



### Exercise 8A

$$\text{Kunal's share} = \text{Rs } 360 \times \frac{7}{15} = 24 \times 7 = \text{Rs } 168$$

$$\text{Mohit's share} = \text{Rs } 360 \times \frac{8}{15} = 24 \times 8 = \text{Rs } 192$$

Q8

**Answer :**

$$\text{Sum of the ratio terms} = \frac{1}{5} + \frac{1}{6} = \frac{11}{30}$$

Now, we have the following:

$$\text{Rajan's share} = \text{Rs } 880 \times \frac{\frac{1}{5}}{\frac{11}{30}} = \text{Rs } 880 \times \frac{6}{11} = \text{Rs } 80 \times 6 = \text{Rs } 480$$

$$\text{Kamal's share} = \text{Rs } 880 \times \frac{\frac{1}{6}}{\frac{11}{30}} = \text{Rs } 880 \times \frac{5}{11} = \text{Rs } 80 \times 5 = \text{Rs } 400$$

Q9

**Answer :**

$$\text{Sum of the ratio terms is } (1 + 3 + 4) = 8$$

We have the following:

$$\text{A's share} = \text{Rs } 5600 \times \frac{1}{8} = \text{Rs } \frac{5600}{8} = \text{Rs } 700$$

$$\text{B's share} = \text{Rs } 5600 \times \frac{3}{8} = \text{Rs } 700 \times 3 = \text{Rs } 2100$$

$$\text{C's share} = \text{Rs } 5600 \times \frac{4}{8} = \text{Rs } 700 \times 4 = \text{Rs } 2800$$

Q10

**Answer :**

Let  $x$  be the required number.

Then,  $(9 + x) : (16 + x) = 2 : 3$

$$\Rightarrow \frac{9+x}{16+x} = \frac{2}{3}$$

$$\Rightarrow 27 + 3x = 32 + 2x \Rightarrow x = 5$$

Hence, 5 must be added to each term of the ratio 9 : 16 to make it 2 : 3.

Q11

**Answer :**

Suppose that  $x$  is the number that must be subtracted.

Then,  $(17 - x) : (33 - x) = 7 : 15$

$$\Rightarrow \frac{17-x}{33-x} = \frac{7}{15}$$

$$\Rightarrow 255 - 15x = 231 - 7x \Rightarrow 8x = 255 - 231 = 24 \Rightarrow x = 3$$

Hence, 3 must be subtracted from each term of ratio 17 : 33 so that it becomes 7 : 15.

Q12

**Answer :**

Suppose that the numbers are  $7x$  and  $11x$ .

Then,  $(7x + 7) : (11x + 7) = 2 : 3$

$$\Rightarrow \frac{7x+7}{11x+7} = \frac{2}{3}$$

$$\Rightarrow 21x + 21 = 22x + 14$$

$$\Rightarrow x = 7$$

Hence, the numbers are  $(7 \times 7 =) 49$  and  $(11 \times 7 =) 77$ .

Q13

**Answer :**

Suppose that the numbers are  $5x$  and  $9x$ .

Then,  $(5x - 3) : (9x - 3) = 1 : 2$

$$\Rightarrow \frac{5x - 3}{9x - 3} = \frac{1}{2}$$

$$\Rightarrow 10x - 6 = 9x - 3$$

$$\Rightarrow x = 3$$

Hence, the numbers are  $(5 \times 3 =) 15$  and  $(9 \times 3 =) 27$ .

Q14

**Answer :**

Let the numbers be  $3x$  and  $4x$ .

Their LCM is  $12x$ .

Then,  $12x = 180$

$$\Rightarrow x = 15$$

$\therefore$  The numbers are  $(3 \times 15 =) 45$  and  $(4 \times 15 =) 60$ .

Q15

**Answer :**

Suppose that the present ages of A and B are  $8x$  yrs and  $3x$  yrs.

Then,  $(8x + 6) : (3x + 6) = 9 : 4$

$$\Rightarrow \frac{8x+6}{3x+6} = \frac{9}{4}$$

$$\Rightarrow 32x + 24 = 27x + 54$$

$$\Rightarrow 5x = 30$$

$$\Rightarrow x = 6$$

Now, present age of A =  $8 \times 6$  yrs = 48 yrs

Present age of B =  $3 \times 6$  yrs = 18 yrs

Q16

**Answer :**

Suppose that the weight of zinc is  $x$  g.

Then,  $48.6 : x = 9 : 5$

$$\Rightarrow x = \frac{48.6 \times 5}{9} = \frac{243}{9} = 27$$

Hence, the weight of zinc in the alloy is 27 g.

Q17

**Answer :**

Suppose that the number of boys is  $x$ .

Then,  $x : 375 = 8 : 3$

$$\Rightarrow x = \frac{8 \times 375}{3} = 8 \times 125 = 1000$$

Hence, the number of girls in the school is 1000.

Q18

**Answer :**

Suppose that the monthly income of the family is Rs  $x$ .

Then,  $x : 2500 = 11 : 2$

$$\Rightarrow x = \frac{11 \times 2500}{2} = 11 \times 1250$$

$$\Rightarrow x = \text{Rs } 13750$$

Hence, the income is Rs 13,750.

$\therefore$  Expenditure = (monthly income – savings)

$$= \text{Rs } (13750 - 2500)$$

$$= \text{Rs } 11250$$

Q19

**Answer :**

Let the numbers one rupee, fifty paise and twenty-five paise coins be  $5x$ ,  $8x$  and  $4x$ , respectively.

$$\text{Total value of these coins} = (5x \times \frac{100}{100} + 8x \times \frac{50}{100} + 4x \times \frac{25}{100})$$

$$\begin{aligned} \Rightarrow 5x + \frac{8x}{2} + \frac{4x}{4} \\ = \frac{20x + 16x + 4x}{4} = \frac{40x}{4} = 10x \end{aligned}$$

However, the total value is Rs 750.

$$\therefore 750 = 10x$$

$$\Rightarrow x = 75$$

Hence, number of one rupee coins =  $5 \times 75 = 375$

Number of fifty paise coins =  $8 \times 75 = 600$

Number of twenty-five paise coins =  $4 \times 75 = 300$

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