

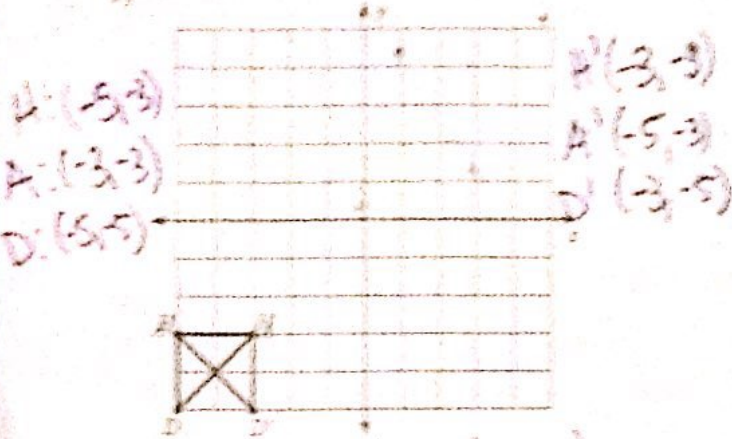
G2a: More advanced transformations practice

Date \_\_\_\_\_

Period \_\_\_\_\_

Write a rule to describe each transformation and state what type of transformation it is.

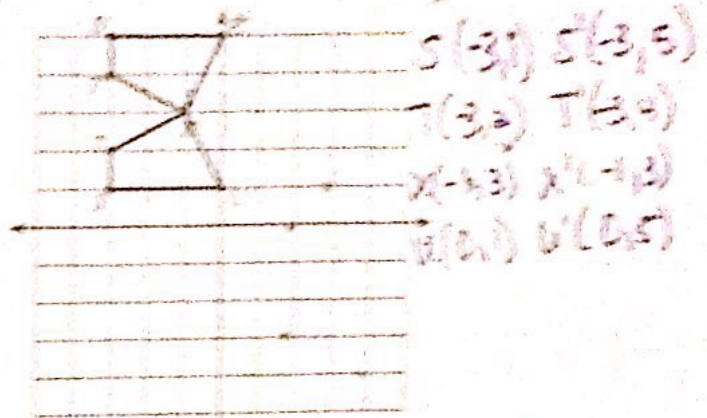
1)



Rule:  $(x, y) \rightarrow (x-2, y)$

Reflection across  $x = -4$

2)

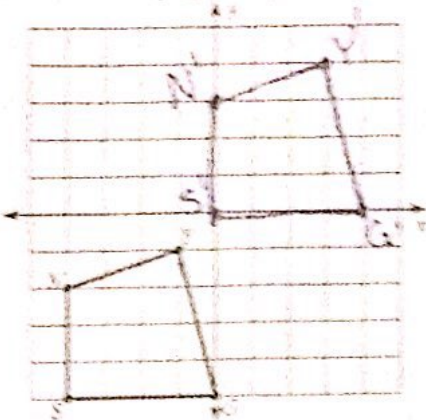


Rule:  $(x, y) \rightarrow (x, -y+6)$

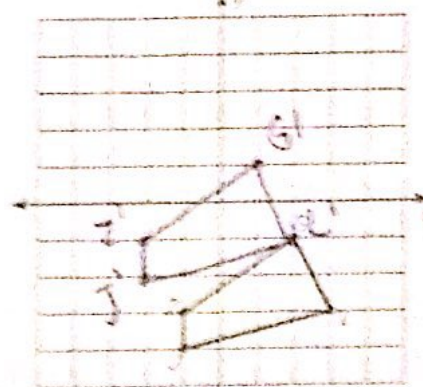
Reflection across  $y = 3$

Find the coordinates,  $(x, y)$ , of the vertices of each figure after the given transformation.

3) translation:  $(x, y) \rightarrow (x-4, y-5)$



4) translation:  $(x, y) \rightarrow (x-1, y+2)$



Write a rule to describe each transformation and state the type of transformation.

