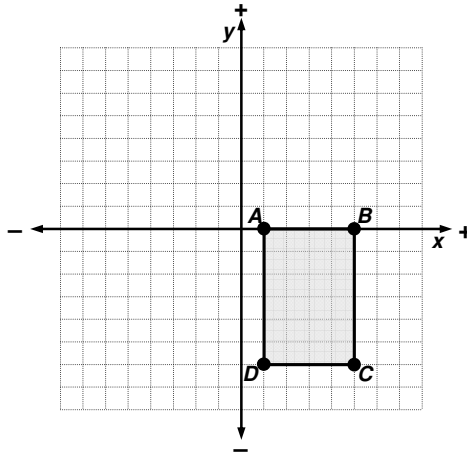


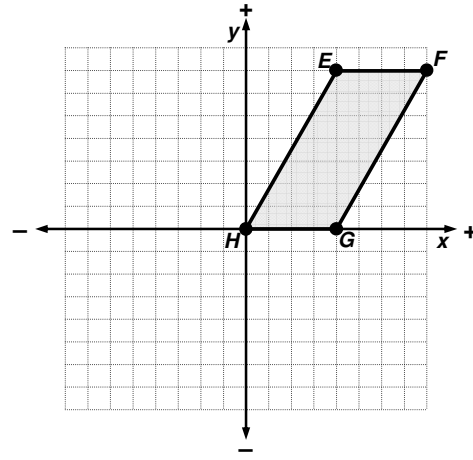
## Drawing Rotations: Classwork

1. Draw the following rotations (you may use tracing paper). Label the points on your image!

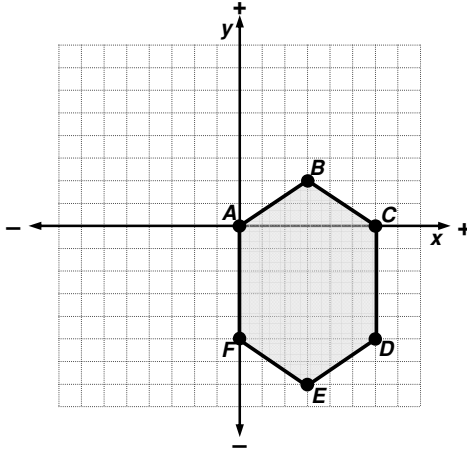
- a. Rotate the rectangle  $90^\circ$  counterclockwise about the origin.



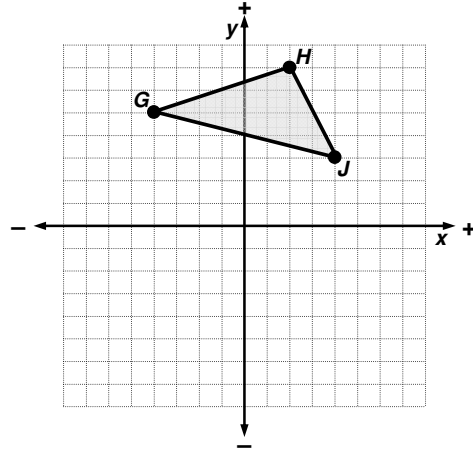
- b. Rotate the parallelogram  $90^\circ$  counterclockwise about the origin.



- c. Rotate the hexagon  $90^\circ$  counterclockwise about the origin.

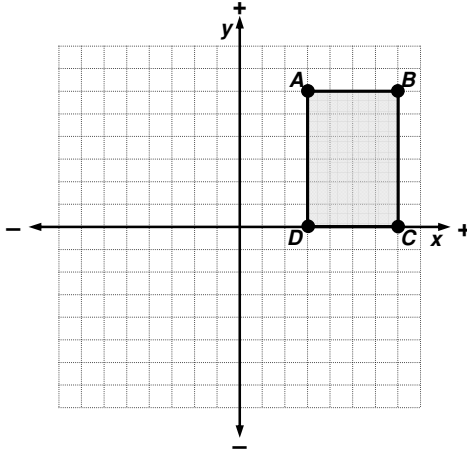


- d. Rotate the triangle  $90^\circ$  counterclockwise about the origin.

