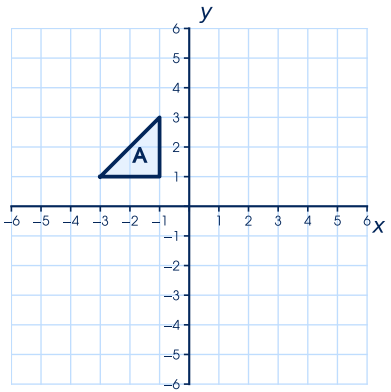
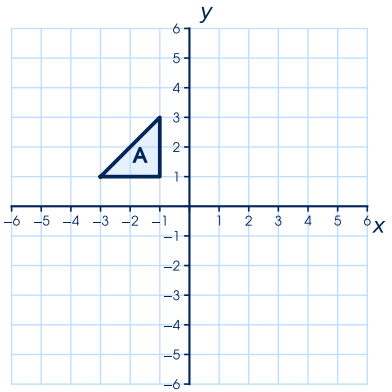
GCSE HIGHER · REVISION MAT 5

Transformations

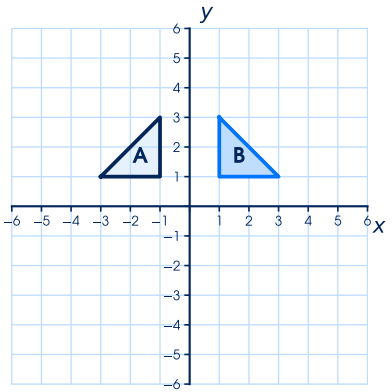
1 Translate triangle A by the vector (4, −3).



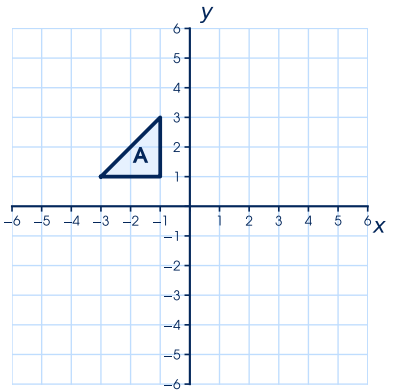
2 Reflect triangle A in the line $y = 2$.



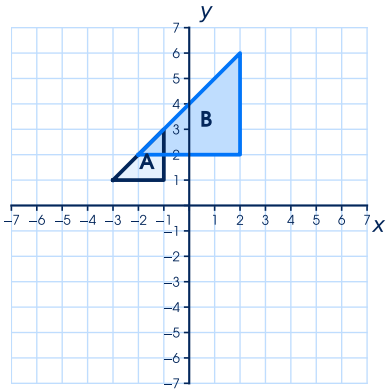
3 Describe fully the single transformation that maps A onto B.



4 Rotate triangle A 180° about the origin.



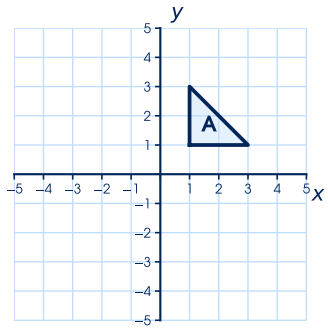
5 Describe fully the single transformation that maps A onto B.



6 A shape is translated by (2, 1) and then by (−5, 3).

Describe the single transformation that has the same effect.

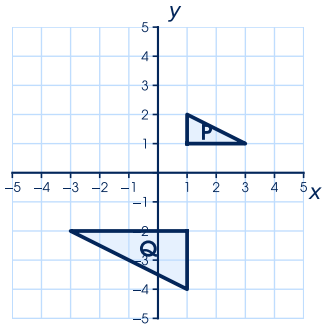
7 Show that reflecting in the x-axis and then in the y-axis has the same effect as a rotation of 180° about (0, 0).



8 Triangle P has vertices (1, 1), (3, 1), (1, 2).

Triangle Q has vertices (1, −2), (−3, −2), (1, −4).

Describe fully the single transformation that maps P onto Q.



Mr&Mrs MATHS

ANSWERS · REVISION MAT 5

Transformations

1 (1, −2), (3, −2), (3, 0)

2 (−3, 3), (−1, 3), (−1, 1)

3 Rotation 90° clockwise about (0, 0)

4 (3, −1), (1, −1), (1, −3)

5 Enlargement, scale factor 2, centre (−4, 0)

6 Translation by vector (−3, 4)

7 $(x, y) \rightarrow (x, -y) \rightarrow (-x, -y)$

This is a rotation of 180° about (0, 0).

8 Q is upside down and twice as big.

Scale factor −2; $p' = 3c - 2p$

Enlargement, scale factor −2, centre (1, 0)

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