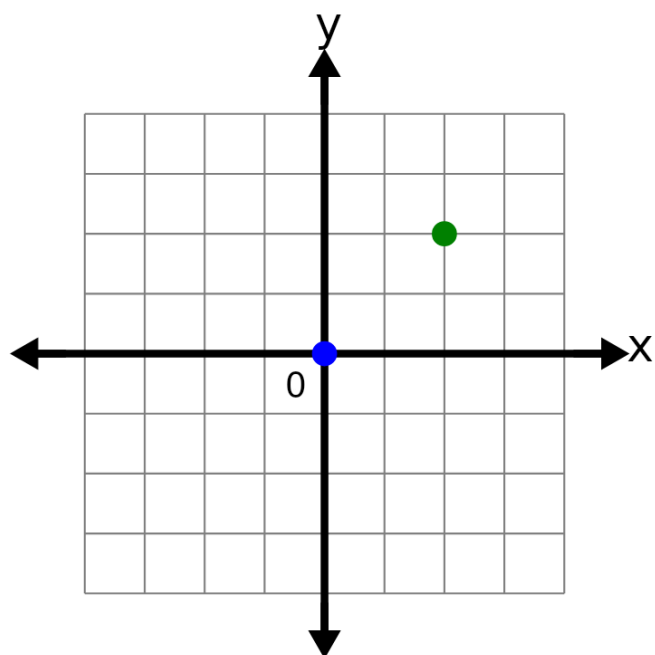


Transformations and Coordinate Geometry

- 1 Rotate this point by 180° counter-clockwise about the origin



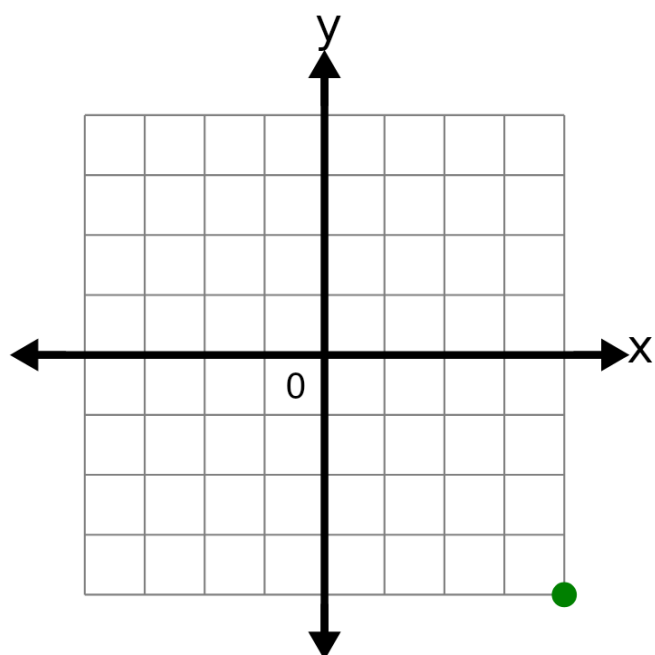
A

 $(-2, -2)$

B

 $(2, 2)$

- 2 Translate this point by $(-2, 2)$



A

 $(2, 2)$

B

 $(2, -2)$



Transformations and Coordinate Geometry

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

$(-2,-2)$

A

$(-2,2)$

B

$(2,-2)$

4 Reflect point $(3,-4)$ across the diagonal

$(3,-4)$

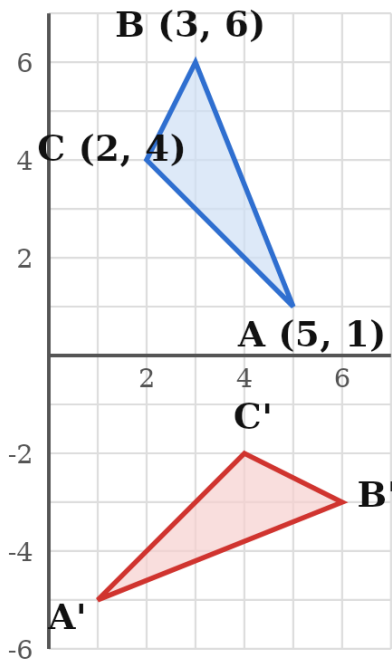
A

$(-4,3)$

B

$(4,-3)$

5 The triangle ABC is rotated 270° counter-clockwise about the origin using the rule $(x, y) \rightarrow (y, -x)$ to give triangle A'B'C'. What are the coordinates of B'?



