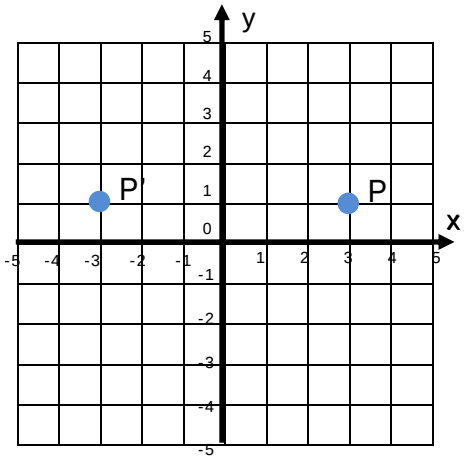
Name _____ Date _____

Dilations, Translations, Rotations, and Reflections- Guided Lesson Explanation

Explanation#1

A reflection is also called a flip. It is to flip over the y-axis. The point is currently 3 units away y-axis origin.

We will start with the point P(3, 1) and the y-axis. Now we have to find the mirror image of the point on the other side of the line. Therefore P is 3 units right of the y-axis, P' is 3 units left of the y-axis.

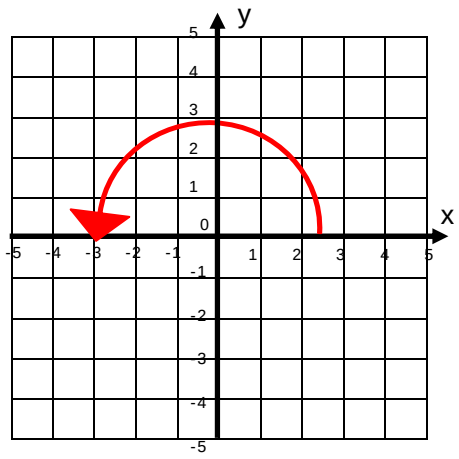


So, P' has coordinates (-3,1).

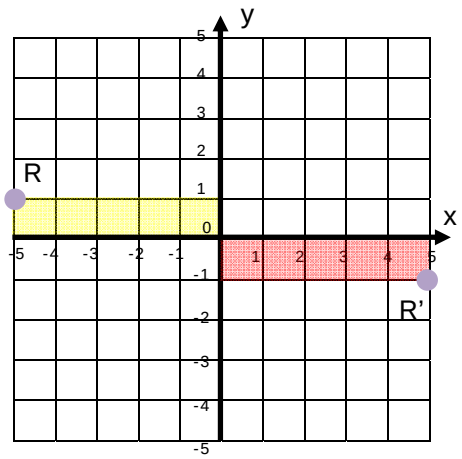
Name _____ Date _____

Explanation # 2

We know that 180˚ is ½ of a full turn. The rotation will turn the counterclockwise direction.



We will start the point R(-5,1) and we will rotate the point R(-5,1) 180˚counter clockwise around the origin from Quadrant II to Quadrant IV. To get the exact location, we will imagine (0,0) and R forming opposite corners of a box. Rotate the box, keeping the (0,0) corner fixed.



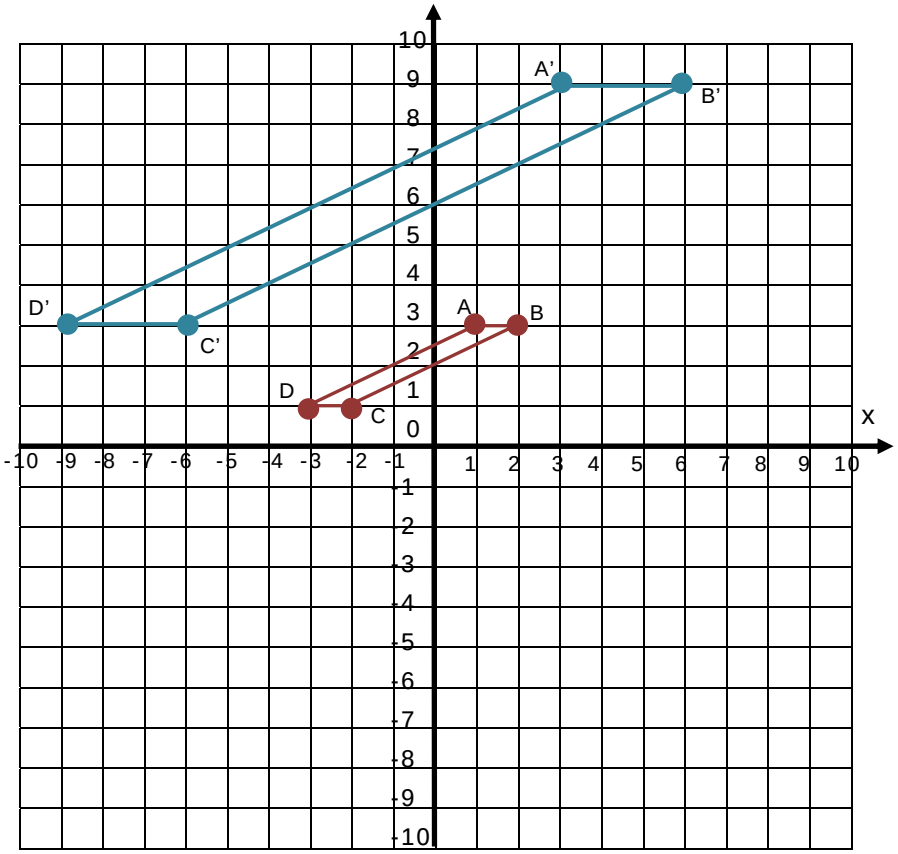
So, R' has coordinates (5, -1).

Name _____ Date _____

Explanation # 3

Dilations enlarge or reduce a figure. The scale factor of dilation is the ratio of a length in the image to the corresponding length in the original figure.

We will get the image by multiplying the coordinates of four points by 3 scale factor.



Now multiply the coordinates of point A(1,3), B(2,3), C(-2,1), D(-3,1) by 3.

After we multiply the coordinates of point, the images are A'(3,9), B'(6,9), C'(-6,3), D'(-9,3).

So, the dilated points form a parallelogram similar to ABCD is A'B'C'D'.