

Translations and Reflections Extra Practice

In addition to these questions, please see the following pages in the textbook:

Pages 288-289: Questions 3, 4, 5, 6, 11 (Plotting and Comparing Points)

Pages 293-295: Questions 1, 2, 3, 5, 6 (Translations and Reflections)

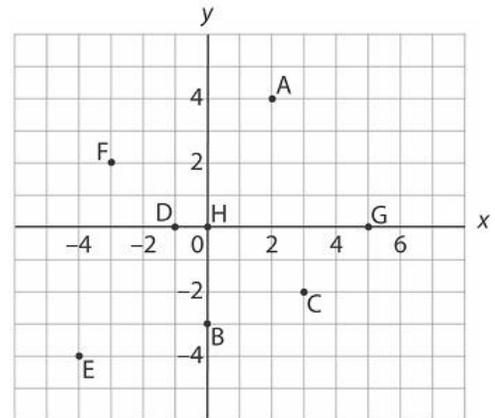
Page 299: Questions 2, 3 (Rotations)

Page 301: All

Extra Practice 5 Lesson 8.5: Graphing on a Coordinate Grid

1. Write the coordinates of each point from A to H.
Name the quadrant or axis that contains the point.

- A _____
 B _____
 C _____
 D _____
 E _____
 F _____
 G _____
 H _____

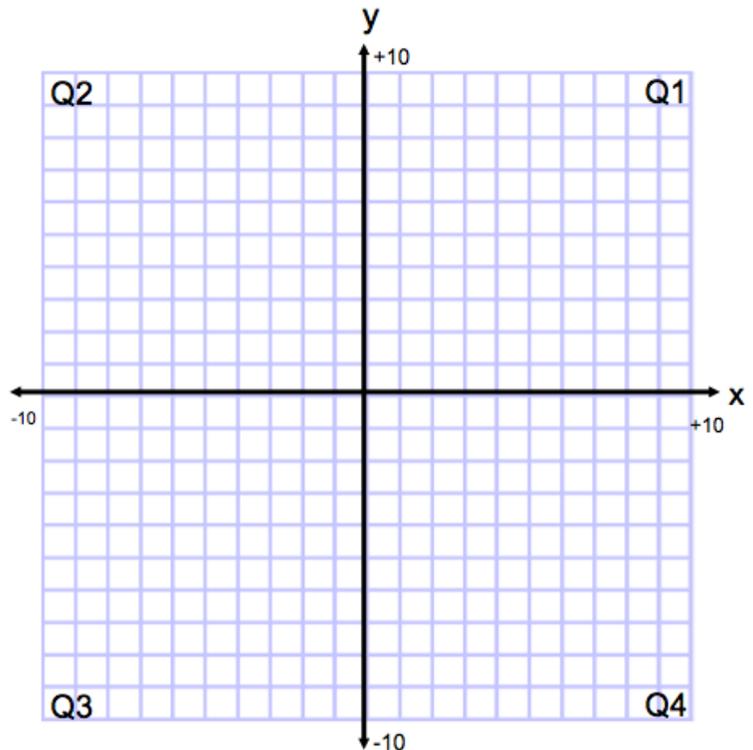


2. What can be said about the coordinates of point P in each case?
- P is in Quadrant 2.
 - P lies on the x-axis.
 - P is in Quadrant 4.
 - P lies on the y-axis.
 - P is at the origin.
 - P is in Quadrant

3. a) Plot these points on a coordinate grid: K(-3, 4), A(4, 4), T(3, 2), E(-2, 2).

b) Join the points. Which shape is formed?

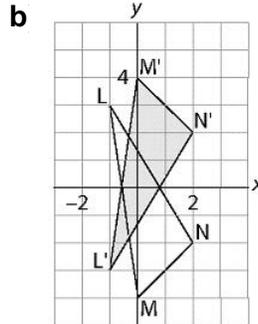
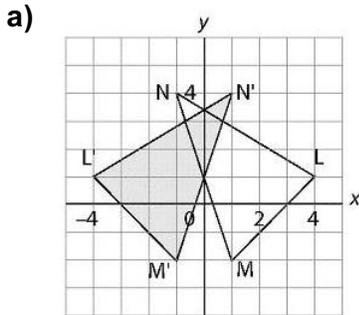
4. a) Plot these points on a coordinate grid: A(3, 5), B(-4, 5), C(-4, 2).
- b) Find the coordinates of point D that forms rectangle ABCD.



