Geometry   Name_____
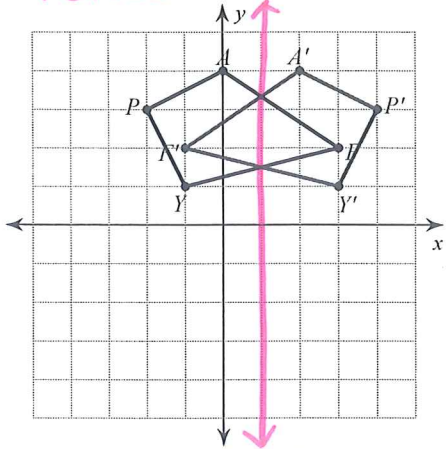
Reflections, Rotations, & Translations HW#

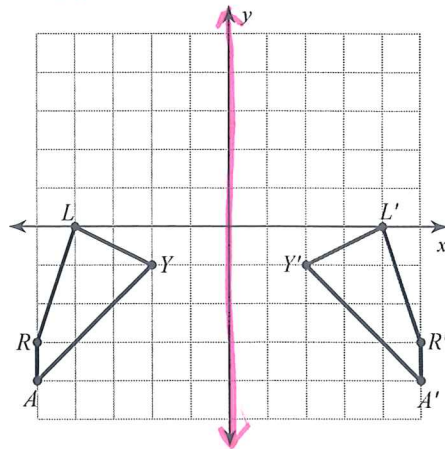Date_____ Hr_____ Day_____

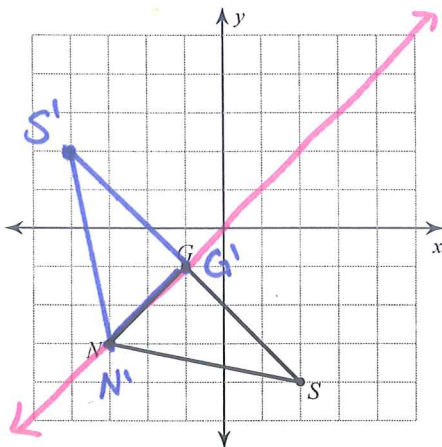**Write a rule to describe each transformation.**

1) *reflection over x = 1*
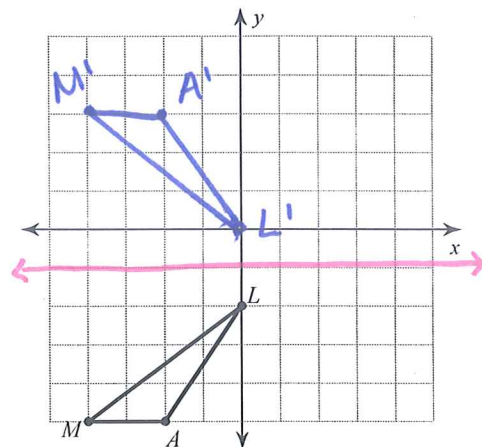

2) *reflection over x = 0 or y axis*

Graph the image of the figure using the transformation given.
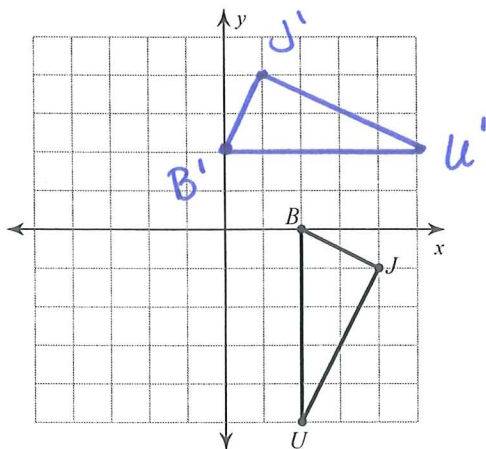
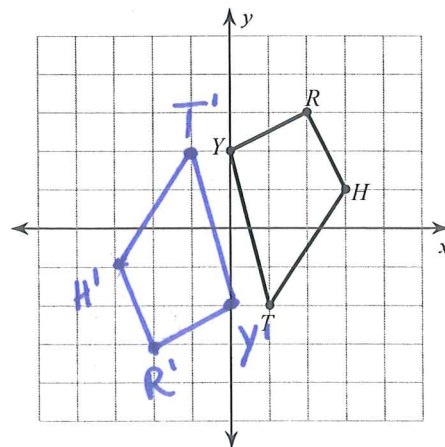3) reflection across $y = x$