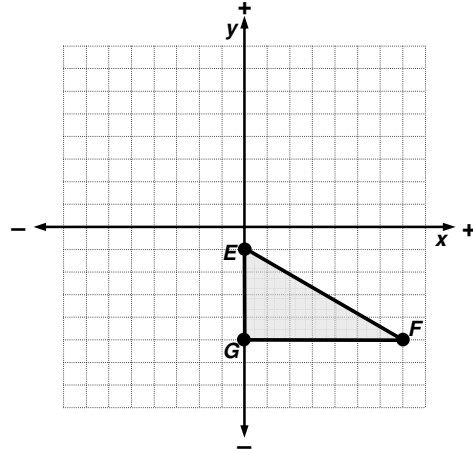


2. Draw the following rotations without tracing paper. Label the points on your image!

- a. Rotate the rectangle  $90^\circ$  counterclockwise about the origin.



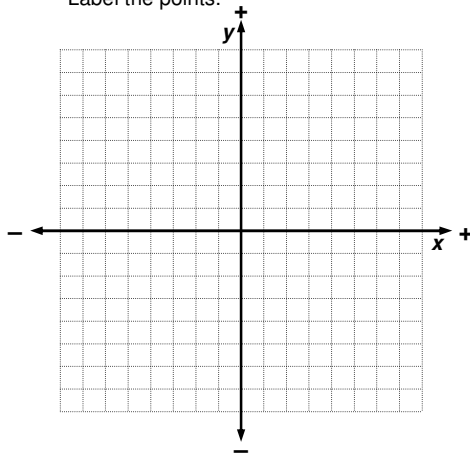
- b. Rotate the triangle  $90^\circ$  counterclockwise about the origin.



3. Explain the technique you used to draw a rotation without having to use tracing paper.

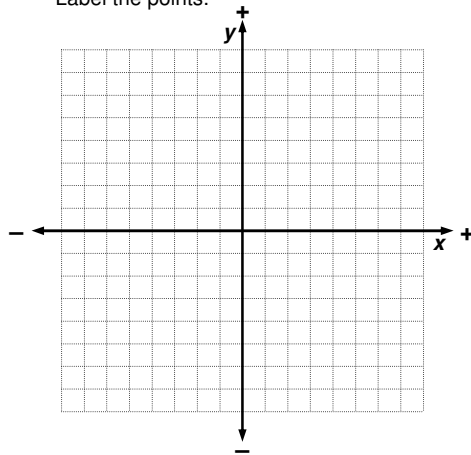
4. a. The points  $A(-2, 3)$ ,  $B(-4, 3)$ ,  $C(-7, 0)$ , and  $D(-5, 0)$  form a parallelogram. Draw the parallelogram.

Now rotate the parallelogram  $90^\circ$  counterclockwise about the origin. Label the points.



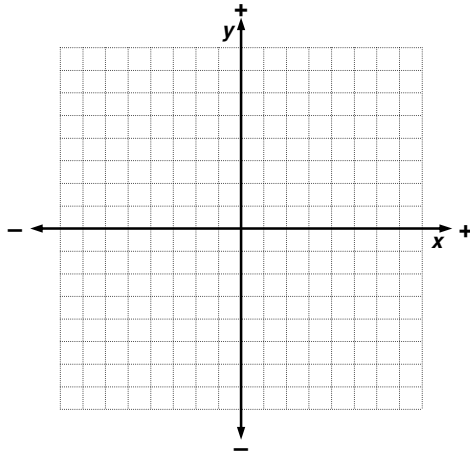
- b. The points  $E(2, 1)$ ,  $F(4, 1)$ ,  $G(7, -6)$ , and  $H(-3, -6)$  form a trapezoid. Draw the trapezoid.

Now rotate the trapezoid  $90^\circ$  counterclockwise about the origin. Label the points.



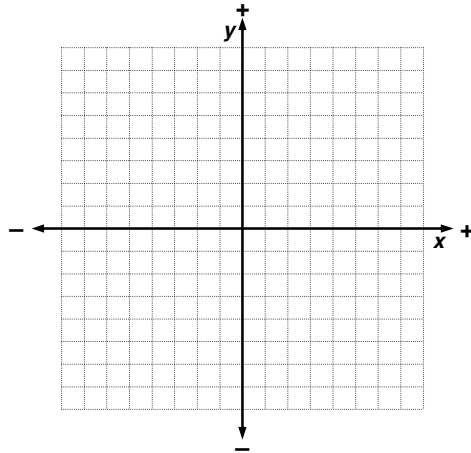
- c. The points  $J(-4, 4)$ ,  $K(-7, 1)$ ,  $L(-4, -5)$ ,  $M(-1, -3)$ , and  $N(1, 3)$  form a pentagon. Draw the pentagon.

Now reflect the pentagon across the  $y$ -axis. Label the points.