A

$(-6, 3)$

B

$(6, 3)$

C

$(-6, -3)$

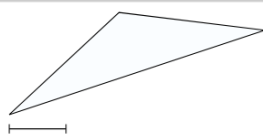
D

$(6, -3)$

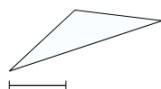
6 Which image is congruent to this shape?



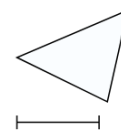
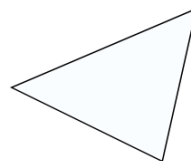
A



B



7 Are these shapes similar?

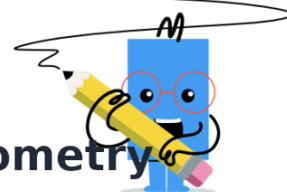


A

Yes

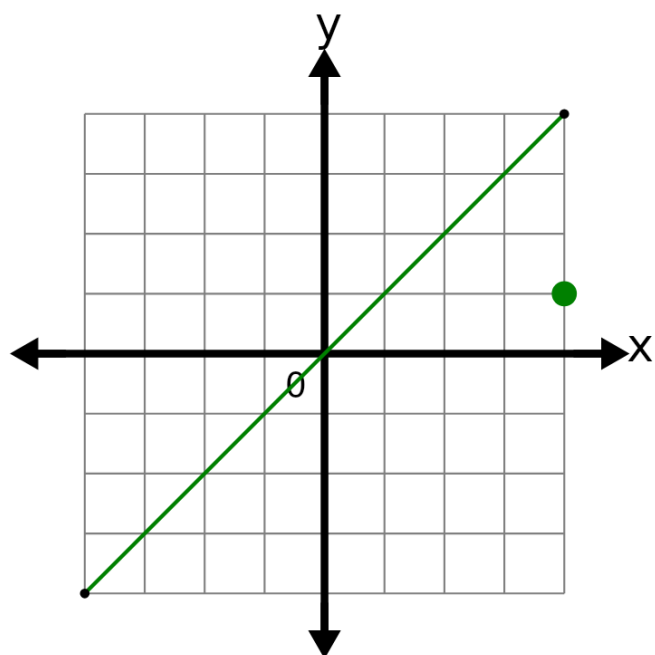
B

No



Transformations and Coordinate Geometry

8 Reflect this point across the diagonal



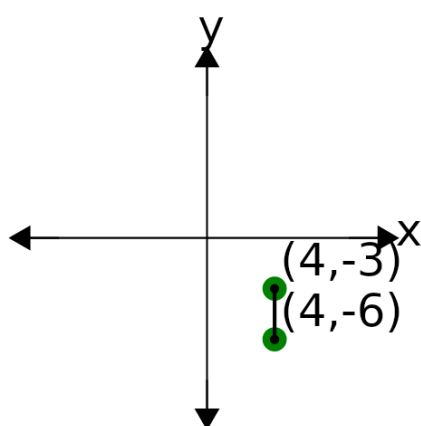
A

(1,4)

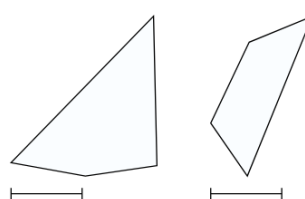
B

(4,-1)

9 Find the length of the line that goes between the two coordinates



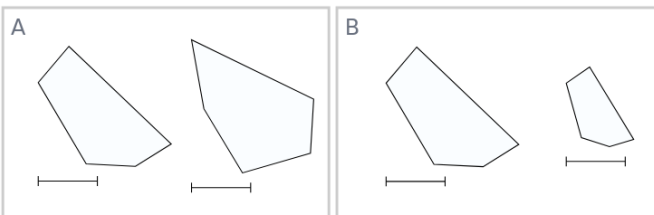
10 What is the most accurate description of these shapes?



