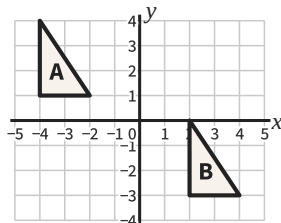


1 Translations

- a) Describe fully the single transformation that maps A onto B.

- b) Translate A by $\begin{pmatrix} 5 \\ -1 \end{pmatrix}$.

Write down the vertices of the image.



a) translation by $\begin{pmatrix} 6 \\ -4 \end{pmatrix}$

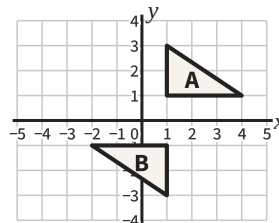
b) $(1, 0), (3, 0), (1, 3)$

2 Rotations

- a) Rotate A 90° anticlockwise about $(0, 0)$.

Write down the vertices of the image.

- b) Describe fully the single transformation that maps A onto B.



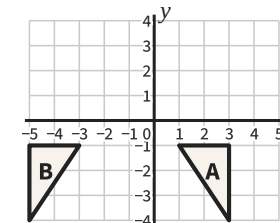
a) $(-1, 1), (-1, 4), (-3, 1)$

b) rotation 180° about $(1, 0)$

3 Reflections

- a) Reflect A in the line $y = x$. Write down the vertices of the image.

- b) Describe fully the single transformation that maps A onto B.



a) $(-1, 1), (-1, 3), (-4, 3)$

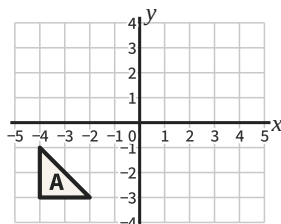
b) reflection in the line $x = -1$

4 Enlargement

Write down the vertices of each image of A.

- a) Enlarge A by scale factor 2, centre $(-5, -4)$.

- b) Enlarge A by scale factor $\frac{1}{2}$, centre $(-4, 3)$.



a) $(-3, -2), (1, -2), (-3, 2)$

b) $(-4, 0), (-3, 0), (-4, 1)$

Transformations

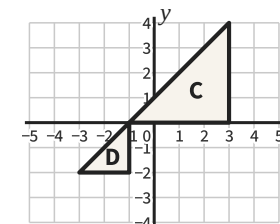
revision mat answers

Higher A

5 Describing enlargements

- a) Describe fully the single transformation that maps C onto D.

- b) How many times bigger is the area of C than the area of D?



a) enlargement, scale factor $\frac{1}{2}$, centre $(-5, -4)$

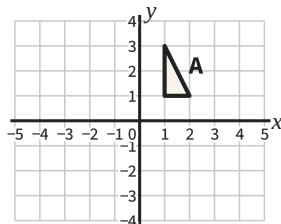
b) $2^2 = 4$ times

6 Negative scale factors

- a) Enlarge A by scale factor -2 , centre $(0, 1)$.

Write down the vertices of the image.

- b) Which rotation is the same as an enlargement by scale factor -1 , centre $(0, 1)$?



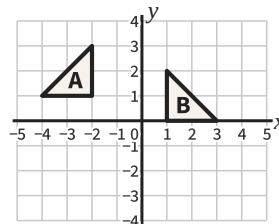
a) $(-2, 1), (-4, 1), (-2, -3)$

b) rotation 180° about $(0, 1)$

7 Mixed transformations

- a) Reflect A in the line $y = -x$. Write down the vertices of the image.

- b) Describe fully the single transformation that maps A onto B.



a) $(-1, 4), (-1, 2), (-3, 2)$

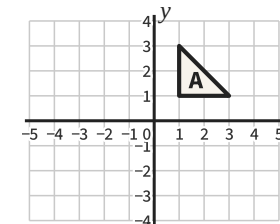
b) rotation 90° clockwise about $(-1, -1)$

8 Combined transformations

A is reflected in the y axis to give B. B is reflected in $y = x$ to give C.

- a) Write down the vertices of C.

- b) Describe fully the single transformation that maps A onto C.



a) $(1, -1), (1, -3), (3, -1)$

b) rotation 90° clockwise about $(0, 0)$