- d. The points  $P(4, -1)$ ,  $Q(-2, -7)$ ,  $R(-7, -5)$ , and  $S(-1, 1)$  form a parallelogram. Draw the parallelogram.

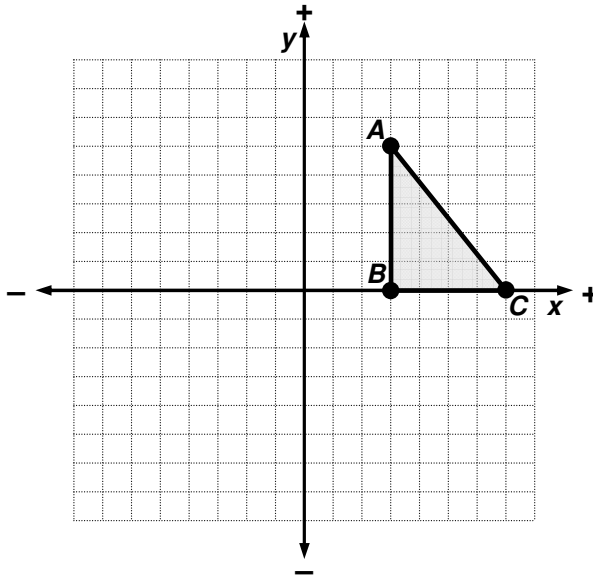
Now reflect the parallelogram across the  $x$ -axis. Label the points.



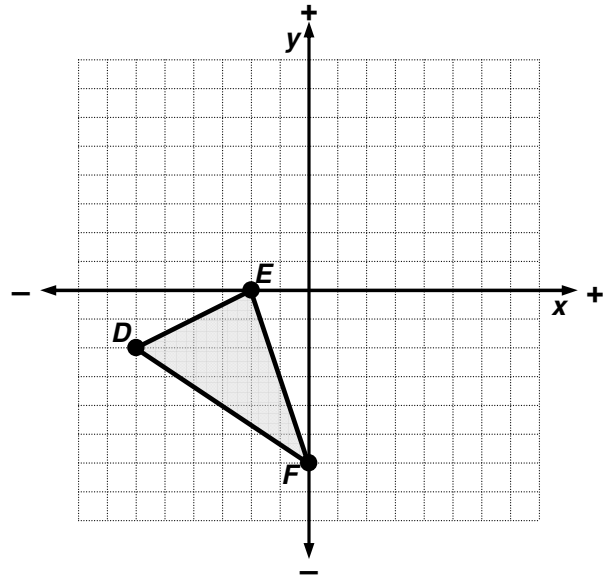
### Drawing Rotations: Homework

5. Draw the following rotations. Be sure to label the points on your image!

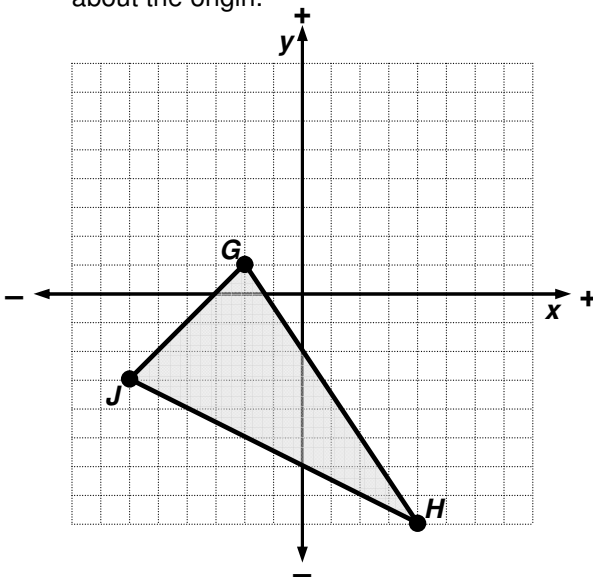
a. Rotate the triangle 90° counterclockwise about the origin.



