Percentage :- The word 'percent' is derived from Latin phrase 'per centum' meaning 'per hundred'. Percent is represented by the symbol % and means hundredths.

For example :

$$\frac{70}{100} = 70 \times \frac{1}{100} = 70 \text{ per hundred} = 70\%.$$

$$\frac{40}{100} = 40 \times \frac{1}{100} = 40 \text{ per hundred} = 40\%$$

To convert a Fraction and a Decimal into a percentage :-
Rule :- In order to convert a fraction and a decimal into a percentage, we multiply them by 100 and put the symbol % with their simplified form.

Example 1. Convert each of the following into a percentage:
(i) $\frac{7}{25}$ (ii) 0.5

Solution (i) $\frac{7}{25} = \left(\frac{7}{25} \times 100^{4}\right)\% = 28\%$

(ii) $0.5 = (0.5 \times 100)\% = 50.0\% = 50\%$

* To convert a Percentage into a fraction and a Decimal :-

Rule :- We divide the given number by 100 and remove the sign of per cent

$$\left[e.g. \quad x\% = \frac{x}{100} \right]$$

example 2 :- Convert each of the following ~~into~~ as fractions in the simplest form.

(i) 75%. (ii) 0.55%. (iii) $\frac{15}{2}\%$

Solution :- (i) $75\% = \frac{75}{100} = \frac{3}{4}$

(ii) $0.55\% = \frac{0.55}{100} = \frac{\overset{11}{\cancel{55}}}{\underset{20}{\cancel{100} \times 100}} = \frac{11}{2000}$

(iii) $\frac{15}{2}\% = \frac{15}{2 \times 100} = \frac{3}{2 \times 20} = \frac{3}{40}$

① Express each of the following as fractions in the simplest form :-

(i) 75%. (ii) 0.25%. (iii) $\frac{15}{2}$%. (iv) 140%.
(v) 0.55%.

② Express each of the following as a ratio in the simplest form :-

(i) 12%.   (ii) 0.25%.   (iii) 25%.
(iv) 26%.   (v) $13\frac{1}{3}$%.

③ Express the following as decimals :

(i) 125%.   (ii) 45%.   (iii) 2.5%.
(iv) $\frac{1}{4}$%.   (v) $6\frac{1}{4}$%.