

Home work (7-C)

8) In an examination, Kamita scored 120 out of 150 in Maths, 136 out of 200 in English and 108 out of 150 in Science. Find her percentage score in each subject and also on the whole (aggregate).

Ans) In Maths percentage = $\frac{120}{150} \times 100$

$$= \frac{4}{5} \times 100 = 80\%$$

In English percentage = $\frac{136}{200} \times 100 = \frac{136}{2} = 68\%$

In Science percentage = $\frac{108}{150} \times 100 = \frac{108 \times 2}{3} = 72\%$

Total number scored = $120 + 136 + 108 = 364$

Maximum marks = $150 + 200 + 150 = 500$

\therefore Overall % = $\frac{364}{500} \times 100 = \frac{364}{5} = 72.8\%$

9) A is 25% older than B. By what percent is B younger than A?

Ans) Alternative Method:

Let age of B = 100 years

\therefore Age of A = $100 + \frac{25}{100} = 125$ years

Difference in age by which A is older than B =

$$125 - 100 = 25 \text{ years}$$

\therefore % by which B is younger than A = $\frac{25}{125} \times 100 = 20\%$

11) In an election, three candidates contested and secured 29200, 58800 and 72000 votes. Find the percentage of votes scored by the winning candidate.

Ans) Total number of votes polled = $29200 + 58800 + 72000$
 $= 160000$

\therefore Percentage of votes scored by winning candidate =
 $\frac{72000}{160000} \times 100 = \frac{72 \times 10}{16} = \frac{9 \times 10}{2} = 45\%$

12) i) A number when increased by 23% becomes 861; find the number.

ii) A number when decreased by 16% becomes 798; find the number.

Ans) i) Let the number be x

By the given condition,

$$x + \frac{x \times 23}{100} = 861 \Rightarrow x = \frac{861 \times 100}{123} = 7 \times 100 = 700$$

\therefore the required number = 700

ii) Let the number = 100

By the given condition,

$$x = \frac{x \times 16}{100} = 798 \Rightarrow \frac{100x - 16x}{100} = 798$$

$$\Rightarrow \frac{84}{100} x = 798$$

$$\Rightarrow x = \frac{798 \times 100}{84} = \frac{114 \times 100}{12} = \frac{114 \times 25}{3} = 38 \times 25 = 950$$

\therefore The required number = 950

13) The price of sugar is increased by 20%. By what percent must the consumption of sugar be decreased so that the expenditure on sugar may remain the same?

Ans) Let price of x kg of sugar = Rs. 100

Increase in price = 20%

\therefore New price = $100 + 20 =$ Rs. 120

\therefore For Rs. 120, sugar obtained = x kg.

For Rs. 100, sugar obtained = $\frac{x}{120} \times 100 = \frac{5x}{6}$ kg.

Original consumption = x kg

New consumption = $\frac{5x}{6}$ kg

Decrease in consumption = $x - \frac{5x}{6} = \frac{x}{6}$

Required % of decrease in consumption

$$= \frac{\frac{x}{6}}{x} \times 100 = \frac{x}{6x} \times 100 = \frac{100}{6} = \frac{50}{3} = 16 \frac{2}{3} \%$$