PERCENT AND PERCENTAGE

Percent means for every hundred, abbreviated as p.c. and denoted by the symbol "%"

A fraction whose denominator is 100 is called a percentage, and the numerator of such fraction is called the "rate percent".

(i) To express a given number as percent, multiply by 100 and in same step attach the percentage symbol (%)

Ex: $\frac{3}{5} \gg \frac{3}{5} \times 100 = 60\%$

Ex: $0.45 \times 100 = 45\%$

(ii) • To express a given percent into fraction, divide by 100 and in the same step remove the symbol of percentage

Ex: $45\% = \frac{45}{100} = \frac{9}{20} (fraction)$

$= 0.45 (decimal)$

- **x as the percent of y = $\frac{x}{y} \times 100$**

- **y as the percent of x = $\frac{y}{x} \times 100$**

- $Increase \% = \frac{Increase\ in\ Quantity}{Original\ Quantity} \times 100\%$

- $Decrease \% = \frac{Decrease\ in\ Quantity}{Original\ Quantity} \times 100\%$

- $Error \% = \frac{Error}{Actual\ Lenth}$

- **If a number is increased by x%, *the new number***
  $= (\frac{100 + x}{100}) \times the\ original\ number$

- **If a number is decreased by x%, *the new number***
  $= (\frac{100 - x}{100}) \times the\ original\ number$