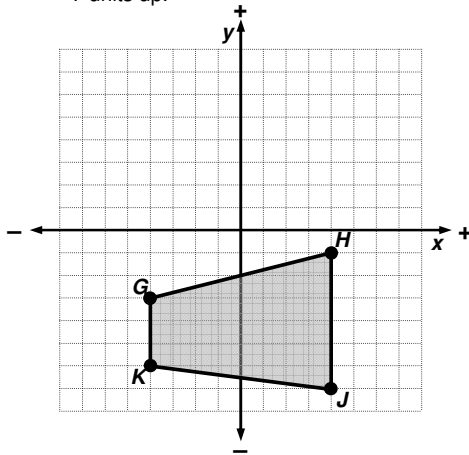


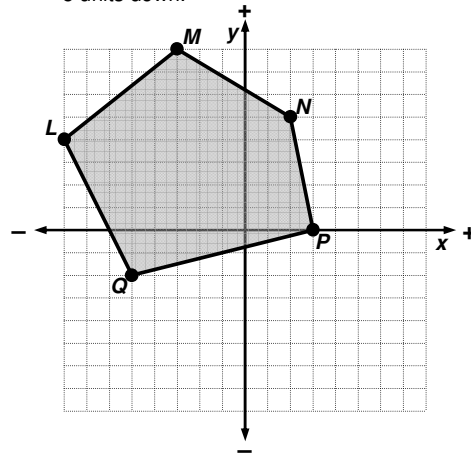
## Drawing Translations: Classwork

1. Draw the following translations. Be sure to label the points on your image!

- a. Translate the trapezoid 2 units left and 7 units up.

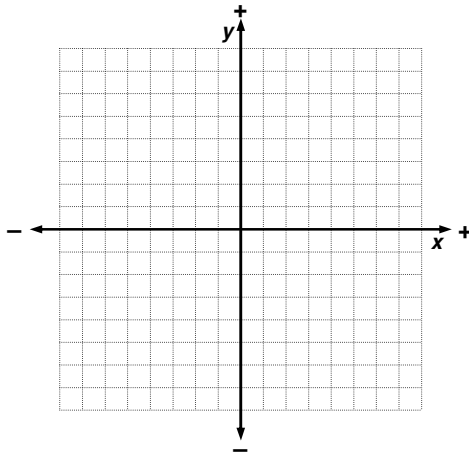


- b. Translate the pentagon 5 units right and 5 units down.



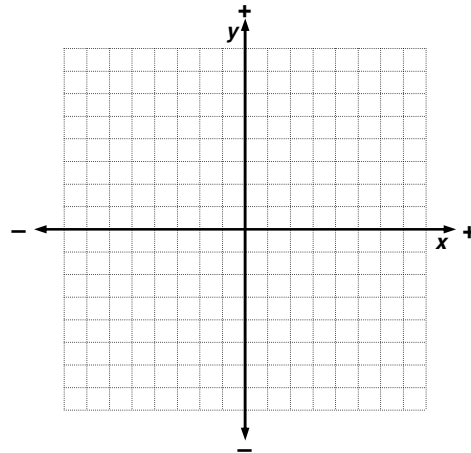
2. a. The points  $A(3, 0)$ ,  $B(6, 4)$ ,  $C(-2, 2)$ , and  $D(-5, -2)$  form a parallelogram. Draw the parallelogram.

Now translate the parallelogram 3 units up and 1 unit right. Label the points.



- b. The points  $E(1, 3)$ ,  $F(2, -3)$ ,  $G(-3, 0)$ , and  $H(-4, 6)$  form a parallelogram. Draw the parallelogram.

Now translate the parallelogram 5 units right and 4 units down. Label the points.



3. a. In #2a, you translated the shape 1 unit right and 3 units up. Complete the table for the coordinates of each point's image

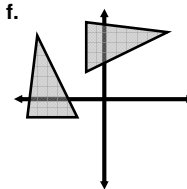
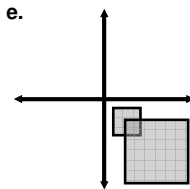
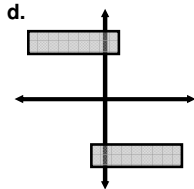
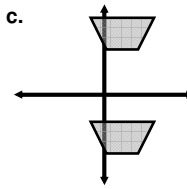
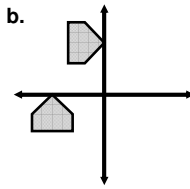
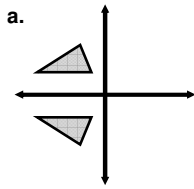
Original Points	Image Points
$A(3, 0)$	
$B(6, 4)$	
$C(-2, 2)$	
$D(-5, -2)$	

- b. In #2b, you translated the shape 5 units right and 4 units down. Complete the table for the coordinates of each point's image.

