

*Ratio and Proportion*Esseential information

Equivalent ratios $m : n$ is equivalent to $1 : \frac{m}{n}$ or $\frac{m}{n} : 1$

For example, $5 : 2$ is equivalent to $1 : \frac{2}{5}$ or $\frac{5}{2} : 1$

Dividing a quantity in the ratio $m : n$ means dividing the quantity into two parts, that is, the fractions

$\frac{m}{(m+n)}$ and $\frac{n}{(m+n)}$ of the quantity.

For example, Divide £40 in the ratio $3 : 2$.

The two parts are

$$\frac{3}{5} \times £40 = £24$$

$$\text{and } \frac{2}{5} \times £40 = £16$$

Map scale A map scale of $1 : n$ means that 1 cm on the map represents an actual distance of n cm.

For example, What distance does 2 cm represent on a map with scale $1 : 50\,000$?

2 cm on the map represents a distance of

$$\begin{aligned} 2 \times 50\,000 \text{ cm} \\ = 100\,000 \text{ cm} = 100 \text{ m} = 1 \text{ km} \end{aligned}$$