- A All angles are identical
- B One or more angles are different

11 Which pair of images matches this description?

One or more angles are different

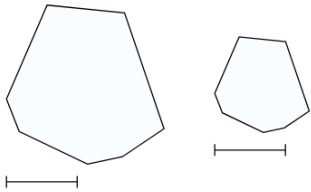


- | | | |
|-----|------|------|
| A 3 | B 8 | C 10 |
| D 7 | E 12 | F 6 |



Transformations and Coordinate Geometry

12 What is the best property to describe these shapes?



A neither similar nor congruent

B similar

13 Rotate point $(1, -4)$ by 180° clockwise about the origin

$(1, -4)$

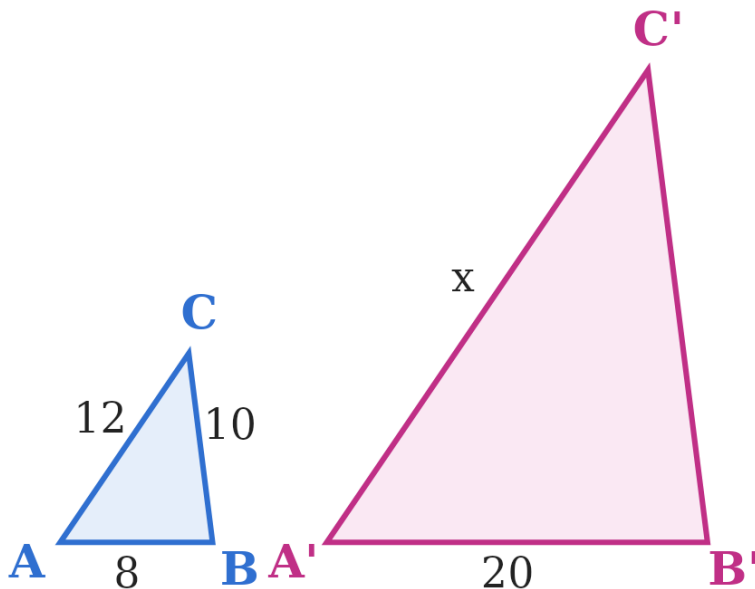
A

$(-1, 4)$

B

$(4, 1)$

14 Triangle ABC is similar to triangle A'B'C'. What is the value of x (in centimetres)?



A

30 cm

B

24 cm

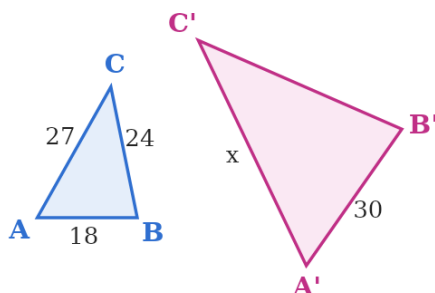
C

12 cm

D

5 cm

15 Triangle ABC is similar to triangle A'B'C'. What is the value of x (in centimetres)?



A

45 cm

B

27 cm

C

