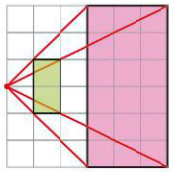
9 MySummary

Check out

You should now be able to ...

Test it ➡ **Questions**

✓ Reflect, rotate and translate 2D shapes.	6	1, 2
✓ Enlarge 2D shapes using positive and negative scale factors.	7	3 – 5
✓ Use and interpret maps and scale drawings.	6	6
✓ Calculate unknown lengths in similar shapes.	7	7

Language	Meaning	Example
Congruent	Shapes that are the same shape and size.	Two squares with sides 3 cm are congruent
Similar	Shapes that are the same shape but not the same size.	All equilateral triangles are similar.
Centre of enlargement	A point used to set the position of the image after an enlargement.	
Scale factor	The number used to calculate the position and lengths of the image in an enlargement.	An enlargement scale factor two gives an image with sides 2 × those of the object.
Scale drawing	An accurate drawing of an object using a ratio.	A map uses 4 cm to represent 1 km, or 1 : 25 000

9 MyReview

1 On a set of axes, both from -8 to 8, draw a triangle with vertices (-8, -7), (-5, -1) and (-2, -5).
Label the triangle A.

a Rotate shape A 90° anticlockwise about (0, 0) and label the image B.

b Reflect B in the line $y = 0$ and label the image C.

c Rotate C 90° anticlockwise and label the image D.

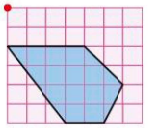
d Describe fully the single transformation that moves A to D.

2 A is a translation of $\begin{pmatrix} 2 \\ -5 \end{pmatrix}$.
B is a translation of $\begin{pmatrix} -1 \\ -2 \end{pmatrix}$.

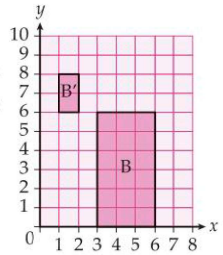
a Find the single transformation that is equivalent to translation A followed by translation B.

b Find the image of the point (-9, 3) under this single transformation.

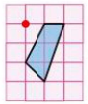
3 Enlarge the shape by scale factor $\frac{1}{2}$ using the dot as the centre of enlargement.



4 B is enlarged to give B′. Calculate the scale factor and find the coordinates of the centre of enlargement.



5 Enlarge this shape by scale factor -2 using the dot as the centre of enlargement.

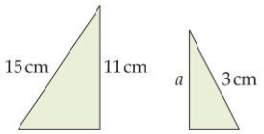


6 John starts at A, walks due north for 3.36 km then east for 4.4 km and arrives at B.

a Draw a scale drawing of his journey using a scale of 1 : 80 000

b How far his John from his starting point?

7 Calculate the missing length in this pair of similar triangles.



What next?

Score	
0 – 3	Your knowledge of this topic is still developing. To improve look at Formative test: 3C-9; MyMaths: 1099, 1103, 1113, 1115, 1117, 1119, 1125 and 1127
4 – 6	You are gaining a secure knowledge of this topic. To improve look at InvisiPen: 317, 366, 368 and 372
7	You have mastered this topic. Well done, you are ready to progress!