

12. Percentage

- **Percentages** are numerators of fractions with denominator 100. It is represented by the symbol % and means hundredths too, i.e., $25\% = \frac{25}{100} = 0.25$
- Fractional numbers, whole numbers and decimals can be converted into percentages by multiplying them by 100%.

Note: Percentages related to proper fractions are less than 100 whereas percentages related to improper fractions are more than 100.

For example, $1\frac{1}{4} = \frac{5}{4} \times 100\% = 125\%$

- To convert ratio to percentage, we proceed as follows:

Consider the ratio $a:b$.

Sum of parts = $a + b$

Percentage form = $\frac{a}{a+b} \times 100\%$

- Percentages can be converted into fractions or decimals by dividing them by 100.

For example, 35% can be converted to decimals and fraction as follows:

$$35\% = \frac{35}{100} = 0.35$$

$$35\% = \frac{35}{100} = \frac{7}{20}$$

- To convert percentage to ratio, we have to find the ratio of the percentages of the two quantities.
- When added, all parts of a whole give whole or 100%.