4) reflection across $y = -1$

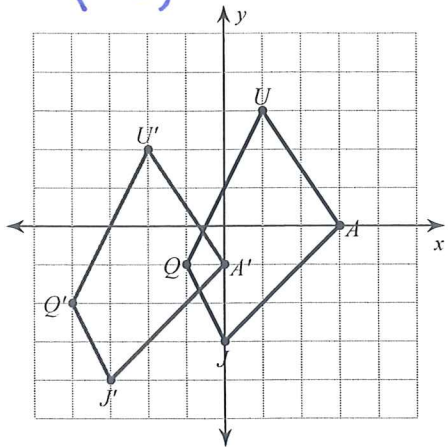5) rotation 90° counterclockwise about the origin
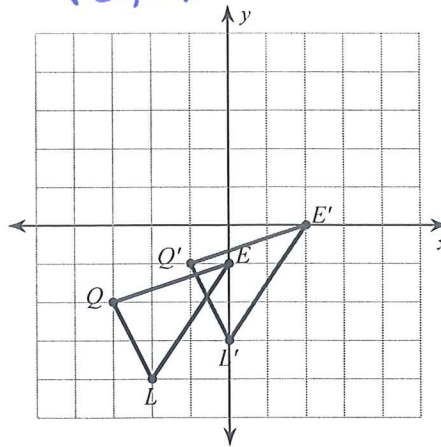

6) rotation 180° about the origin

Write a rule to describe each transformation in vector notation
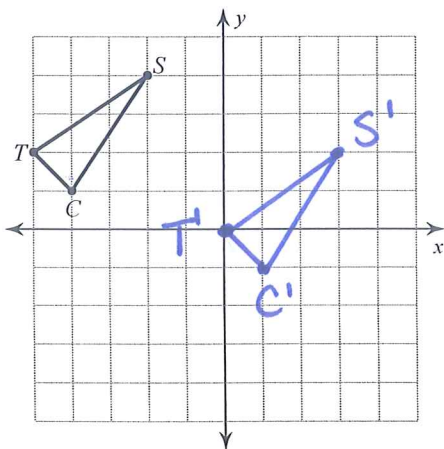
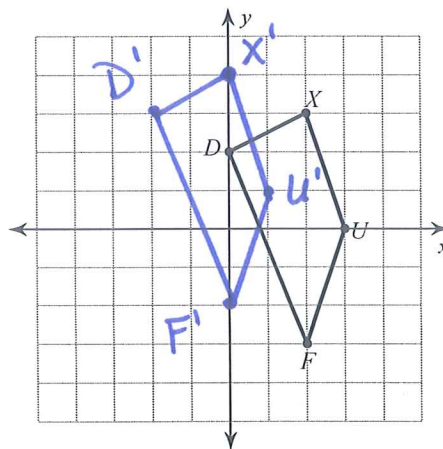7) $\langle -3, -1 \rangle$

8) $\langle 2, 1 \rangle$

Graph the image of the figure using the transformation given.

9) translation: $(x, y) \rightarrow (x + 5, y - 2)$

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

11) Find the coordinates of point Q(x,y) if S is the midpoint of $\overline{VQ}$. V(-2, 7) and S(-3, 2)

$$\left(\frac{-2+x}{2}, \frac{7+y}{2} \right) = (-3, 2)$$

$$\boxed{Q(-4, -3)}$$

$$\frac{-2+x}{2} = -3$$

$$\frac{7+y}{2} = 2$$

$$-2+x = -6$$

$$7+y = 4$$

$$x = -4$$

$$y = -3$$

−2−