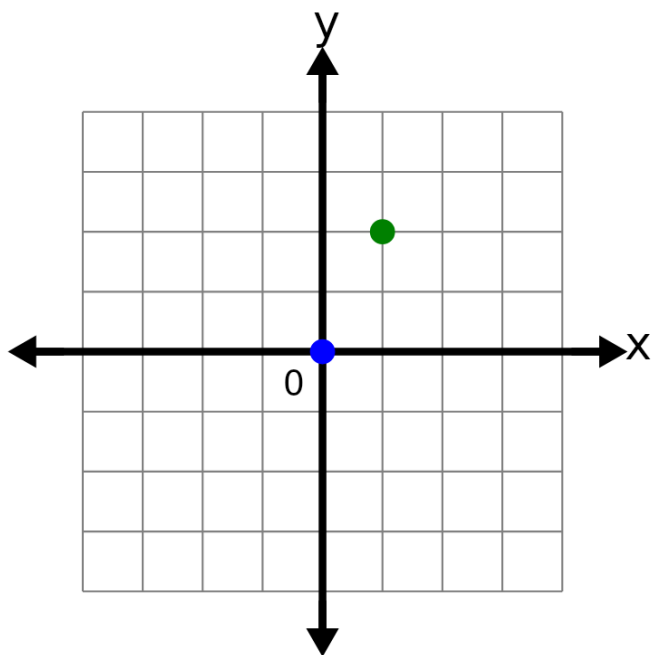


Transformations and Coordinate Geometry

- 1 Rotate this point by 90° clockwise about the origin



A

 $(2, -1)$

B

 $(1, 2)$

- 2 Reflect point $(3, 3)$ across the X axis

 $(3, 3)$

A

 $(3, 3)$

B

 $(3, -3)$

- 3 Translate point $(2, 3)$ by $(-1, -1)$

 $(2, 3)$

A

 $(1, 2)$

B

 $(1, -2)$

- 4 Find the distance between the given (x, y) points

Point A : $(4, -3)$ Point B : $(5, -3)$

A

2

B

3

C

0

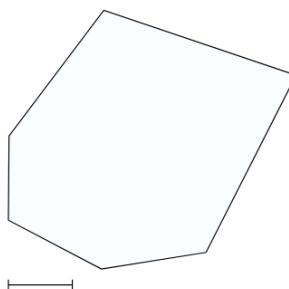
D

4

E

1

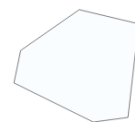
- 5 Which image is similar to this shape?

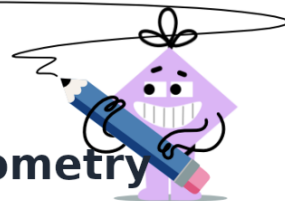


A



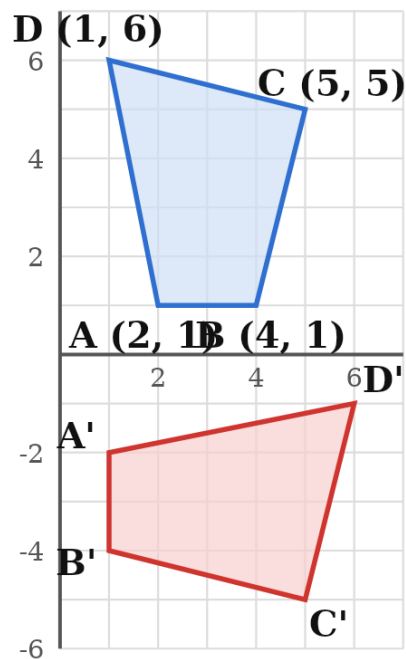
B





Transformations and Coordinate Geometry

- 6 The quadrilateral ABCD is rotated 90° clockwise about the origin using the rule $(x, y) \rightarrow (y, -x)$ to give quadrilateral A'B'C'D'. What are the coordinates of C'?



