

GK-04

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QUESTION - 01

A.

Find missing terms :

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

2. 1, 3, 9, 15, 25, 34, 49

3. 2, 7, 10, 22, 18, 37, 26, 48

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

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

B.

Ratio

Given :

Two numbers in ratio of 2:3

Product of LCM HCF = 294

Making equation from the given,

$$2x : 3x = \text{LCM} \times \text{HCF}$$

$$= 294$$

$$(2x) \times (3x) = 294$$

$$6x^2 = 294$$

To Find :

Find the numbers = ?

Using the original equation,

$$6x^2 = 294$$

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

$$x^2 = 49$$

Taking root on both sides,

$$\sqrt{x^2} = \sqrt{49}$$

$$x = 7$$

The number is 7.

Now using it with ratios,

$$2x = 2(7) = 14$$

$$3x = 3(7) = 21$$

Thus, the numbers are 14, 21

C.

Number of Bricks

Given:

$$\begin{aligned} \text{thickness of brick} &= 25\text{cm} \times 11.25\text{cm} \times 6\text{cm} \\ &= 1687.5 \text{ cm}^3 \end{aligned}$$

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

Converting into cm,

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

$$= 10,800,000 \text{ cm}^3$$

To Find :

Number of bricks = ?

Solution :

Number of bricks = ?

Using a formula,

Number of bricks = $\frac{\text{Volume of wall}}{\text{Volume of brick}}$

putting values in formula,

Number of bricks = $\frac{10,800,000 \text{ cm}^3}{1687.5 \text{ cm}^3}$

$$= \frac{10,800,000 \times 10}{1687.5 \times 3575}$$

$$= \frac{21600000}{3575 \times 715}$$

$$= \frac{4320000}{715}$$

$$= 64,000$$

Thus, to build a wall, 64,000 bricks will be needed.

D.

Numbers

Given Data :

$$\text{greater of numbers} = 2x$$

$$\text{lesser of number} = x$$

$$\text{sum of numbers} = 96$$

To Find :

$$\text{Numbers} = ?$$

Solution :

$$2x + x = 96$$

$$3x = 96$$

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

$$x = 32$$

$$\text{The lesser number} = 32$$

$$\begin{aligned} \text{The greater number} &= 2(32) \\ &= 64 \end{aligned}$$

Hence, the two numbers are
64, 32

QUESTION - 03

A.

Ratio of Investments

Given :

Three partners shared a profit
= 5 : 7 : 8

Time period of partnership
= 14 : 8 : 7

To Find :

Ratio of investments = ?

Solution :

Using the relevant formula,

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

Setting the formula accordingly,

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

~~$$\begin{aligned} I_1 &= \frac{P_1}{T_1} \\ &= \frac{5}{14} \times \frac{7}{8} \times \frac{8}{7} \\ &= \frac{5}{14} \end{aligned}$$~~

DATE: ___/___/___

$$\frac{I_1}{I_2} = \frac{5}{7} \times \frac{8}{14}$$

$$= \frac{40}{98}$$

$$\frac{I_1}{I_2} = \frac{20}{49}$$

$$\frac{I_2}{I_3} = \frac{7}{8} \times \frac{7}{8}$$

$$= \frac{49}{64}$$

$$\frac{I_2}{I_3} = \frac{49}{64}$$

Thus, ratios of investments,
40 : 49 : 64

B.

Numbers

Given :

average of 3 consecutive = 91

To Find :

number = ?

Solution :

From the given statement,

$$= x, x+2, x-2$$

$$\text{Average} = 91$$

Using the formula,

$$\text{average} = \frac{\text{sum of values}}{\text{total number}}$$

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

$$91 \cdot 3 = 3x$$

$$273 = 3x$$

$$x = \frac{273}{3}$$

$$x = 91$$

Substituting values,

$$\Rightarrow x+2 = 91+2 = 93$$

$$\Rightarrow x-2 = 91-2 = 89$$

Thus, the numbers are
89, 91, 93

C.

Ratio of Numbers

P.T.O

Let the first number be x

" second " " y

According to the statement,

$$40\% = \frac{2}{3}$$

$$0.4x = \frac{2}{3}y$$

$$\frac{x}{y} = \frac{2}{3} \times 0.4$$

$$\frac{x}{y} = \frac{2}{3} \times \frac{2}{5}$$

$$\frac{x}{y} = \frac{2}{3} \times \frac{5}{2}$$

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

The ratio of first number to the second is $5:3$.

D.

HEIGHT :

Given :

distance from source to light = 4m

" " tree to building = 6m

height of building = 50m

To find :

height of tree = ?



$$\begin{aligned} \text{The total distance} &= 4\text{m} + 6\text{m} \\ &= 10\text{m} \end{aligned}$$

$$\begin{aligned} \text{height of building} &= 50\text{m} \\ &= \frac{50}{10} = 5\text{m} \end{aligned}$$

