

Key Vocabulary	
Similar	Two shapes are similar if one is an enlargement of the other (corresponding sides have been enlarged by the same scale factor)
Enlargement	When a shape is enlarged all the sides are enlarged by the same scale factor, the shapes are then similar
Scale factor	A number which scales (or multiples) a quantity or length of a shape
Object	The original shape (the pre-image) before an enlargement
Image	The object after an enlargement (or other transformation)
Scale drawing	The drawing that shows a real object with accurate sizes reduced (or enlarged) by a certain amount (called the scale)
Bearing	An angle measured, measured clockwise from a north direction
Plan	The view of a shape from the top (the birds eye view)
Elevations	The view of a shape from the front and side

Key facts / Diagrams

Bearings

Always measured from north
Always three figures
Always measured clockwise

The bearing of B from A is 025
The bearing of A from B is 205

Scale drawings

Scale 1cm = 100m

Distance on diagram between school and shop = 4.5cm
Actual distance between school and shop = $4.5 \times 100 = 450\text{m}$

Common misconceptions

- If the bearing of A from B is 'x' then some pupils may think that the bearing of B from A is '180 - x'. Look at the key fact/diagram box to see that this is not the case

Worked examples

A map has a scale of 1cm : 4 kilometres.
The actual distance between two cities is 52 kilometres.
What is the distance between the cities on the map?

$\boxed{\times 13}$ \rightleftarrows 1cm = 4km \rightleftarrows $\boxed{\times 13}$
13cm = 52km

$52 \div 4 = 13$
 $1 \times 13 = 13 \rightarrow \mathbf{13\text{cm}}$

A map has a scale of 1:4000
On the map, the distance between two houses is 9cm.
What is the actual distance between the houses?
Give your answer in metres.

$\boxed{\times 9}$ \rightleftarrows 1 = 4000 \rightleftarrows $\boxed{\times 9}$
9cm = 36000cm

36000cm = **360m**