39 cm

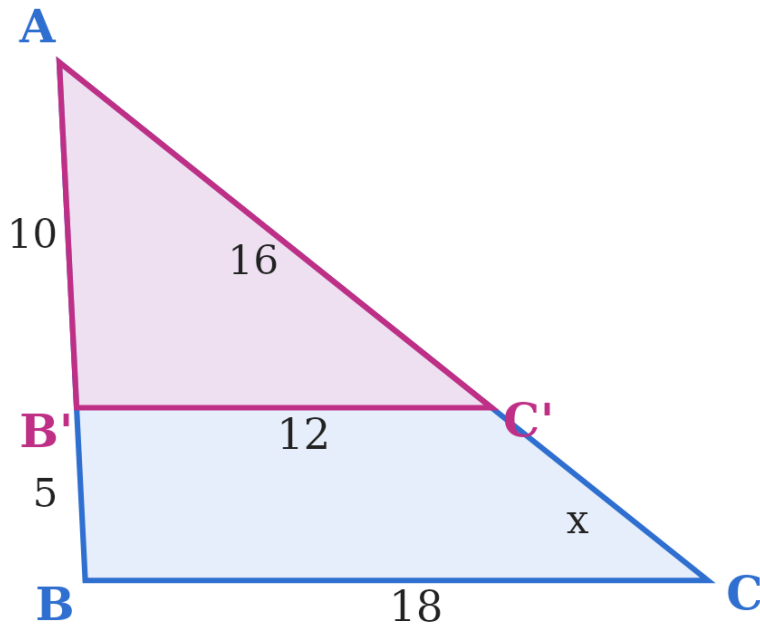
D

16 cm



Transformations and Coordinate Geometry

16 Triangle $AB'C'$ is similar to triangle ABC . What is the value of x (in centimetres)?



A

8 cm

B

6 cm

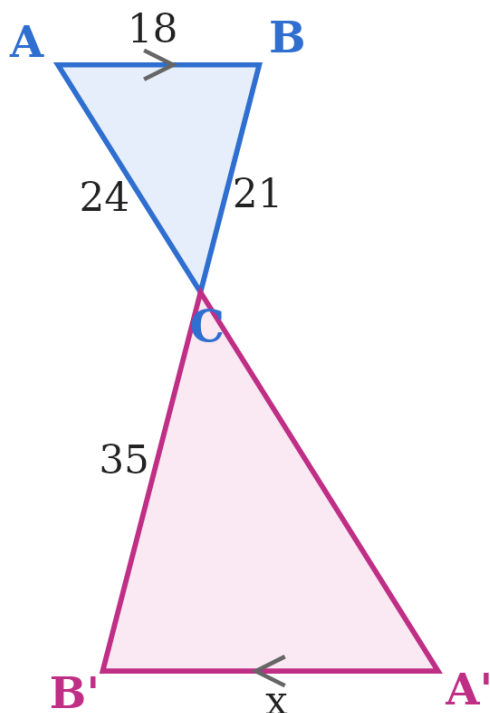
C

5 cm

D

16 cm

17 Triangle ABC is similar to triangle $A'B'C'$. What is the value of x (in centimetres)?



A

11 cm

B

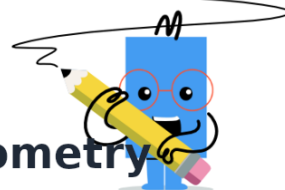
32 cm

C

18 cm

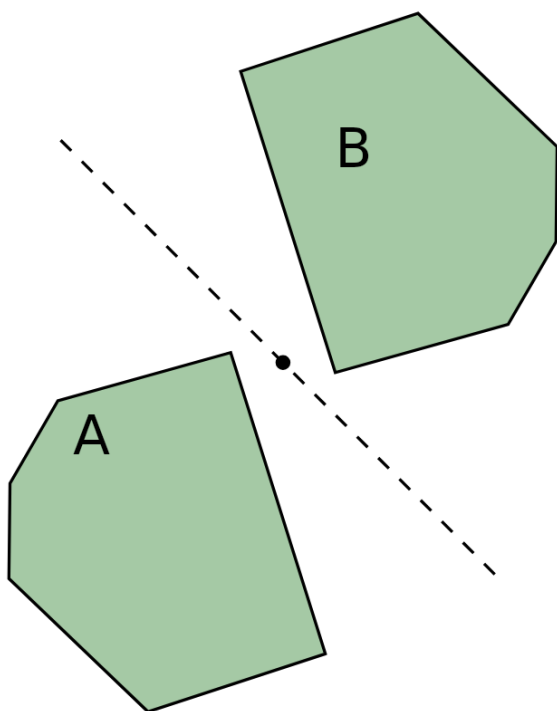
D

30 cm



Transformations and Coordinate Geometry

18 Is the transformation of shape A into shape B a Dilation?



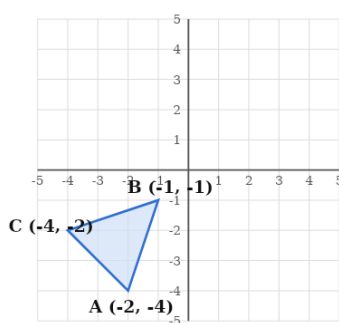
A

Dilation

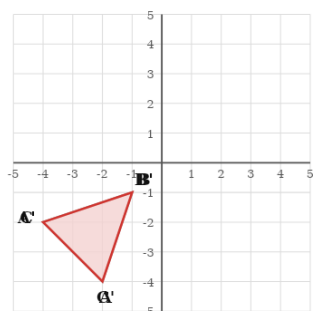
B

Not a Dilation

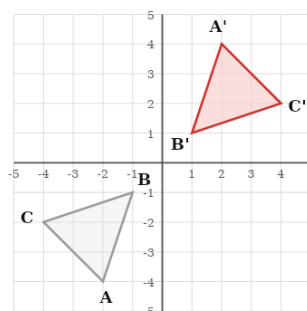
19 The triangle ABC is transformed by two transformations in sequence: (1) reflect across the line $y = -x$; then (2) rotate 180° about the origin. Which grid shows the final image?

