

~ (Question 1) ~

~ (A) ~

$$\text{Percentage} = \frac{\text{Required outcome}}{\text{Total outcome}} \times 100$$

$$= \frac{14^2}{100} \times 100$$

$$\therefore \frac{1+9+11+19+21+29+31+39+41+49+51+59+61}{69}$$

Percentage = 20 % Answer

~ (B) ~

According to the question statement,

$$5\% \text{ of } A + 4\% \text{ of } B = \frac{2}{3} (6\% \text{ of } A + 8\% \text{ of } B)$$

$$\frac{5}{100} A + \frac{4}{100} B = \frac{2}{3} \times \frac{6}{100} A + \frac{2}{3} \times \frac{8}{100} B$$

$$\frac{A}{20} + \frac{B}{25} = \frac{5A+4B}{100} = \frac{12A+16B}{3 \times 100}$$

$$5A + 4B = 12A + 16B$$

$$5A + 4B = 4A + 16B$$

$$A = \frac{16B - 4B}{3}$$

$$A = \frac{16B - 12B}{3}$$

$$A = \frac{4B}{3}$$

$$3A = 4B$$

$$\frac{A}{B} = \frac{4}{3}$$

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$$A : B = 4 : 3$$

~(C)~

Share of A = $\frac{\text{Total Amount} \times \text{Ratio of A}}{\text{Sum of Share Ratio}}$

$$\text{Share of A} = \frac{T \times 5}{14} \quad \text{--- (1)}$$

$$\text{Share of B} = \frac{T \times 2}{14} \quad \text{--- (2)}$$

$$\text{Share of C} = \frac{T \times 4}{14} \quad \text{--- (3)}$$

$$\text{Share of D} = \frac{T \times 3}{14} \quad \text{--- (4)}$$

$$C = 1000 + D$$

Suppose D has 1000

$$\text{So, share of C} = 1000 + 1000 = 2000$$

Putting in eq (3)

$$2000 = \frac{T \times 4}{14}$$

$$14000 = T(2)$$

$$T = 7000$$

So, total amount is 7000.

$$\text{Share of B} = \frac{7000}{14} \times 2 = 1000$$

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~(D)~

$$40\% \text{ of } x = \frac{2}{3} \text{ of } y$$

Then,

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

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

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

$$x : y = 5 : 3$$