A

(-5, -5)

B

(5, -5)

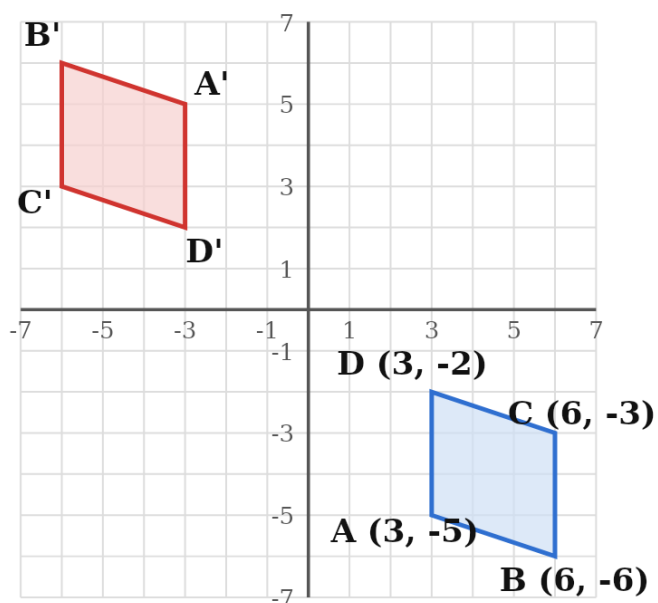
C

(-5, 5)

D

(5, 5)

- 7 The quadrilateral ABCD is rotated 180° about the origin to give quadrilateral A'B'C'D'. What are the coordinates of B'?



A

(-6, 6)

B

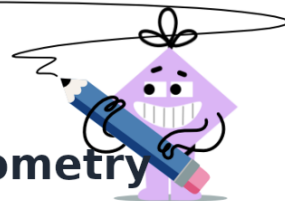
(6, 6)

C

(-6, -6)

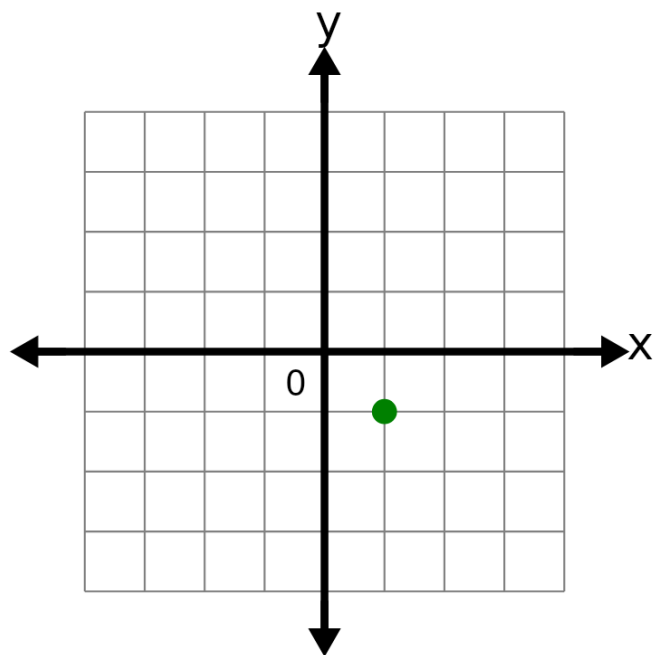
D

(6, -6)



Transformations and Coordinate Geometry

- 8 Translate this point by $(-1, 1)$



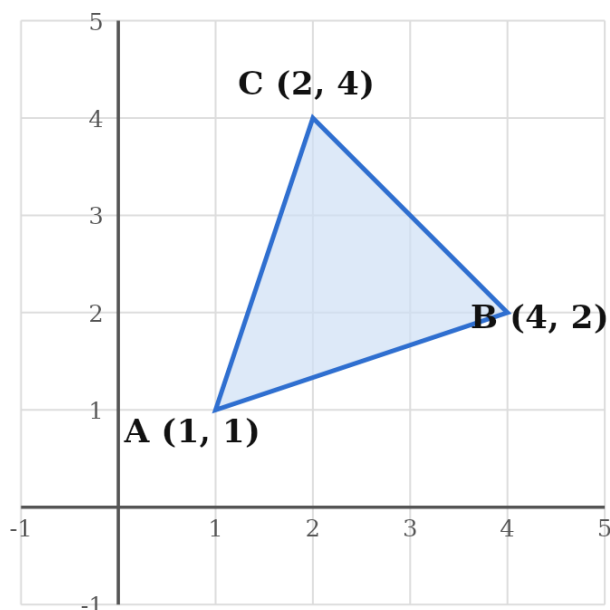
A

 $(0, 0)$

B

 $(-3, -1)$

- 9 The triangle ABC is transformed by two transformations in sequence: (1) rotate 180° about the origin; then (2) dilate by a scale factor of 2 about the origin. Is the final image congruent or similar to triangle ABC?



