

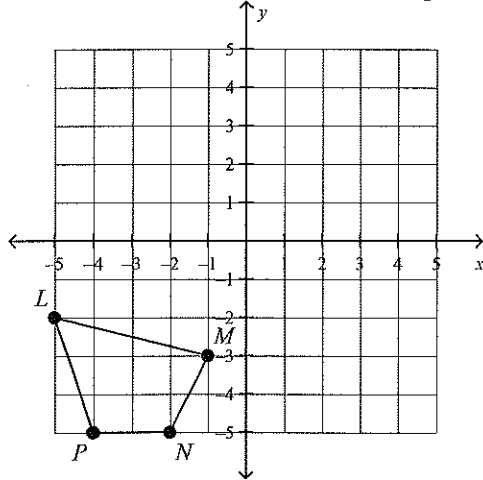
Transformations Quiz BI

Multiple Choice

Identify the choice that best completes the statement or answers the question.

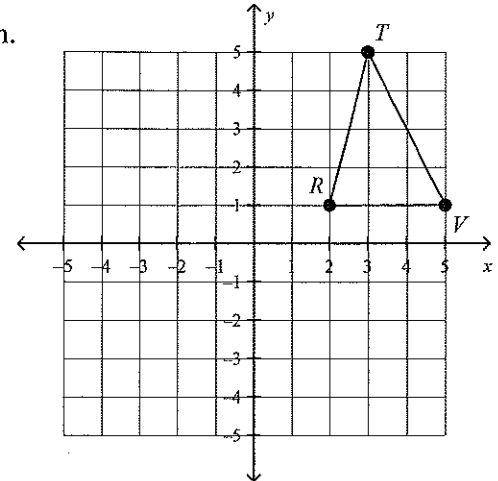
Find the coordinates of the image after the transformation.

1. Translate 2 units right and 5 units up.



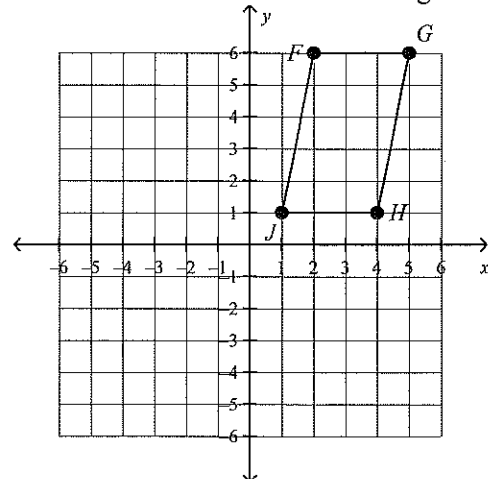
- $L'(-3, 3), M'(1, 2), N'(0, 0), P'(-2, 0)$
- $L'(0, 0), M'(4, -1), N'(3, -3), P'(1, -3)$
- $L'(-7, 3), M'(-3, 2), N'(-4, 0), P'(-6, 0)$
- $L'(-3, -7), M'(1, -8), N'(0, -10), P'(-2, -10)$

2. Translate 4 units left and 3 units down.



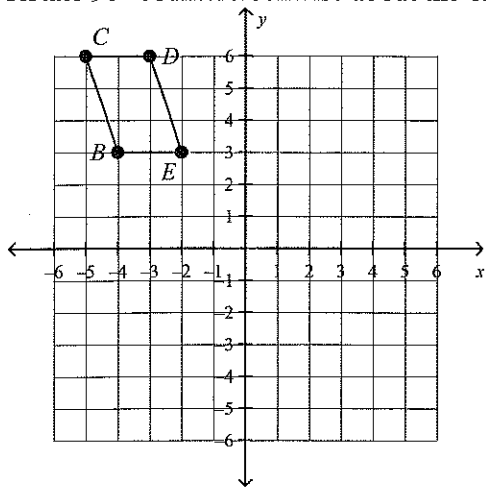
- $R'(6, -2), T'(7, 2), V'(9, -2)$
- $R'(-2, 4), T'(-1, 8), V'(1, 4)$
- $R'(-1, -3), T'(0, 1), V'(2, -3)$
- $R'(-2, -2), T'(-1, 2), V'(1, -2)$