Extra Practice 6 Lesson 8.6: Graphing Translations and Reflections

- Trapezoid ABCD has vertices $A(-1, -1)$, $B(1, -1)$, $C(1, 3)$, and $D(-1, 1)$.
After a translation, the image of ABCD is $A'(4, -3)$, $B'(6, -3)$, $C'(6, 1)$, $D'(4, -1)$.
a) Draw ABCD and $A'B'C'D'$ on a grid.
b) Describe the translation.

- Identify each transformation.

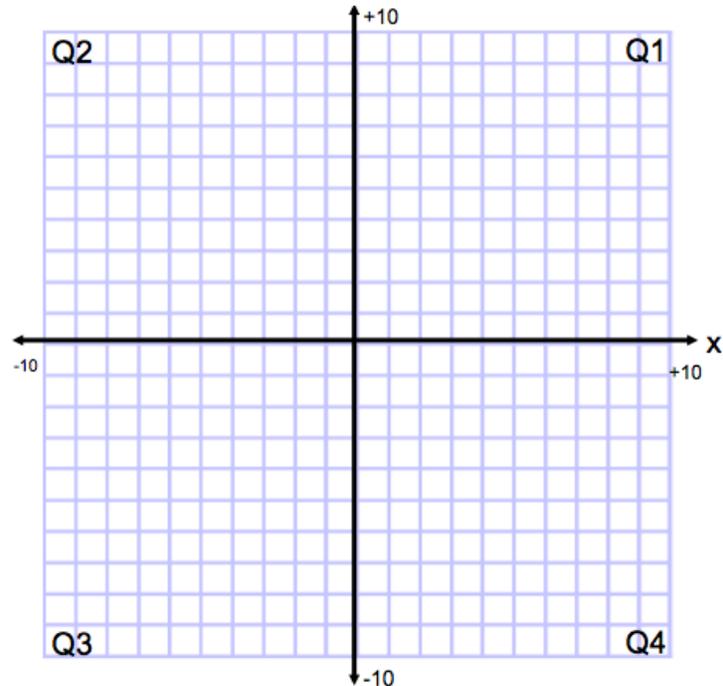
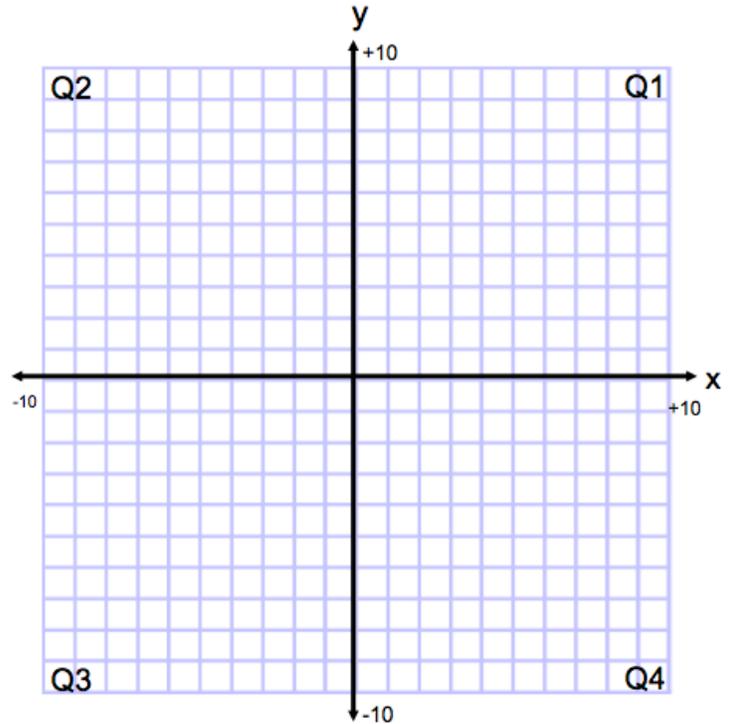


- Plot these points on a coordinate grid: $A(1, 6)$, $B(2, 4)$, $C(4, 4)$, $O(0, 0)$
a) Draw the image of quadrilateral ABCO after a translation 2 units left and 3 units up.
b) Draw its image after a reflection in the x -axis.
c) Draw its image after a reflection in the y -axis.
d) Draw its image after a reflection in the line through $(0, 0)$ and $(10, 10)$.

- Plot these points on a coordinate grid: $A(2, 1)$, $B(-1, 2)$, $C(1, 5)$.
a) Translate each point 3 units left and 4 units down to get image points A' , B' , C' .
b) Write the coordinates of each point and its translation image. What pattern do you see in the coordinates?

