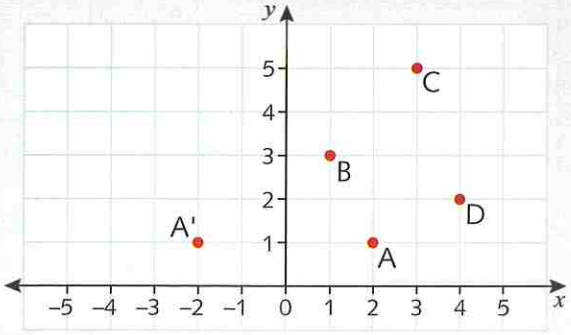
Using coordinates to reflect shapes

Use coordinates to reflect shapes into all four quadrants

Challenge 1

1 Write the coordinates of each point and its image when reflected in the y-axis.



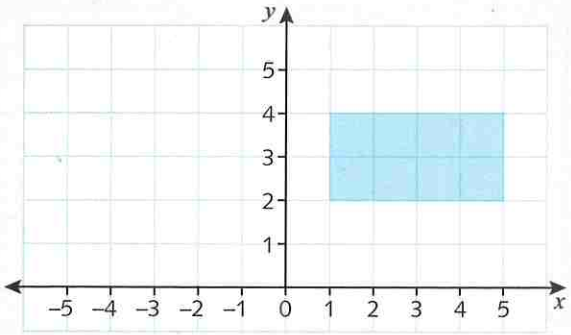
You will need:
- Resource 13: 2-quadrant coordinate grids
- ruler

Example

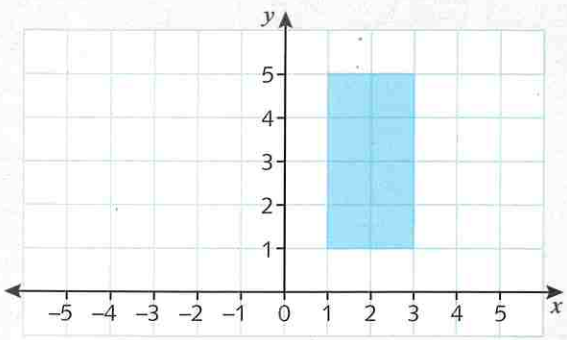
A (2, 1) A' (–2, 1)

2 Copy each shape onto a different grid on Resource 13: 2-quadrant coordinate grids. Reflect each shape in the y-axis.

a

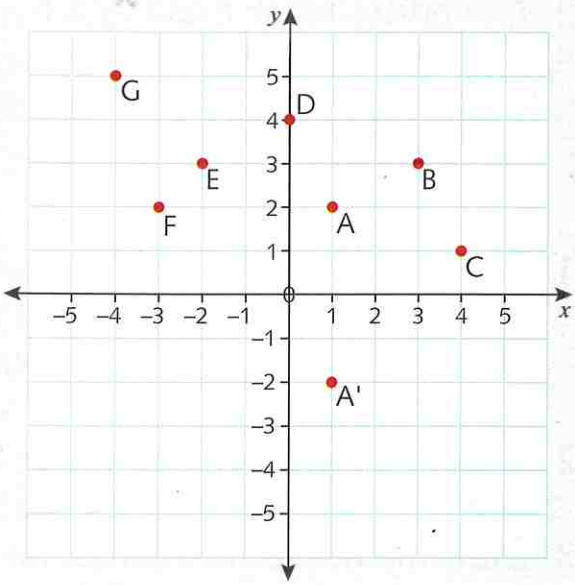


b



Challenge 2

1 Write the coordinates of each point and its image when reflected in the x-axis.



Example

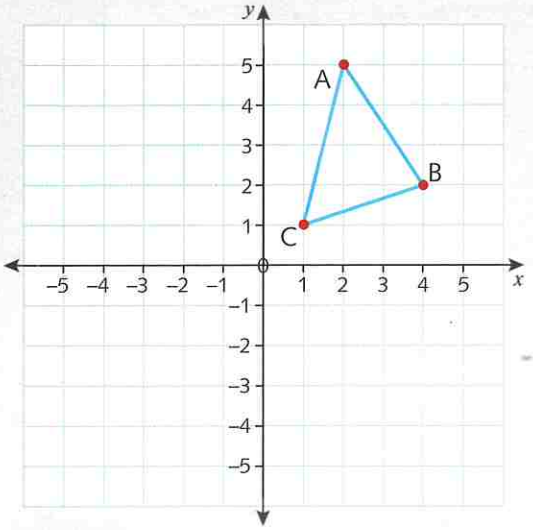
A (1, 2) A' (1, –2)

2 Copy each shape from the grids below onto a different grid on Resource 12: 4-quadrant coordinate grids.

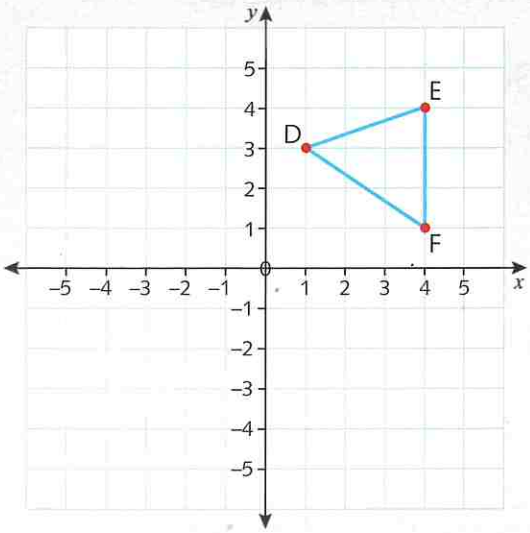
For both Grids 1 and 2, draw the reflection of the shape in the y-axis and in the x-axis and write the coordinates for the vertices and their images.

You will need:
- Resource 12: 4-quadrant coordinate grids
- ruler

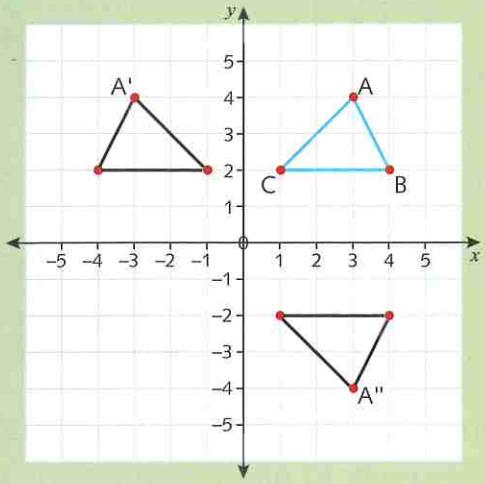
Grid 1



Grid 2



Example



A (3, 4), A' (–3, 4), A'' (3, –4)

B (4, 2), B' (–4, 2), B'' (4, –2)

C (1, 2), C'(–1, 2), C''(1, –2)

Draw a triangle with vertices P (0, 2), Q (4, 5) and R (3, 1) on Resource 12: 4-quadrant coordinate grids.

You will need:
- Resource 12: 4-quadrant coordinate grids
- ruler

a Reflect the triangle in the y-axis and write the coordinates of P', Q' and R'.

b Reflect the triangle in the x-axis and write the coordinates of P'', Q'' and R''.