

**Aptitude :: Ratio and Proportion**

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Exercise : Ratio and Proportion - General Questions☐ Ratio and Proportion - Formulas☒ Ratio and Proportion - General Questions

1. A and B together have Rs. 1210. If $\frac{4}{15}$ of A's amount is equal to $\frac{2}{5}$ of B's amount, how much amount does B have?

- ☐ A Rs. 460
☐ B Rs. 484
☐ C Rs. 550
☐ D Rs. 664

Answer: Option **B****Explanation:**

$$\frac{4}{15} A = \frac{2}{5} B$$

$$\Rightarrow A = \left(\frac{2}{5} \times \frac{15}{4} \right) B$$

$$\Rightarrow A = \frac{3}{2} B$$

$$\Rightarrow \frac{A}{B} = \frac{3}{2}$$

$$\Rightarrow A : B = 3 : 2.$$

$$\therefore \text{B's share} = \text{Rs.} \left(1210 \times \frac{2}{5} \right) = \text{Rs. 484.}$$



2. Two numbers are respectively 20% and 50% more than a third number. The ratio of the two numbers is:

- ☐ A 2 : 5
☐ B 3 : 5
☐ C 4 : 5

Ⓓ 6 : 7

Answer: Option Ⓒ

Explanation:

Let the third number be x .

$$\text{Then, first number} = 120\% \text{ of } x = \frac{120x}{100} = \frac{6x}{5}$$

$$\text{Second number} = 150\% \text{ of } x = \frac{150x}{100} = \frac{3x}{2}$$

$$\therefore \text{Ratio of first two numbers} = \left(\frac{6x}{5} : \frac{3x}{2} \right) = 12x : 15x = 4 : 5.$$



3. A sum of money is to be distributed among A, B, C, D in the proportion of 5 : 2 : 4 : 3. If C gets Rs. 1000 more than D, what is B's share?

- Ⓐ Rs. 500
Ⓑ Rs. 1500
Ⓒ Rs. 2000
Ⓓ None of these

Answer: Option Ⓒ

Explanation:

Let the shares of A, B, C and D be Rs. $5x$, Rs. $2x$, Rs. $4x$ and Rs. $3x$ respectively.

$$\text{Then, } 4x - 3x = 1000$$

$$\Rightarrow x = 1000.$$

$$\therefore \text{B's share} = \text{Rs. } 2x = \text{Rs. } (2 \times 1000) = \text{Rs. } 2000.$$



4. Seats for Mathematics, Physics and Biology in a school are in the ratio 5 : 7 : 8. There is a proposal to increase these seats by 40%, 50% and 75% respectively. What will be the ratio of increased seats?

- Ⓐ 2 : 3 : 4
Ⓑ 6 : 7 : 8
Ⓒ 6 : 8 : 9
Ⓓ None of these

Answer: Option Ⓐ

Explanation:

Originally, let the number of seats for Mathematics, Physics and Biology be $5x$, $7x$ and $8x$ respectively.

Number of increased seats are (140% of $5x$), (150% of $7x$) and (175% of $8x$).

$$\Rightarrow \left(\frac{140}{100} \times 5x \right), \left(\frac{150}{100} \times 7x \right) \text{ and } \left(\frac{175}{100} \times 8x \right)$$

$$\Rightarrow 7x, \frac{21x}{2} \text{ and } 14x.$$

$$\therefore \text{The required ratio} = 7x : \frac{21x}{2} : 14x$$

$$\Rightarrow 14x : 21x : 28x$$

$$\Rightarrow 2 : 3 : 4.$$



5. In a mixture 60 litres, the ratio of milk and water 2 : 1. If this ratio is to be 1 : 2, then the quantity of water to be further added is:

Ⓐ 20 litres

Ⓑ 30 litres

Ⓒ 40 litres

Ⓓ 60 litres

Answer: Option Ⓓ

Explanation:

$$\text{Quantity of milk} = \left(60 \times \frac{2}{3} \right) \text{ litres} = 40 \text{ litres.}$$

$$\text{Quantity of water in it} = (60 - 40) \text{ litres} = 20 \text{ litres.}$$

$$\text{New ratio} = 1 : 2$$

Let quantity of water to be added further be x litres.

$$\text{Then, milk : water} = \left(\frac{40}{20 + x} \right).$$

$$\text{Now, } \left(\frac{40}{20 + x} \right) = \frac{1}{2}$$

$$\Rightarrow 20 + x = 80$$

$$\Rightarrow x = 60.$$

\therefore Quantity of water to be added = 60 litres.