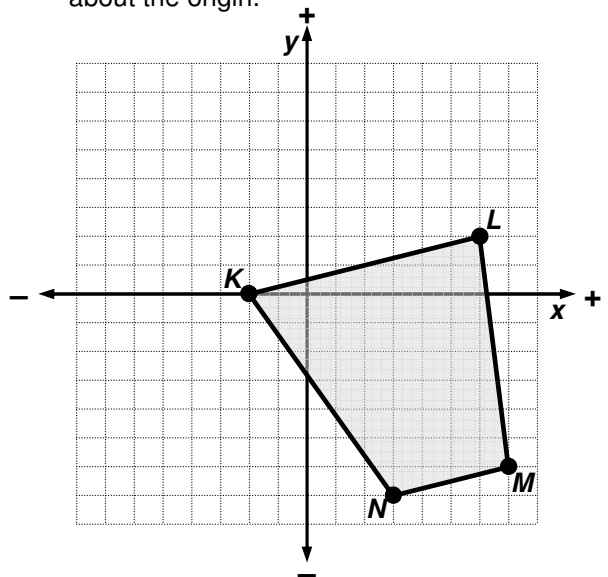
b. Rotate the triangle 90° counterclockwise about the origin.



c. Rotate the triangle 90° counterclockwise about the origin.

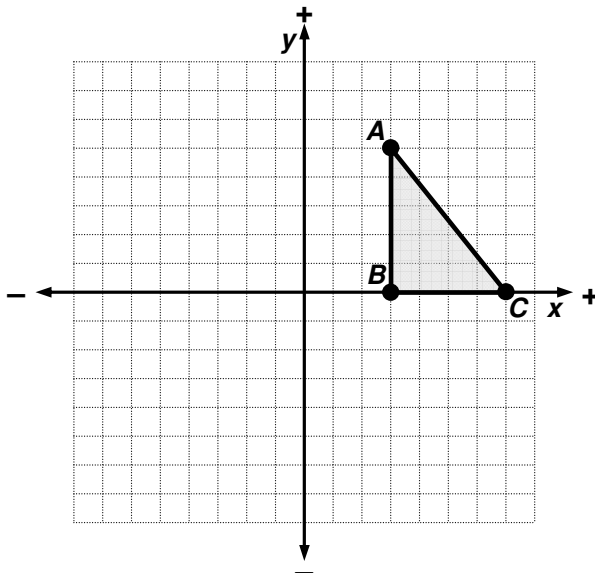


d. Rotate the trapezoid 90° counterclockwise about the origin.

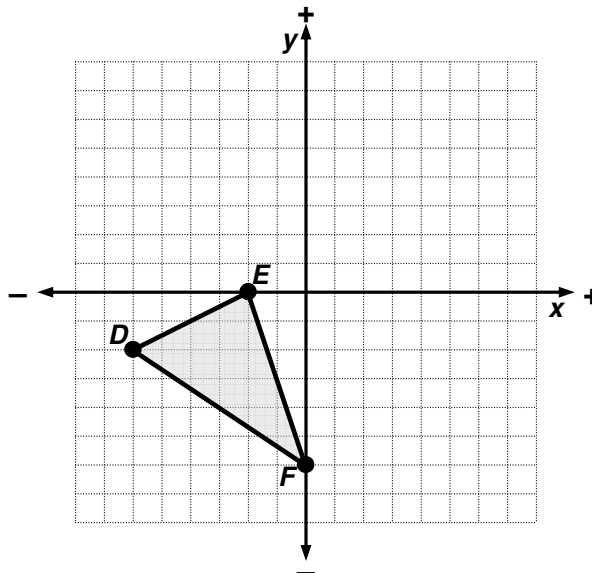


6. Draw the following reflections. Be sure to label the points on your image!

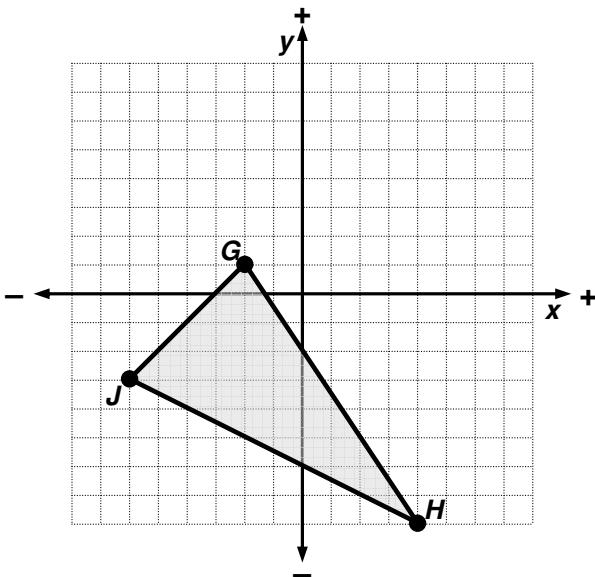
a. Reflect the triangle across the  $y$ -axis.



b. Reflect the triangle across the  $y$ -axis.



c. Reflect the triangle across the  $x$ -axis.



d. Reflect the trapezoid across the  $x$ -axis.