5)  $A(-1, -3), A'(-1, -2), B(4, -4), B'(0, -4)$

$C(-3, 1), C'(-2, 1), D(-4, -4), D'(-4, 0)$

Rule:  $(x, y) \rightarrow (y, -x)$

Rotation  $90^\circ$  clockwise about the origin

6)  $M(2, 4), M'(4, 5), N(3, 2)$

$N'(-2, -4), N''(-4, -5), M''(-3, -2)$

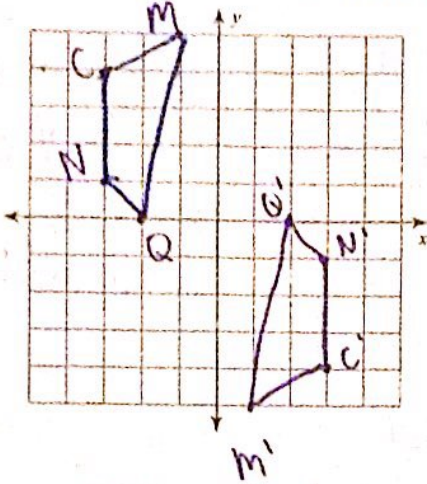
Rule:  $(x, y) \rightarrow (-x, -y)$

Rotation  $180^\circ$  about the origin

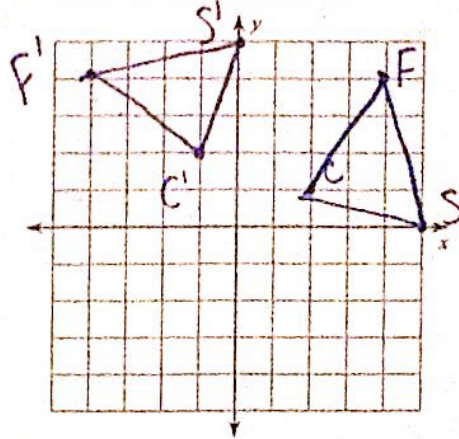


Graph the image of the figure using the transformation given.

- 7) rotation  $180^\circ$  about the origin  
 $M(-3, 1), C(-3, 4), N(-1, 5), Q(-2, 0)$



- 8) rotation  $90^\circ$  counterclockwise about the origin  
 $C(2, 1), F(4, 4), S(5, 0)$



Find the coordinates of the vertices of each figure after the given transformation.

- 9) reflection across  $y = -x$   
 $I(-4, -2), K(-2, 3), Q(0, 0), J(-1, -1)$   
 $I'(2, 4), K'(3, 2), Q'(0, 0), J'(1, 1)$

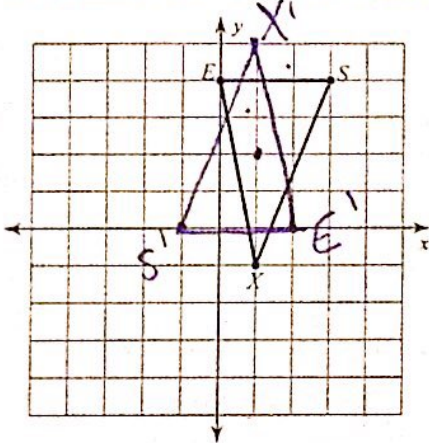
- 10) reflection across  $x = 2$   
 $N(0, 0), D(3, 3), K(1, -2)$   
 $N'(4, 0), D'(1, 3), K'(3, -2)$

- 11) rotation  $90^\circ$  clockwise about the origin  
 $F(2, -3), S(2, 1), K(5, 1)$   
 $F'(-3, -2), S'(1, -2), K'(1, -5)$

- 12) rotation  $180^\circ$  about the origin  
 $F(-3, -1), N(-1, 4), H(2, 1)$   
 $F'(3, 1), N'(1, -4), H'(-2, -1)$

Graph the image of the figure using the transformation given.

- 13) rotation  $180^\circ$  about the origin  $(1, 3)$ .



- 14) rotation  $90^\circ$  counterclockwise about the origin.

