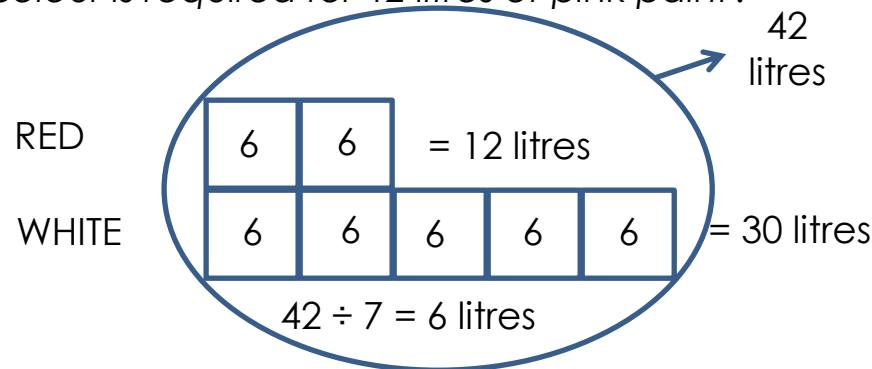


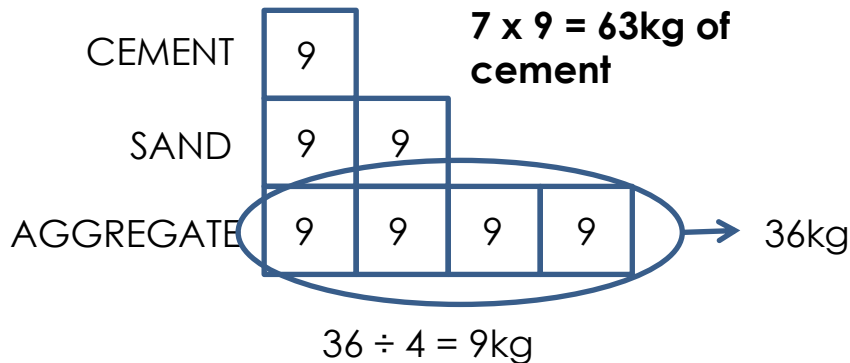
RATIO

A **RATIO** compares one quantity with another – write a ratio the way you read it

Pink paint is a mixture of red and white paint in the ratio 2 : 5. How much of each colour is required for 42 litres of pink paint?



Concrete is a mix of cement, sand and aggregate in the ratio 1 : 2 : 4. How much concrete can be made using 36kg of aggregate?



PROPORTION

The **UNITARY** method turns part of the proportion to 1 from which you can easily find other quantities

5 miles is approximately 8km.
What is 9.2miles in km?

$$\begin{array}{l} \div 5 \left\{ \begin{array}{l} 5 \text{ miles} = 8 \text{ km} \\ 1 \text{ mile} = \mathbf{1.6km} \end{array} \right. \div 5 \\ \times 9.2 \left\{ \begin{array}{l} 9.2 \text{ miles} = \mathbf{14.72km} \end{array} \right. \times 9.2 \end{array}$$

What is 13km in miles?

$$\begin{array}{l} \div 8 \left\{ \begin{array}{l} 5 \text{ miles} = 8 \text{ km} \\ \mathbf{0.625 \text{ mile}} = 1 \text{ km} \end{array} \right. \div 8 \\ \times 13 \left\{ \begin{array}{l} \mathbf{8.125 \text{ miles}} = 13 \text{ km} \end{array} \right. \times 13 \end{array}$$

The scale of a map is 1 : 125000.
On a map a distance measures 4.2cm. How far is this in reality?

$$\begin{array}{l} \times 4.2 \left\{ \begin{array}{l} 1 \text{ cm} = 125000 \text{ cm} \\ 4.2 \text{ cm} = \mathbf{525000 \text{ cm}} \end{array} \right. \times 4.2 \\ = \mathbf{5250 \text{ m}} \\ = \mathbf{5.25 \text{ km}} \end{array}$$