 books is 9 kg. How many such books weight 6 kg?

- (A) 48
- (B) 84
- (C) 46
- (D) 26

Sol.(A)

We have,

The number of books in 9 kg weight = 72

\therefore the number of books in 1 kg weight = $\frac{72}{9} = 8$

Hence, the number of books in 6 kg weight = $8 \times 6 = 48$

Thus, the number of books in 6kg weight is 48

27) Express the ratio in simplest form: a dozen to a score?

- (A) 1 : 3
- (B) 3 : 5
- (C) 1 : 20
- (D) 3 : 10

Sol.(B)

We have,

A dozen to a score = one dozen : one score

One dozen = 12

One score = 20

The H.C.F of the two terms of this ratio is 4. Dividing each term by 4, we have get,

$$= 12 : 20$$

$$= 3 : 5$$

Hence, a dozen to a score = 3 : 5

28) A woman worker earns Rs18000 in 15 months. In how many months will she earn Rs30000?

- (A) 12 months
- (B) 10 months
- (C) 20 months
- (D) 25 months

Sol.(D)

We have,

Numbers of months required to earn Rs18000 = 15

$$\therefore \text{Numbers of months required to earn Re 1} = \frac{15}{18000}$$

Hence, number of months required to earn= rs 30000

$$= \left(\frac{15}{18000} \times 30000 \right)$$

$$= 25$$

Thus, she will earn Rs30000 in 25 months

29) If 25, 35, x are in continued proportion, find the value of x?

- (A) 45
- (B) 49
- (C) 15
- (D) 42

Sol.(B)

Since 25, 35, X are in continued proportion, therefore,

\therefore 25, 35, 35, x are in proportion

$$\Rightarrow 25 \times x = 35 \times 35$$

$$\Rightarrow 25x = 35 \times 35$$

$$\Rightarrow x = \frac{35 \times 35}{25}$$

$$\Rightarrow x = 49$$

30) 25 bags of wheat each weighing 40 Kg cost Rs.2750. Find the cost of 35 bags of wheat, if each bag weight 50 kg?

- (A) Rs.4812.50
- (B) Rs.4518.50
- (C) Rs.4866.50
- (D) Rs.4786.50

Sol.(A)

We have,

Quantity of wheat in one bag = 40 Kg

∴ Quantity of wheat in 25 bags = (40×25) Kg = 1000 kg

Quantity of wheat in one bag = 50 kg

∴ Quantity of wheat in 25 bags = (50×35) kg = 1750 kg

Now,

Cost of 1000 Kg of wheat = Rs.2750

∴ Cost of 1 kg of wheat = Rs $\frac{2750}{1000}$

Hence, the cost of 1750 kg of wheat = $\text{Rs} \left(\frac{2750}{1000} \times 1750 \right)$
 $= \text{Rs} \frac{9625}{2} = \text{Rs.4812.50}$

Thus, 35 bags of 50 kg each will cost Rs.4812.50