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SECTION II

QUESTION

PART B

Data

$$20\% \text{ of } a = b$$

$$20 \times a = b$$
$$100$$

$$0.2 \times a = b \quad (i)$$

Required

$$b\% \text{ of } 20 = a\% = ?$$

SOLUTION

$$b\% \text{ of } 20 \quad (ii)$$

Adding value of b in eq (ii)

$$= \frac{0.2 \times a \times 20}{100}$$

$$= \frac{0.4 \times a}{100}$$

$$= \frac{0.4 \times a}{100}$$

$$= 4\% \text{ of } a$$

So Result

$$b\% \text{ of } 20 = 4\% \text{ of } a$$

$$\begin{array}{r} 0.2 \\ \times 20 \\ \hline 00 \\ 04 \times \\ \hline 04.0 \end{array}$$

(PART C)(DATA)

Two numbers in ratio

$$2:3$$

Product of their L.C.M/H.C.F = 294

(REQUIRED)

Find the numbers.

(SOLUTION)

Let the numbers are

$$2x \text{ and } 3x$$

According to condition

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

$$6x^2 = 294$$

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

$$x^2 = 49$$

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

$$x = 7$$

So the numbers are

$$2x = 2 \times 7 = 14$$

$$3x = 3 \times 7 = 21$$

$$= 14:21$$

$$= 2:3$$

(PART D)(DATA)

Cost of 1 brick = 30Rs

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

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

Change 8m and 6m into cm

$$\therefore 1\text{m} = 100\text{cm}$$

$$\text{So} \quad = 8\text{m} \times 6\text{m} \times 22.5\text{cm}$$

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

(Required)

Cost of building a wall = ?

(SOLUTION)

$$\therefore \text{Volume} = L \times W \times H$$

$$\text{So Volume of bricks} = 25 \times 11.25 \times 6\text{cm}$$

$$\text{Volume}_{\text{(B)}} = 1687.5\text{cm}^3$$

$$\text{Volume of wall} = 800 \times 600 \times 22.5\text{cm}$$

$$\text{Volume}_{\text{(W)}} = 10800,000\text{cm}^3$$

Now No of Bricks are:

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

$$= \frac{10800,000\text{cm}^3}{1687.5\text{cm}^3}$$

$$= 6400$$

So cost of Building a wall

$$= \text{Cost of 1 brick} \times 6400 \text{ bricks}$$

(PART A)
(DATA)

Zahid and Basit Investment Ratio = 3:2

Profit goes to Charity = 5%

Total profit left P = $100 - 5\%$
= $95\%P$

Zahid share = 8550Rs.

(Required)

Total profit P = ?

(SOLUTION)

By applying the formula

Total share of Zahid = $\frac{\text{Ratio of Investment}}{\text{Total Investment Ratio}} \times 95\%P$

$$8550 = \frac{3}{5} \times \frac{95}{100} P$$

$$\frac{8550 \times 5}{3 \times 0.95} = P$$

Total Profit = Rs. 15000

QUESTION # 07PART A

(DATA) Let number of men in bus = x

Number of women in bus = $\frac{x}{2}$

At Rawalpindi men left = $x - 10$

women entered = $\frac{x}{2} + 5$

(REQUIRED)

Number of men and women at the beginning

(SOLUTION)

According to condition

$$x - 10 = \frac{x}{2} + 5$$

$$x - \frac{x}{2} = 5 + 10$$

$$\frac{2x - x}{2} = 15$$

$$\frac{x}{2} = 15$$

$$x = 15 \times 2$$

$$x = 30$$

So At beginning = $x = 30$

No of men $x = 30$

No of Women = $\frac{x}{2} = \frac{30}{2} = 15$

PART BCODING

K E N W O O D

$$\begin{array}{ccccccc} \downarrow 6 & \downarrow 12 & \uparrow 8 & \parallel 0 & \uparrow 6 & \uparrow 12 & \downarrow 8 \end{array}$$

R R G W I C L

So

P A N A S O N I C

$$\begin{array}{ccccccc} \downarrow 6 & \downarrow 12 & \uparrow 8 & \parallel 0 & \uparrow 6 & \uparrow 12 & \downarrow 8 & \parallel 0 & \downarrow 6 \end{array}$$
W N F A L B V I JPART C(DATA)Let the numbers = x and y 40% of $x = \frac{2}{3}$ of y (REQUIRED)Ratio of $x/y =$ (SOLUTION)40% of $x = \frac{2}{3}$ of y

$$\frac{40}{100} \times x = \frac{2}{3} \times y$$

$$\frac{x}{y} = \frac{2}{3} \times \frac{100}{40}$$

$$\frac{x}{y} = \frac{100}{60}$$

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$$\frac{x}{y} = \frac{50}{30} = \frac{5}{3}$$

So Ratio of x to y
 $x:y = 5:3$

(PART D)

DATA

Distance between light source and tree, d_1
 $= 4\text{m}$

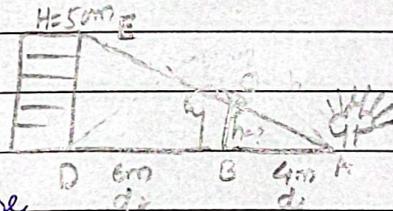
Distance between building and tree, d_2
 $= 6\text{m}$

Height of building, $H = 50\text{m}$

(REQUIRED)

Height of tree, $h = ?$

SOLUTION



According to the figure

Distance from light source to Building is

$$D = d_1 + d_2$$

$$D = 4\text{m} + 6\text{m}$$

$$D = 10\text{m}$$

As height ratio As there are two similar triangle $\triangle ABC$ and $\triangle ADE$ therefore, the height to distance ratio would be equal.

$$\frac{h}{d_1} = \frac{H}{D} \Rightarrow h = \frac{50\text{m} \times 4\text{m}}{10\text{m}}$$

$$\text{Height of Tree } h = 20\text{m}$$