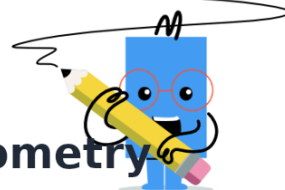


A



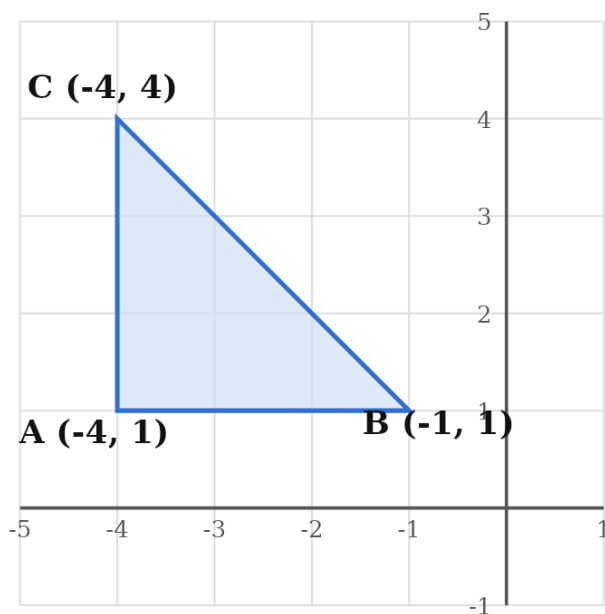
B





Transformations and Coordinate Geometry

- 20** The triangle ABC is transformed by two transformations in sequence: (1) rotate 90° clockwise about the origin; then (2) reflect across the x-axis. Is the final image congruent or similar to triangle ABC?



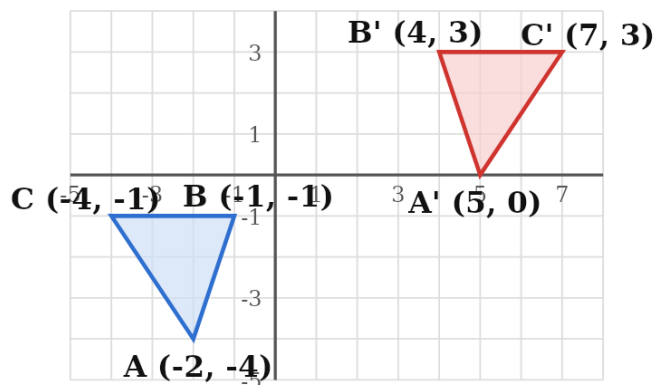
A

Similar

B

Congruent

- 21** 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

Translate 3 units left and 4 units up, then reflect across the line $y = -x$.

B

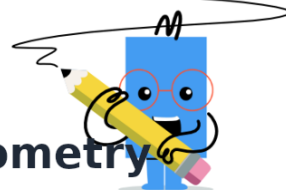
Translate 3 units right and 4 units down, then reflect across the y-axis.

C

Translate 3 units left and 4 units up, then reflect across the y-axis.

