

G.S.A

Test - 4

Q.No. 1

A) Find the missing terms

1. 2, 3, 6, 4, 5, 20, 6, 3, 18

2. 1, 3, 9, 15, 25, 35, 49

3. 2, 7, 10, 22, 18, 37, 26, 52.

4. 34, 7, 37, 14, 40, 28, 43, 56.

5. 5, 7, 11, 13, 17, 19

B)

Let the numbers be $2x$ and $3x$:

The relationship of LCM and HCF is:

$$\text{LCM} \times \text{HCF} = \text{Product of the numbers}$$

$$\text{Product} = 294$$

$$\text{HCF} = x, \quad \text{LCM} = 6x$$

Thus:

$$x \times 6x = 294$$

$$6x^2 = 294$$

$$x^2 = \frac{294}{6}$$

$$x^2 = 49$$

$$x = 7$$

The numbers are:

$$2x = 14$$

$$\text{and } 3x = 21$$

Answer

(c)

$$\text{Volume of a brick} = 25\text{cm} \times 11.25\text{cm} \times 6\text{cm}$$

$$= 1687.5 \text{ cm}^3$$

$$\text{Volume of the wall} = 8\text{m} \times 6\text{m} \times 22.5\text{cm}$$

$$= 800\text{cm} \times 600\text{cm} \times 22.5\text{cm}$$

$$= 10800000 \text{ cm}^3$$

Number of bricks required:

$$\frac{10800000}{1687.5} \approx 6400$$

6400 bricks required.

(d)

Let the two numbers be x and $2x$

So,

$$x + 2x = 96$$

$$3x = 96$$

$$x = \frac{96}{3}$$

$$x = 32$$

Thus the numbers are:

32 and 64 Answer

Q No. 2

(A)

Let the profits of the three partners be represented as $5x$, $7x$ and $8x$

The investments can be calculated using the formula:

$$\text{Investment} = \text{Profit} \times \text{Time}$$

Date: _____

Day: _____

Given their partnering times

Partner 1: 14 months

Partner 2: 8 months

Partner 3: 7 months

Calculating their investments:

Partner 1: $5x \times 14 = 70x$

Partner 2: $7x \times 8 = 56x$

Partner 3: $8x \times 7 = 56x$

Now, the ratio of their investments is:

$70x : 56x : 56x = 70 : 56 : 56$

To simplify:

$5 \cdot \cancel{70}^4 : \cancel{56}^4 : \cancel{56}^4$

$5 : 4 : 4$

The ratio of their investments is

$5 : 4 : 4$

(8)

Let the three consecutive odd numbers be x , $x+2$ and $x+4$

The average is given as:

$$\frac{x + (x+2) + (x+4)}{3} = 91$$

Simplifying:

$$\frac{3x+6}{3} = 91$$

$$3x+6 = 91 \times 3$$

$$3x+6 = 273$$

$$3x = 273 - 6$$

$$x = \frac{267}{3} = 89$$

$$x = 89$$

Thus, the three consecutive odd numbers are

89, 91 and 93

Answer

(C)

Let the first number be A and the second number be B .

$$0.4 A = \frac{2}{3} B$$

To find the ratio $A:B$, rewrite the equation

$$A = \frac{2}{3} \times \frac{1}{0.4} B$$

$$= \frac{2}{3} \times \frac{10}{4} B$$

$$= \frac{5}{6} B$$

Thus, the ratio is:

$$A:B = 5:6$$

(D)

Let the height of the tree be h

From the information

(Distance from the light to the tree = 4 meters

Distance from the tree to the building: 6 meters

Height of the building: 50 meters

Using the Properties of similar triangles

Total distance from building = $4+6=10$ meters

$$\frac{h}{4} = \frac{50}{10}$$

Cross multiplying gives

$$10h = 200$$

$$h = \frac{200}{10}$$

$$h = 20$$

The height of the tree is 20 meters