

## G.S.A

## Test - 4

30

## 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 ✓

5

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:

$$2x = 14 \quad \text{and} \quad 3x = 21 \quad \text{Answer}$$

(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:~~

Investment = Profit  $\times$  Time

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:

$$\frac{70}{14} : \frac{56}{14} : \frac{56}{14}$$

$$5 : 4 : 4$$

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.

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

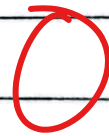
To find the ratio A:B, rewrite the equation

~~$A = \frac{2}{3} \times \frac{1}{0.4} B$   
 $= \frac{2}{3} \times \frac{10}{4} B$~~

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

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