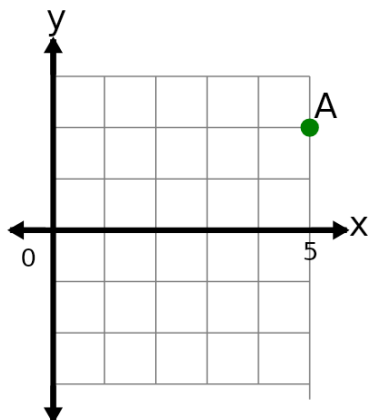
D

Reflect across the y-axis, then translate 3 units left and 4 units up.



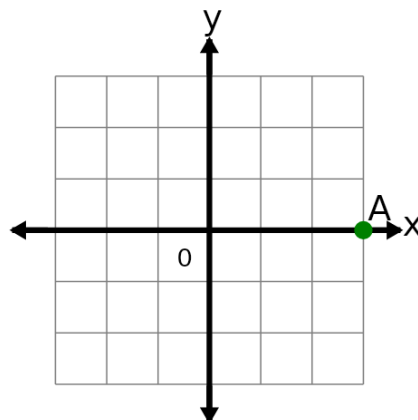
Transformations and Coordinate Geometry

22 Identify the coordinates of the point labelled 'A'



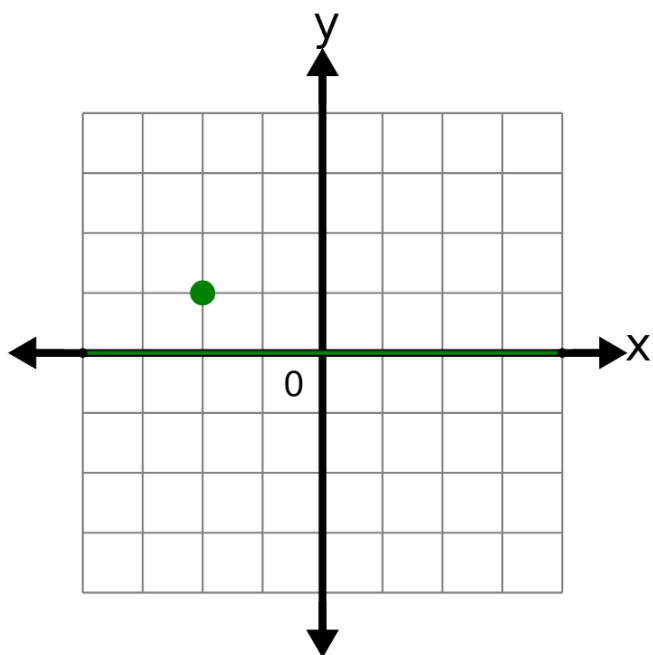
- | | | |
|----------|---------|----------|
| A (2,5) | B (6,2) | C (-2,5) |
| D (-5,2) | E (5,2) | F (2,-5) |

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

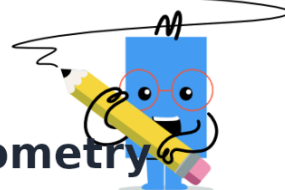


- | | | |
|------------------|-------------------|-------------------|
| A $x = 3, y = 0$ | B $x = 3, y = 1$ | C $x = 0, y = -3$ |
| D $x = 0, y = 3$ | E $x = -3, y = 0$ | F $x = 4, y = 0$ |

