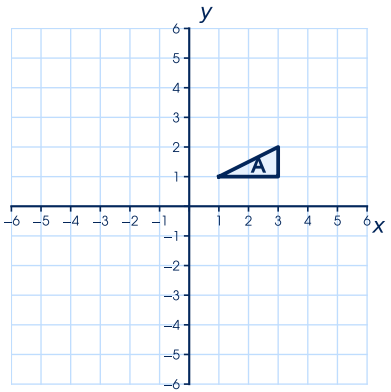
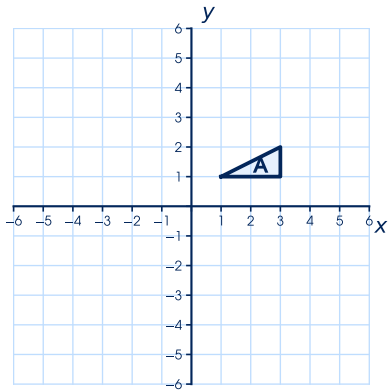
GCSE HIGHER · REVISION MAT 4

Transformations

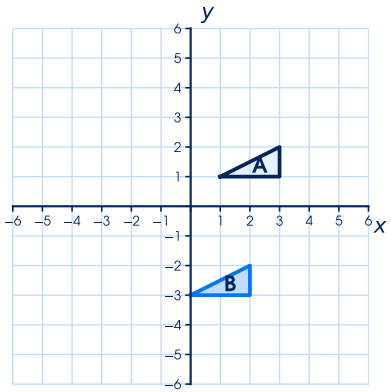
1 Translate triangle A by the vector (–4, 2).



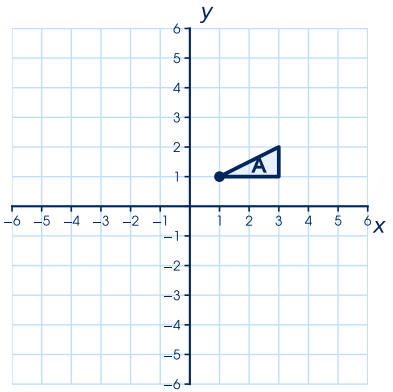
2 Reflect triangle A in the line $x = -1$.



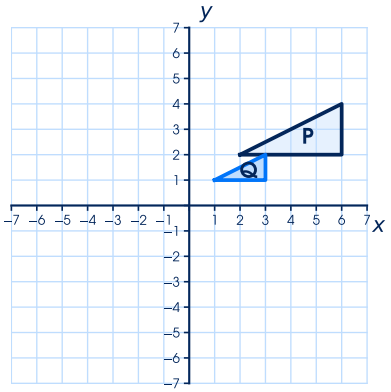
3 Describe fully the single transformation that maps A onto B.



4 Rotate triangle A 90° clockwise about (1, 1).



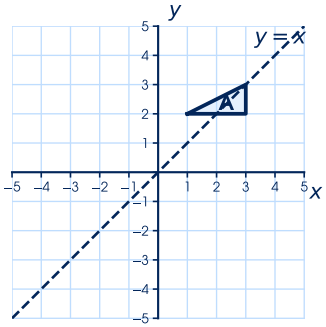
5 Describe fully the single transformation that maps P onto Q.



6 A is reflected in $y = x$ to give B.

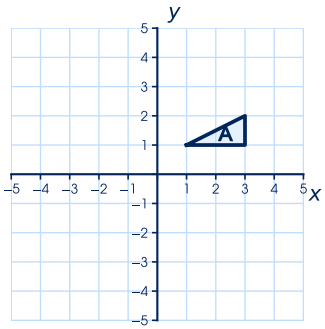
B is reflected in the x-axis to give C.

Describe the single transformation that maps A onto C.



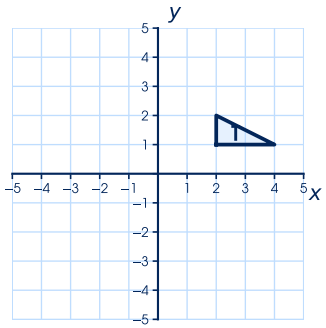
7 Triangle A has vertices (1, 1), (3, 1), (3, 2).

Show that an enlargement by scale factor –1, centre (0, 0), gives the same image as a rotation of 180° about (0, 0).



8 Triangle T has vertices (2, 1), (4, 1), (2, 2).

Enlarge T by scale factor $-\frac{1}{2}$, centre (0, 0).



Mr&Mrs MATHS

ANSWERS · REVISION MAT 4

Transformations

1 (−3, 3), (−1, 3), (−1, 4)

2 (−3, 1), (−5, 1), (−5, 2)

3 Translation by vector (−1, −4)

4 (1, 1), (1, −1), (2, −1)

5 Enlargement, scale factor $\frac{1}{2}$, centre (0, 0)

6 $(x, y) \rightarrow (y, x) \rightarrow (y, -x)$

Rotation 90° clockwise about (0, 0)

7 Both give (−1, −1), (−3, −1), (−3, −2).

Each point (x, y) goes to $(-x, -y)$.

8 Multiply each coordinate by $-\frac{1}{2}$

(−1, −0.5), (−2, −0.5), (−1, −1)

Mr&Mrs MATHS