



(A) - RATIO & PROPORTION :- <7>

8. (a) Let initial employees be  $14a$  and final employees be  $12a$ . Similarly initial wage is  $\text{₹ } 16b$  and final wage be  $\text{₹ } 18b$ .

$$\therefore \text{Total initial Wage} = (14 \times 16) ab$$

$$\text{Total final Wage} = (12 \times 18) ab$$

$\therefore$  Clearly; Wages decreases and the ratio is  $\rightarrow$   
 $(14 \times 16) ab : (12 \times 18) ab = \boxed{28 : 27}$

9. (a) According to the question :-

$$\frac{(5x+4)}{(6x-4)} = \frac{3}{2} \quad \left| \begin{array}{l} \rightarrow 10x + 8 = 18x - 12 \\ \rightarrow 8x = 20 \\ \rightarrow x = \boxed{2.5} \end{array} \right.$$

10. (b) Milk =  $(50 \times \frac{2}{5}) = 20$  litres.

Let  $x$  litres of milk must be added.

$$\therefore \frac{20+x}{30} = \frac{3}{2} \Rightarrow 40+2x = 90 \Rightarrow x = \boxed{25}$$

11. (b) Let the number of Girls and boys are 500 and 600.

$$\therefore \text{Girls that don't get Scholarship} = \left( \frac{500 \times 80}{100} \right) = 400$$

$$\text{Boys that don't get Scholarship} = \left( \frac{600 \times 60}{100} \right) = 360$$

$\therefore$  Percentage of students that don't get Scholarship  $\rightarrow$

$$\left[ \frac{(400+360)}{(500+600)} \times 100 \right] = \left[ \frac{760}{1100} \times 100 \right] \therefore = \boxed{69}$$

12. (b) Now the respective sum of money be  $\rightarrow$

$$2x ; (3x+200) ; (5x-200)$$

$$\therefore \text{According to the question} \rightarrow \frac{2x}{(3x+200)} = \frac{3}{5}$$

$$\Rightarrow 10x = 9x + 600$$

$$\Rightarrow x = 600$$

$$\therefore \text{Total amount be} \rightarrow 10x = \boxed{6000}$$

### (A) RATIO & PROPORTION :- <8>

13. (a) In 1st Vessel :- Milk =  $\frac{7}{9}$  and Water =  $\frac{2}{9}$

In 2nd Vessel :- Milk =  $\frac{4}{9}$  and Water =  $\frac{5}{9}$

∴ Required Ratio :-  $\frac{\text{Milk}}{(\frac{7}{9} + \frac{4}{9})} : \frac{\text{Water}}{(\frac{2}{9} + \frac{5}{9})} = \boxed{11:7}$

14. (c) Let the 1st and 2nd number are 100x and 100y respectively.

∴ According to the question :-

$$(100y - 40x) = \left(\frac{3}{8} \times 100y\right) \Rightarrow 40x = 40y \Rightarrow x:y = \boxed{1:1}$$

15. (b) A:B = 100:80 = 5:4

B:C = 100:90 = 10:9

A:B:C = 50:40:36 = 25:20:18

∴ According to the question:

$$63 = 12600 \Rightarrow 1 \Rightarrow 200 \Rightarrow 18 = \boxed{3600}$$

16. (a) Let the numbers are A, B and C.

Then; A:B = 3:4

B:C = 4:5

A:B:C = 12:16:20

A:B:C = 3:4:5

$$\therefore (3x) + (4x) + (5x) = 5000$$

$$\Rightarrow 50x = 5000$$

$$\Rightarrow x = 100$$

$$\Rightarrow x = 10$$

$$\therefore (5x - 3x) = 2x = \boxed{20}$$

17. (b) (10+9) = 19; Only 19 divides 285 completely among all.

18. (a) Present age Ratio of A and B → 5:8 →  $\times 3$

OR

15:24

17:26

After 6 years. Ratio of A and B →

$$\therefore (26-24) \text{ units} = 6 \text{ yrs.}$$

$$2 \text{ " } = 6 \text{ "}$$

$$\text{Age of B} \rightarrow 24 \text{ " } = \boxed{72 \text{ yrs}}$$

## [A] - RATIO & PROPORTION :- <7>

19. (d) According to the question:→

$$\left(\frac{2x}{1}\right) + \left(\frac{4x}{2}\right) + \left(\frac{5x}{1}\right) = 75$$

$$\Rightarrow \left(\frac{x}{2} + 2x + 5x\right) = 75$$

$$\Rightarrow \frac{15x}{2} = 75$$

$$\Rightarrow x = 10$$

$$\therefore \text{50p Coins:} \\ 4x = (4 \times 10) \\ = \boxed{40}$$

20. (d)  $A = KB$  and  $A = KC$

$$\text{or } A = KBC$$

When,  $B = 6$  and  $C = 2$  and  $A = 24$

$$\text{then; } 24 = K \times 6 \times 2$$

$$\Rightarrow K = 2$$

Now; When

$$B = 8 \text{ and } C = 3$$

$$\text{then } A = (2 \times 8 \times 3)$$

$$= \boxed{48}$$

21. (a) Let the respective parts are  $A, B$  and  $C$ .

$$\therefore A : B = 2 : 1$$

$$B : C = 1 : 3$$

$$A : B : C = 2 : 1 : 3$$

$$\therefore 6x = 2340$$

$$\Rightarrow x = 390$$

$$\Rightarrow 3x = \boxed{1170}$$

22. (c) Let the 1st and 2nd number are  $100x$  and  $100y$  respectively.

$\therefore$  According to the question:-

$$25x + 100y = \left(\frac{3}{2} \times 100x\right)$$

$$\Rightarrow 125x = 100y$$

$$\Rightarrow x : y = 100 : 125 = \boxed{4 : 5}$$

## [A]: RATIO & PROPORTION :- <10>

$$23. (a) 12x - 5x = 21$$

$$\Rightarrow 7x = 21$$

$$\Rightarrow x = 3$$

$$\text{Ganesh at present} = 5x = 15 \text{ yr.}$$

$$\text{Mother at present} = 12x = 36 \text{ yr.}$$

$$\therefore \text{Required Ratio be} \rightarrow (15 + 4) : (36 + 4) = \boxed{19:40}$$

$$24. (b) \text{Ravi : Kiran} = \left(\frac{5}{12} \times \frac{5}{12}\right) = 25:144$$

$$\therefore \text{Kiran} = \left(\frac{500}{25} \times 144\right) = \boxed{\text{₹ } 2880}$$

25. (a) According to the question:-

$$[(10 \times 5) + (25 \times 2) + (50 \times 1)]x = 12000$$

$$\Rightarrow 150x = 12000$$

$$\Rightarrow x = 80$$

$$\therefore \text{25p Coins are} \rightarrow 2x = \boxed{160}$$