Original Points	Image Points
$E(1, 3)$	
$F(2, -3)$	
$G(-3, 0)$	
$H(-4, 6)$	

- c. Based on the tables, explain the rule for finding the coordinates of translated points.

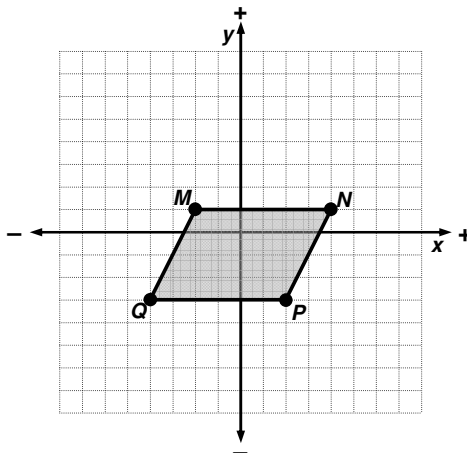
4. For each shape and its image, tell whether the transformation was a reflection, rotation, translation, or dilation. If there is more than one possible answer, then list all that are possible.



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

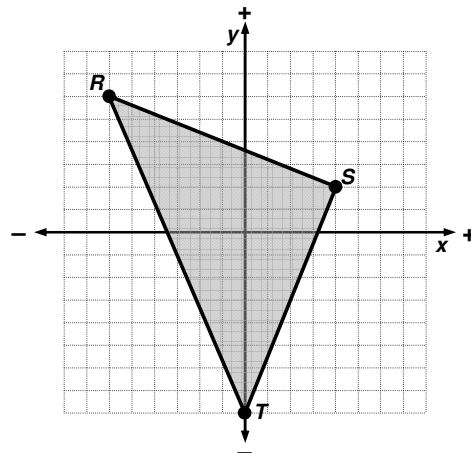
- a. Draw a dilation of the parallelogram using a scale factor of 2 and the origin as the center of dilation.

Now rotate the image 90° counterclockwise.



- b. Draw a dilation of the triangle using a scale factor of  $\frac{1}{2}$  and the origin as the center of dilation.

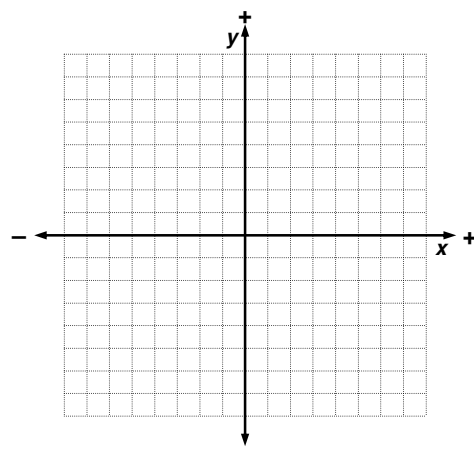
Now translate the image 4 units left.



- c. The points  $A(-1, 7)$ ,  $B(-8, 6)$ , and  $C(-4, 0)$  form a triangle. Draw the triangle.

Now translate the triangle 8 units right and 8 units down.

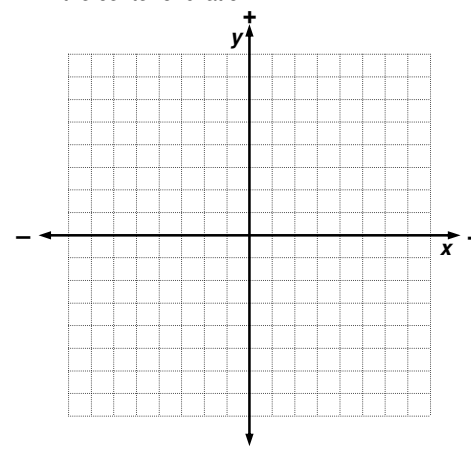
Finally, reflect the image across the  $y$ -axis.



- d. The points  $D(4, 8)$ ,  $E(6, -2)$ , and  $F(-4, -6)$  form a triangle. Draw the triangle.

Now rotate the triangle 90° counterclockwise about the origin.