3. Rotate 90° clockwise about the origin.



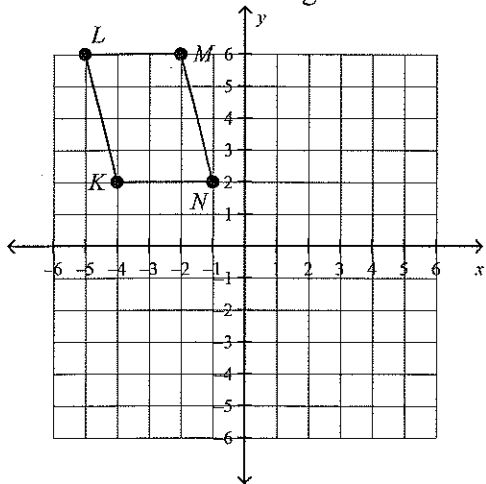
- $F'(6, -2), G'(6, -5), H'(1, -4), J'(1, -1)$
- $F'(-6, -2), G'(-6, -5), H'(-1, -4), J'(-1, -1)$
- $F'(-6, 2), G'(-6, 5), H'(-1, 4), J'(-1, 1)$
- $F'(-2, -6), G'(-5, -6), H'(-4, -1), J'(-1, -1)$

4. Rotate 90° counterclockwise about the origin.



- a. $B'(-3, -4), C'(-6, -5), D'(-6, -3), E'(-3, -2)$
- b. $B'(-3, 4), C'(-6, 5), D'(-6, 3), E'(-3, 2)$
- c. $B'(4, 3), C'(5, 6), D'(3, 6), E'(2, 3)$
- d. $B'(3, 4), C'(6, 5), D'(6, 3), E'(3, 2)$

5. Rotate 180° about the origin.



- a. $K'(2, 4), L'(6, 5), M'(6, 2), N'(2, 1)$
- b. $K'(4, -2), L'(5, -6), M'(2, -6), N'(1, -2)$
- c. $K'(-2, -4), L'(-6, -5), M'(-6, -2), N'(-2, -1)$
- d. $K'(-2, 4), L'(-6, 5), M'(-6, 2), N'(-2, 1)$

Find the coordinates of the figure after reflecting in the x -axis.

- 6. $D(4, 4), E(6, 4), F(0, 6)$
 - a. $D'(-4, 4), E'(-6, 4), F'(-0, 6)$
 - b. $D'(4, -4), E'(6, -4), F'(0, -6)$
 - c. $D'(-4, -4), E'(-6, -4), F'(-0, -6)$
 - d. $D'(4, 4), E'(6, 4), F'(0, 6)$

Find the coordinates of the figure after reflecting in the y -axis.

- 7. $H(-1, 5), J(0, 1), K(-5, 4)$
 - a. $H'(1, -5), J'(-0, -1), K'(5, -4)$
 - b. $H'(-1, -5), J'(0, -1), K'(-5, -4)$
 - c. $H'(1, 5), J'(-0, 1), K'(5, 4)$
 - d. $H'(-1, 5), J'(0, 1), K'(-5, 4)$

A figure lies entirely in Quadrant II. In which quadrant will the figure lie after the given clockwise rotation about the origin?

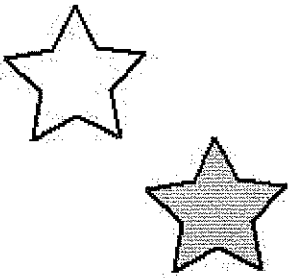
- 8. 180°
 - a. Quadrant III
 - b. Quadrant II
 - c. Quadrant I
 - d. Quadrant IV
- 9. 270°
 - a. Quadrant II
 - b. Quadrant III
 - c. Quadrant I
 - d. Quadrant IV
- 10. 360°
 - a. Quadrant III
 - b. Quadrant I
 - c. Quadrant IV
 - d. Quadrant II
- 11. 90°
 - a. Quadrant II
 - b. Quadrant III
 - c. Quadrant I
 - d. Quadrant IV

Short Answer

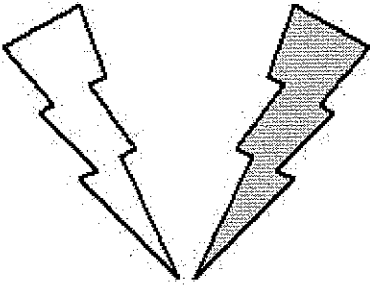
1. The vertices of a rectangle are $W(2,2)$, $X(4,3)$, $Y(5,2)$, and $Z(4,1)$. Reflect the figure in the y -axis, and then translate the image 3 units right and 4 units down. What are the coordinates of the image?