- Plot the points in question 4.
a) Reflect each point in the x -axis to get image points A' , B' , C' .
b) Write the coordinates of each point and its reflection image. What pattern do you see in the coordinates?

- Plot the points in question 4.
a) Reflect each point in the y -axis to get image points A' , B' , C' .
b) Write the coordinates of each point and its reflection image. What pattern do you see in the coordinates?

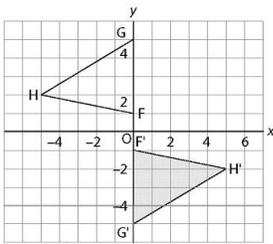


Extra Practice 7 Lesson 8.7: Graphing Rotations

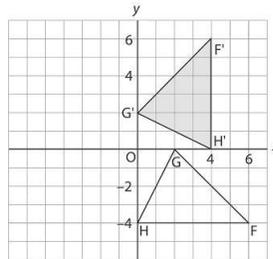
1. a) Which clockwise rotation is the same as a 90° counterclockwise rotation?
 b) Which clockwise rotation is the same as a 270° counterclockwise rotation?
 c) Which clockwise rotation is the same as a 60° counterclockwise rotation?
 d) Why do we do not need to include “clockwise” and “counterclockwise” when describing a 180° rotation?

2. In each diagram, $\triangle F'G'H'$ is the image of $\triangle FGH$ after a rotation about the origin. Identify each rotation.

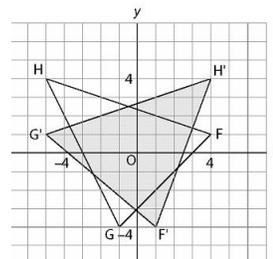
a)



b)



c)



3. Plot these points on a coordinate grid: A(2, 1), B(-1, 2), C(1, 5)

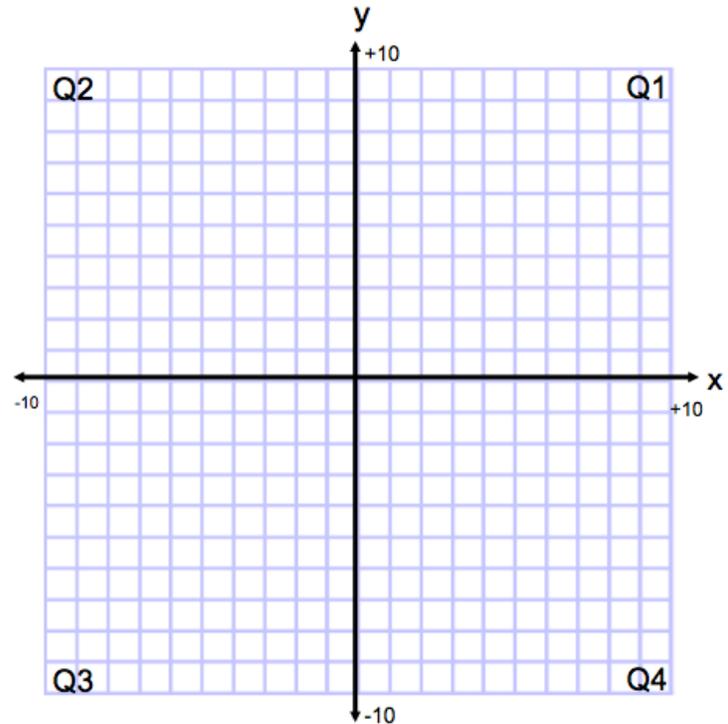
- a) Rotate each point $+90^\circ$ about the origin to get image points A', B', C'.
- b) Write the coordinates of each point and its rotation image. What patterns do you see in the coordinates?

4. Plot the points in question 3.

- a) Rotate each point $+180^\circ$ about the origin to get image points A', B', C'.
- b) Write the coordinates of each point and its rotation image. What patterns do you see in the coordinates?

5. Plot the points in question 3.

- a) Rotate each point $+270^\circ$ about the origin to get image points A', B', C'.
- b) Write the coordinates of each point and its rotation image. What patterns do you see in the coordinates?



6. Plot the points M(-2, 4), N(-5, 0), P(-4, -2), and Q(-1, -1) on a coordinate grid. Join the points to form quadrilateral MNPQ.

- a) Reflect the quadrilateral in the x-axis. Then reflect the image in the y-axis.
- b) Which rotation is equivalent to a reflection in the x-axis followed by a reflection in the y-axis?

