

### Write

In your own words, explain how reflections across the  $x$ -axis and across the  $y$ -axis each affect the coordinates of the points of a figure.

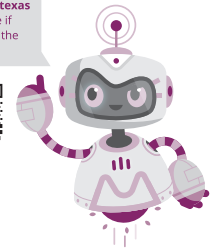
### Remember

A reflection “flips” a figure across a line of reflection. A reflection is a rigid motion that preserves the size and shape of figures.

### Practice

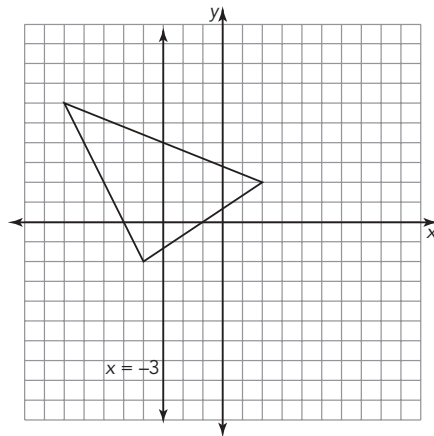
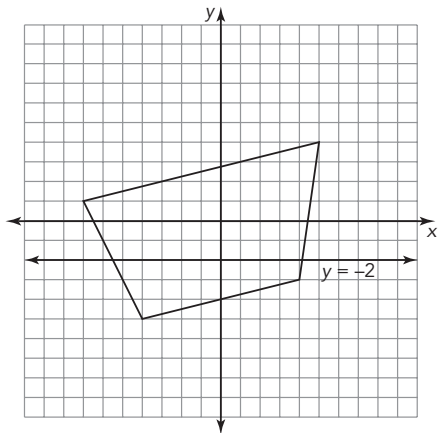
1. Use a coordinate plane to complete parts (a) through (i).
  - a. Plot the points  $(0, 0)$ ,  $(-7, 5)$ ,  $(-7, 8)$ ,  $(-4, 8)$  and connect them with straight lines in the order in which they are given. Connect the last point to the first point to complete the figure, and label the figure as 1.
  - b. List the ordered pairs of Quadrilateral 1 if it is reflected across the  $y$ -axis. Explain how you can determine the ordered pairs of the reflection without graphing it. Plot the reflection described, and label the figure as 2.
  - c. List the ordered pairs of Quadrilateral 2 if it is reflected over the  $x$ -axis. Explain how you can determine the ordered pairs of the reflection without graphing it. Plot the reflection described, and label the figure as 3.
  - d. List the ordered pairs of Quadrilateral 1 if it is reflected over the  $x$ -axis. Explain how you can determine the ordered pairs of the reflection without graphing it. Plot the reflection described, and label the figure as 4.
2. Write a general statement about how to determine the ordered pairs of the vertices of a figure if it is reflected across the  $x$ -axis.
3. Write a general statement about how to determine the ordered pairs of the vertices of a figure if it is reflected across the  $y$ -axis.

Visit [livehint.com/texas](https://livehint.com/texas) or use this QR code if you need a hint on the Practice questions.



## Stretch

1. Reflect the quadrilateral across the line  $y = -2$ .
2. Reflect the triangle across the line  $x = -3$ .



## Review

Determine the coordinates of the image following each given translation.

1. Triangle  $ABC$  with coordinates  $A(2, 4)$ ,  $B(3, 6)$ , and  $C(5, 1)$  is translated 4 units horizontally.
2. Parallelogram  $DEFG$  with coordinates  $D(0, 2)$ ,  $E(1, 5)$ ,  $F(6, 5)$ , and  $G(5, 2)$  is translated  $-7$  units horizontally.
3. For each translation described, what is the relationship between the image and pre-image?

Calculate each product or quotient.

4.  $\frac{-24.6}{-6}$

5.  $4.3(-2.1)$