A

Congruent

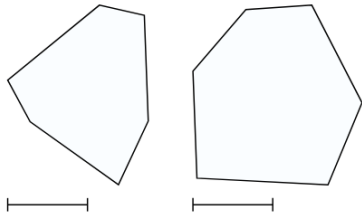
B

Similar



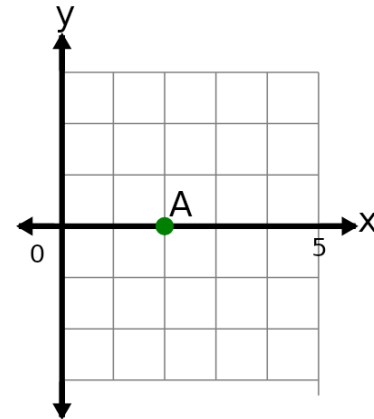
Transformations and Coordinate Geometry

10 Are these shapes similar?



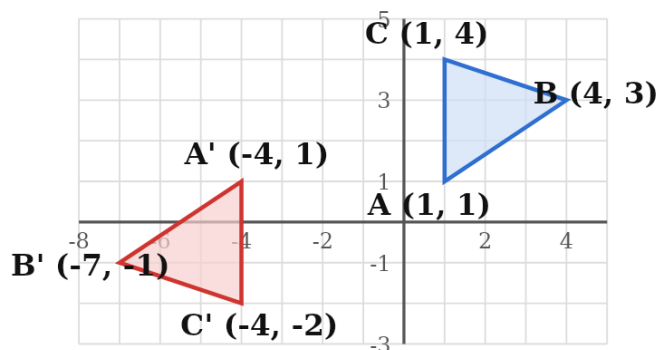
A	No
B	Yes

11 Identify the coordinates of the point labelled 'A'

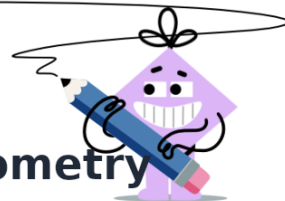


A (2,1)	B (3,0)	C (2,0)
D (0,2)	E (0,-2)	

12 The triangle ABC (blue) is transformed onto triangle A'B'C' (red) by two transformations applied in sequence. Which pair of transformations was used?

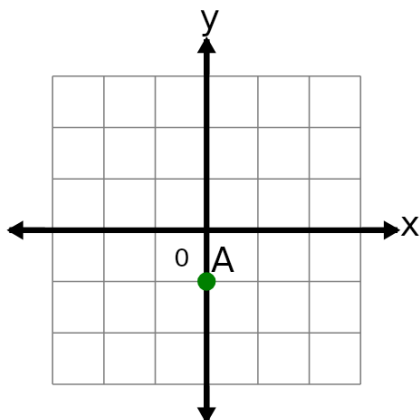


- A Rotate 270° counter-clockwise about the origin, then dilate by a scale factor of 2 about the origin.
- B Translate 3 units right and 2 units down, then rotate 180° about the origin.
- C Translate 3 units left and 2 units up, then rotate 180° about the origin.
- D Rotate 180° about the origin, then translate 3 units right and 2 units down.