Tell whether the shaded figure is a *translation*, *reflection*, or *rotation* of the nonshaded figure.

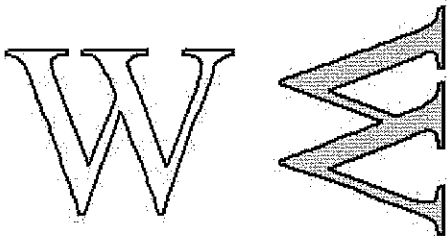
2.



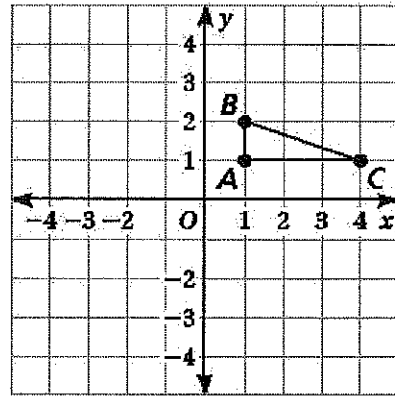
3.



4.



5. Rotate the triangle 180° about the origin, and then translate the triangle 3 units right and 2 units up. Find the coordinates of the image.

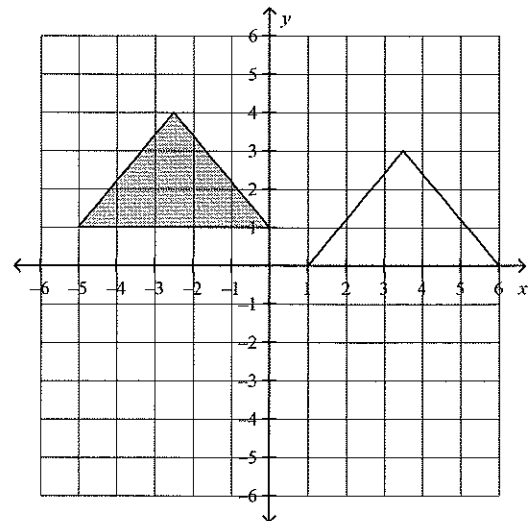


Describe the translation of the point to its image.

6. $(8, -7) \rightarrow (-2, -2)$
 7. $(4, 3) \rightarrow (-5, 4)$

Describe the translation from the shaded figure to the unshaded figure.

8.



9. A polygon lies entirely in Quadrant IV. In which quadrant will the image lie after a reflection in the x -axis?
10. A polygon lies entirely in Quadrant II. In which quadrant will the image lie after a reflection in the y -axis?

The coordinates of a point and its image are given. Is the reflection in the x -axis or y -axis?

11. $(2, -7) \rightarrow (2, 7)$

12. $(-5, 8) \rightarrow (5, 8)$

13. The ordered pair of a point is (x, y) . Find the coordinates of the point after the given transformation.

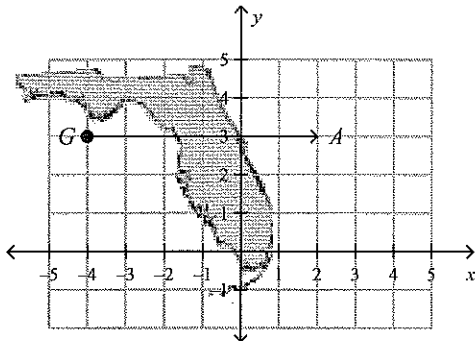
a. a reflection in the x -axis

b. a reflection in the y -axis

14. Why is it *not* necessary to use the words *clockwise* and *counterclockwise* when describing a rotation of 180° ?

Extended Response

1. **Extended Response** A flock of birds translates from point G to point A .



- a. Describe the translation of the flock of birds.
- b. Can a boat make a similar translation? Explain.
- c. Describe a series of translations a boat could make to get to point A from point G .