24 Reflect this point across the X axis

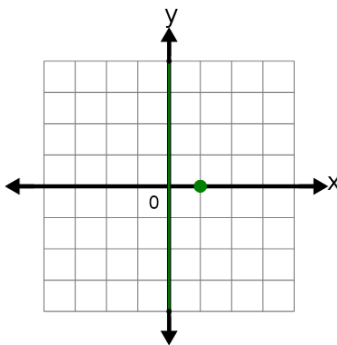


- | |
|-----------|
| A (-2,1) |
| B (-2,-1) |

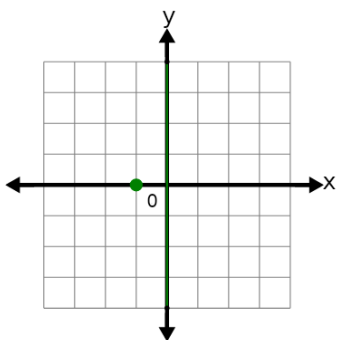


Transformations and Coordinate Geometry

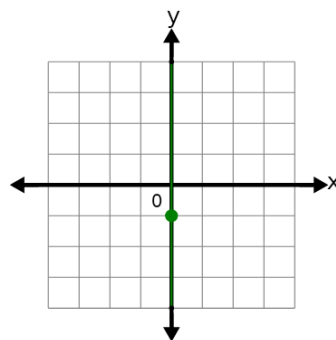
25 Reflect this point across the Y axis



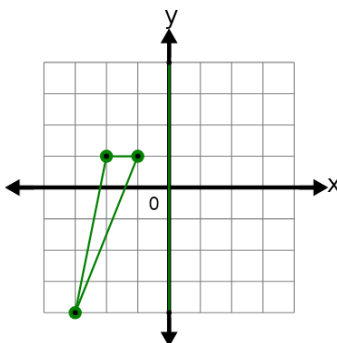
A



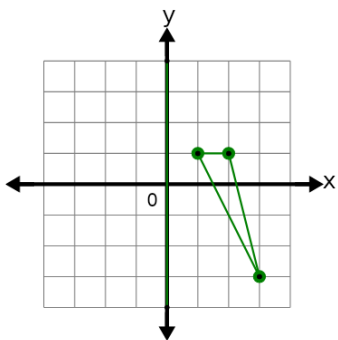
B



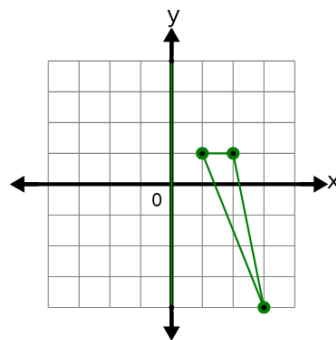
26 Reflect this shape across the Y axis



A



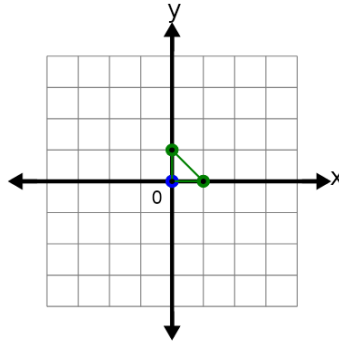
B



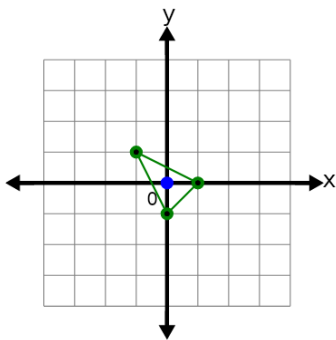


Transformations and Coordinate Geometry

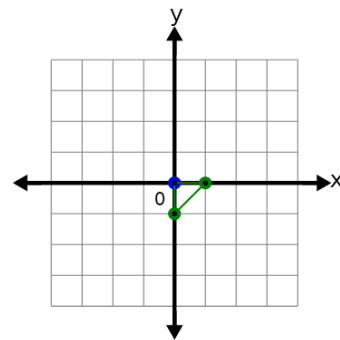
27 Rotate this shape by 90° clockwise about the origin



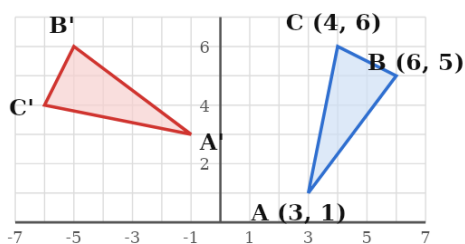
A



B



28 The triangle ABC is rotated 90° counter-clockwise about the origin to give triangle A'B'C'. What are the coordinates of B'?



A	(-5, 6)
B	(5, -6)
C	(5, 6)
D	(-5, -6)