Transformations and Coordinate Geometry

13 Identify the values of 'x' and 'y' for the point labelled 'A'



^A $x = 0, y = 1$

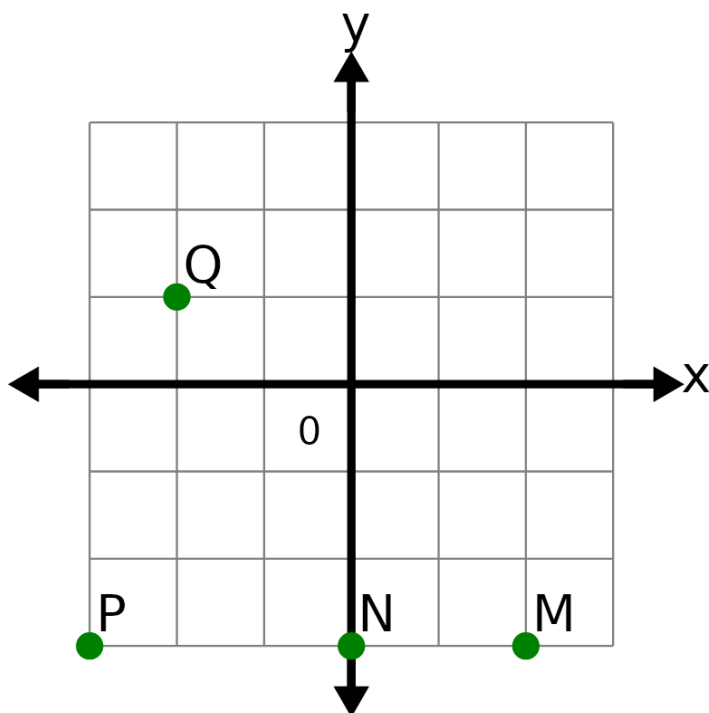
^B $x = 1, y = -1$

^C $x = -1, y = 0$

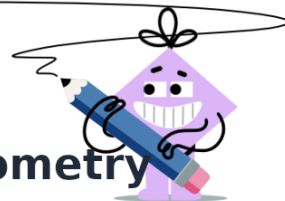
^D $x = 0, y = 0$

^E $x = 0, y = -1$

14 Which point has coordinates of $X = -3$ and $Y = -3$?

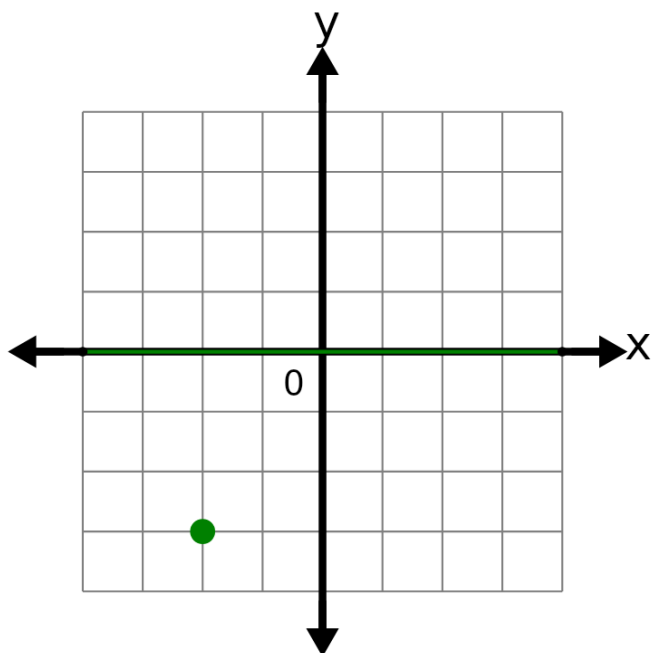


A	Q
B	N
C	P
D	M



Transformations and Coordinate Geometry

15 Reflect this point across the X axis



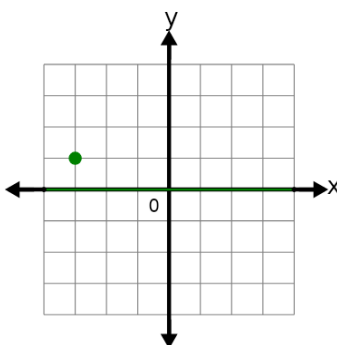
A

$(-2, -3)$

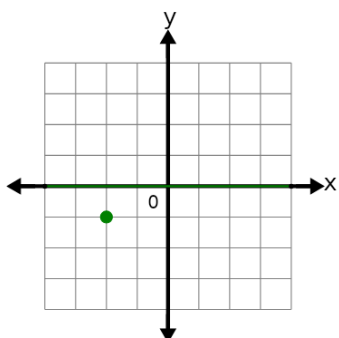
B

$(-2, 3)$

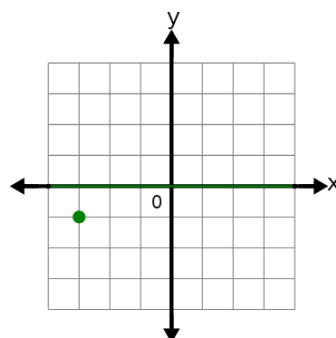
16 Reflect this point across the X axis

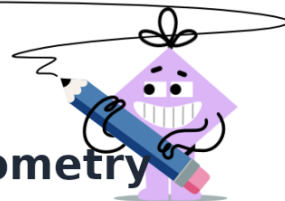


A



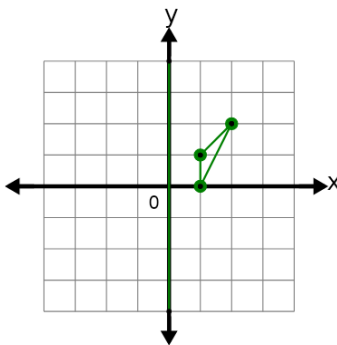
B