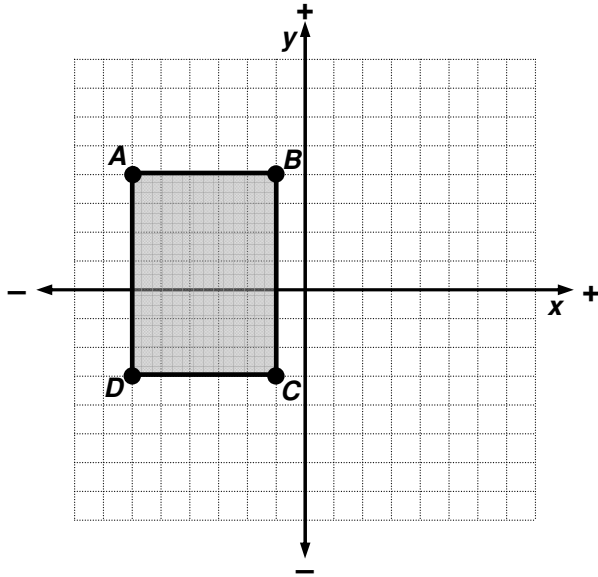
Finally, draw a dilation of the image using a scale factor of  $\frac{1}{2}$  and the origin as the center of dilation.



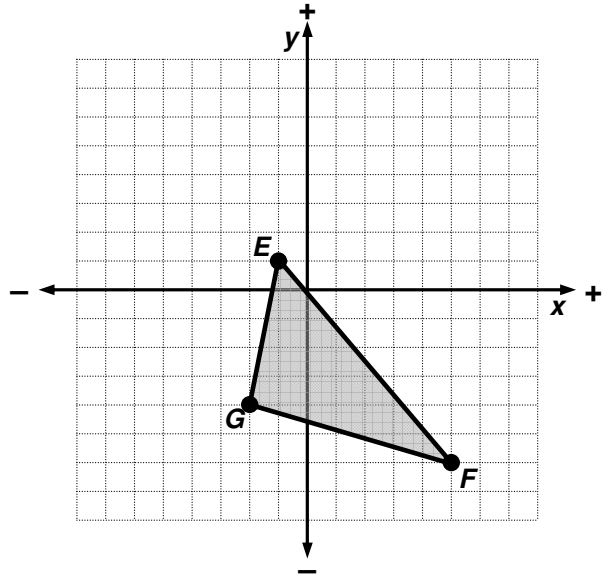
# Drawing Translations: Homework

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

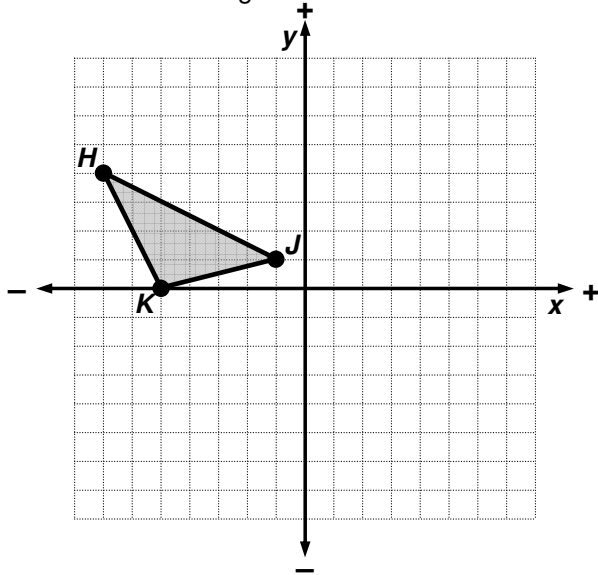
6. a. Translate the rectangle 6 units right and 4 units down.



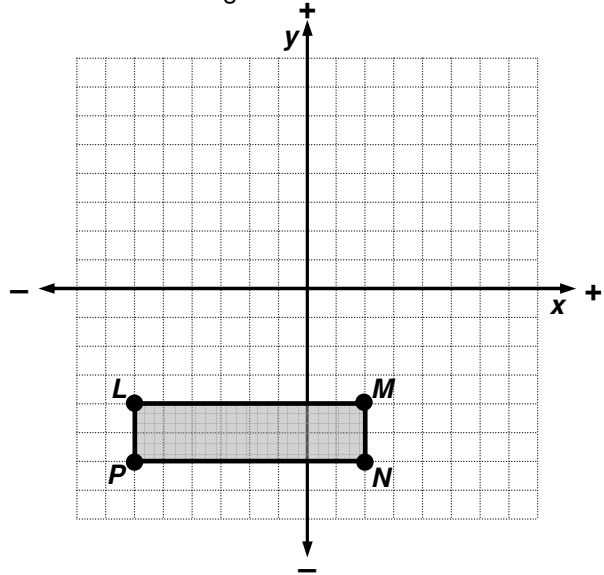
- b. Translate the triangle 6 units up and 5 units left.



