

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)
Enlarge/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
Centre of enlargement	The coordinates from which a shape is enlarged
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)
Plan	The view of a shape from the top (the birds eye view)
Elevation	The view of a shape from the front and side
Bearing	An angle measured, clockwise from a north direction

Key facts / Diagrams

Scale drawings

Scale 1cm = 100m

Distance on diagram between school and shop = 4.5cm
 Actual distance between school and shop = $4.5 \times 100 = 450\text{m}$
 The bearing of the shop from the school is 050

Enlargement

Enlargement
 Scale factor 2
 Centre of enlargement (2,1)

Plans and Elevations

3D Shape Plan Front elevation Side elevation

Common misconceptions

- Some pupils may think that the centre of enlargement always has to be (0,0)
- If the bearing of A from B is 'x', then some pupils may think that the bearing of B from A is '180 - x'

Worked examples

1.
 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.

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

$36000\text{cm} = \underline{360\text{m}}$

2.
 Describe the transformation below (smaller shape to larger shape)

Enlargement, scale factor 2, centre (0,0)