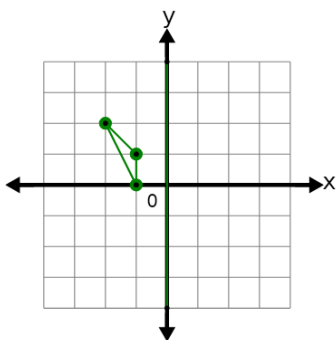


Transformations and Coordinate Geometry

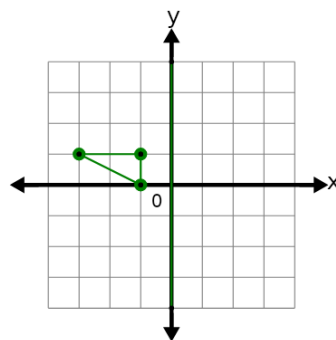
17 Reflect this shape across the Y axis



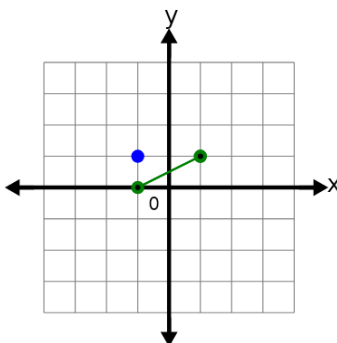
A



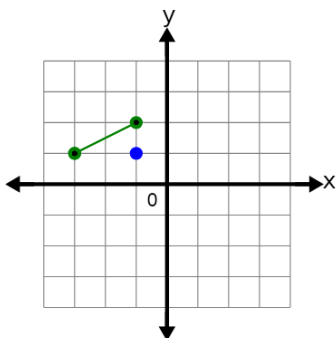
B



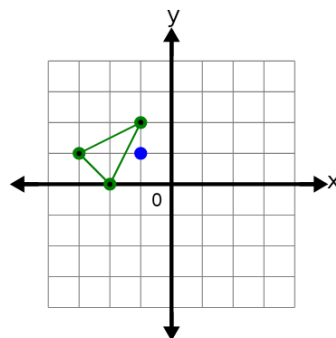
18 Rotate this shape by 180° counter-clockwise about point $(-1, 1)$

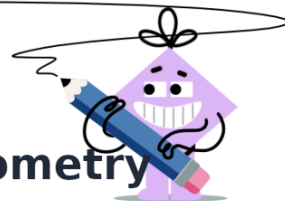


A



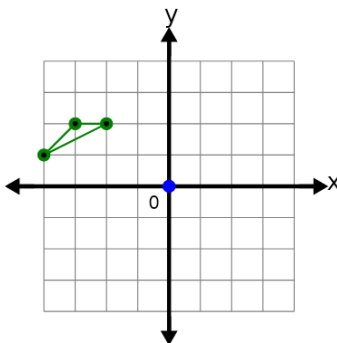
B



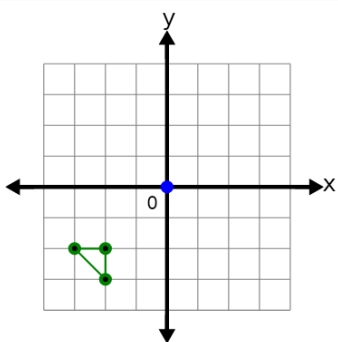


Transformations and Coordinate Geometry

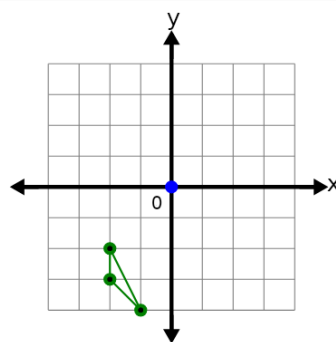
19 Rotate this shape by 90° counter-clockwise about the origin



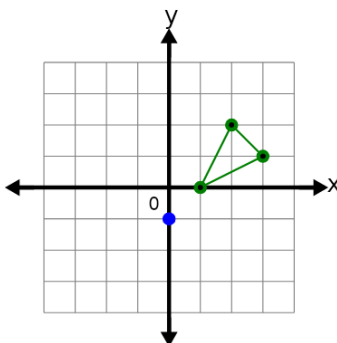
A



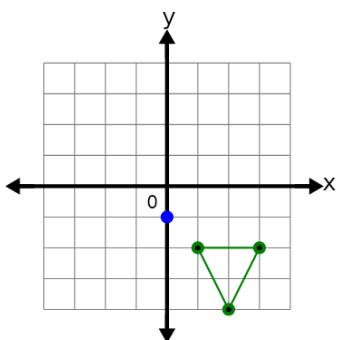
B



20 Rotate this shape by 90° clockwise about point $(0, -1)$



A



B

