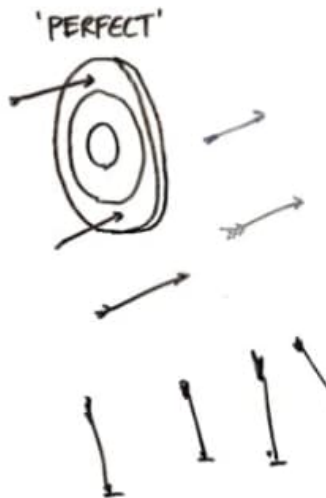


• Practice:

1. Three persons A, B and C divide a certain amount of money such that A's share is Rs. 4 less than half of the total amount, B's share is Rs. 8 more than half of what is left and finally C takes the rest which is Rs. 14. Find the total amount they initially had with them?
2. If $A:B = 2:3$, $B:C = 4:5$ and $C:D = 6:7$, then $A:B:C:D$ is:
3. Find the mean proportional of the following pairs of numbers 50 and 512.
4. The salaries A, B, C are in the ratio $2 : 3 : 5$. If the increments of 15%, 10% and 20% are allowed respectively in their salaries, then what will be new ratio of their salaries?



PRACTICE

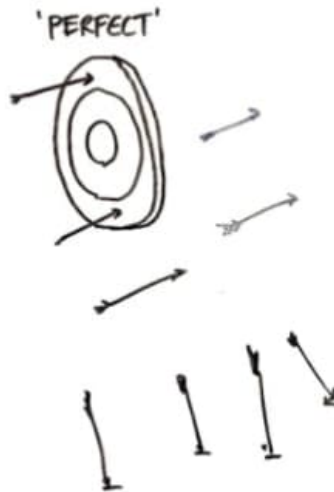


• Practice:

5. In what ratio must rice costing Rs.8.50 per kg be mixed with rice costing Rs.13 per kg so that the mixture be worth Rs.10 per kg?
6. A container contains 40 litres of milk. From this container 4 litres of milk was taken out and replaced by water. This process was repeated further two times. How much milk is now contained by the container?
7. In what ratio must a grocer mix two varieties of pulses costing Rs. 15 and Rs. 20 per kg respectively so as to get a mixture worth Rs. 16.50 kg?
8. Three persons get money in the ratio 2 : 2 : 5. If the total sum is Rs 133020, What is the maximum share Which one person got?



PRACTICE



Problems (Mixture)

Ans:- Let total amount be x

$$\bullet \text{ A's share} = \frac{x}{2} - 4$$

$$\text{Remaining} = x - \left(\frac{x}{2} - 4\right) = \frac{x}{2} + 4$$

$$\bullet \text{ B's Share} = \frac{1}{2} \times \left(\frac{x}{2} + 4\right) + 8$$

$$= \frac{x}{4} + 2 + 8 = \frac{x}{4} + 10$$

$$\bullet \text{ Remaining} = \frac{x}{2} + 4 - \left(\frac{x}{4} + 10\right)$$

$$= \frac{2x}{4} + 4 - \frac{x}{4} - 10$$

$$= \frac{x}{4} - 6$$

- This remaining is C's Share - Rs 14.

$$\text{So, } \frac{x}{4} - 6 = 14$$

$$\frac{x}{4} = 20 \Rightarrow \boxed{x = 80}$$

\therefore Total amount = Rs 80.

2Ans:- Given, $A:B = 2:3$

5Ans: Given, Cheaper price = RS 8.50 per kg
Dearer price = RS 13 per kg
Mean price = RS 10 per kg

Difference:

$$\bullet 13 - 10 = 3$$

$$\bullet 10 - 8.5 = 1.5$$

$$\text{So, the ratio} = \frac{3}{1.5} = 2:1$$

6Ans: Formula, Remaining milk = $V \left(1 - \frac{x}{V}\right)^n$

Given, $V = 40$ litres

$x = 4$ litres removed each time

$n = 3$ (process repeated
3 times)

$$\text{Remaining milk} = 40 \times \left(1 - \frac{4}{40}\right)^3$$

$$= 40 \times \left(\frac{36}{40}\right)^3$$

$$= 40 \times \left(\frac{9}{10}\right)^3$$

$$= 40 \times \frac{729}{1000}$$

$$= 29.16 \text{ litres,}$$

Ans: Using allegation:

Cheaper = RS 15

Dearer = RS 20

Mean price = RS 16.50

Diff:

$$20 - 16.5 = 3.5$$

$$16.5 - 15 = 1.5$$

$$\text{So, ratio} = \frac{3.5}{1.5} = \frac{7}{3} = 7:3 //$$

Ans: Total parts = $2 + 2 + 5 = 9$ parts

$$\text{Value of one part} = \frac{133020}{9} = 14780$$

$$\text{Maximum Share} = 5 \times 14780 = 73900 //$$