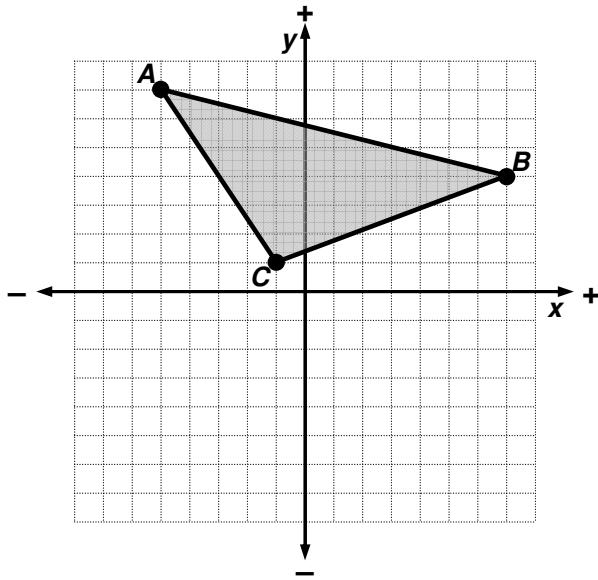
7. a. Rotate the triangle 90° counterclockwise about the origin.



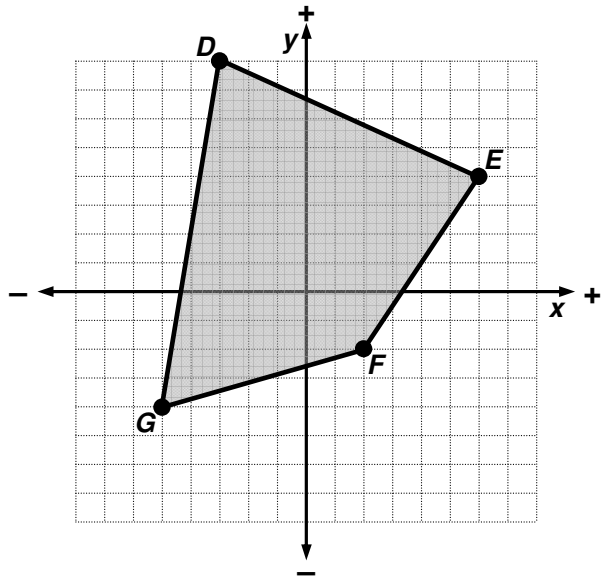
- b. Rotate the rectangle 90° counterclockwise about the origin.



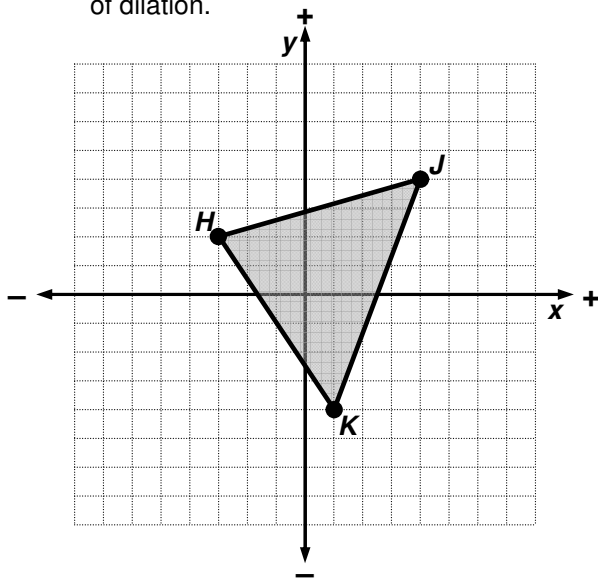
8. a. Reflect the triangle across the y-axis



b. Reflect the quadrilateral across the x-axis.



9. a. Draw a dilation of the triangle using a scale factor of 2 and the origin as the center of dilation.



b. Draw a dilation of the quadrilateral using a scale factor of  $\frac{1}{2}$  and the origin as the center of dilation.

