

Name: _____

Date: _____

Unit 1- Transformations Review

RULES:

Dilation of scale factor k : $(x', y') = k \cdot (x, y)$

Reflection across y -axis: $(x', y') = (-x, y)$

Reflection across $y = x$: $(x', y') = (y, x)$

Reflection across origin: $(x', y') = (-x, -y)$

Rotation 90° CCW (and 270° CW): $(x', y') = (-y, x)$

Rotation 270° CCW (and 90° CW): $(x', y') = (y, -x)$

Translation of (a, b) : $(x', y') = (x + a, y + b)$

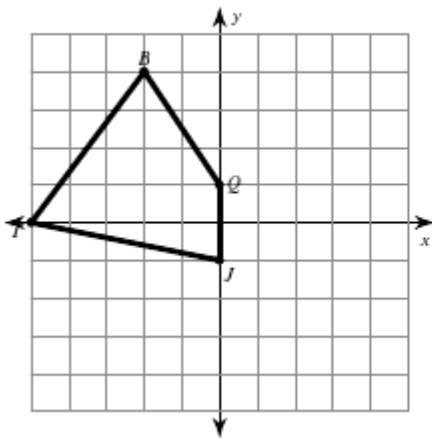
Reflection across x -axis: $(x', y') = (x, -y)$

Reflection across $y = -x$: $(x', y') = (-y, -x)$

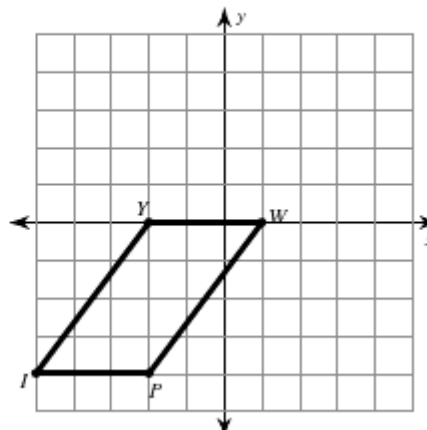
Rotation 180° : $(x', y') = (-x, -y)$

Perform the indicated transformations.

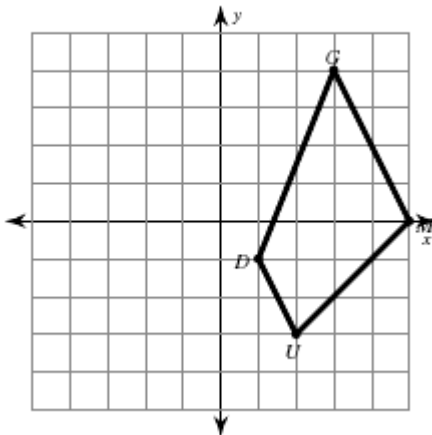
1) translation: $(4, 1)$



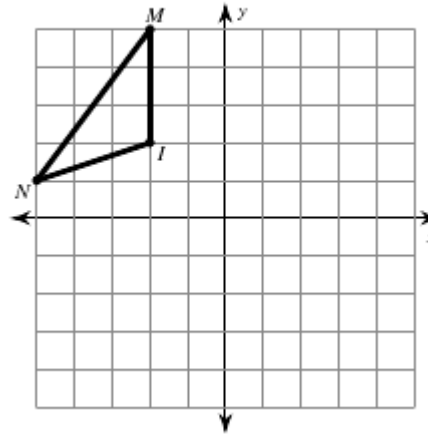
2) translation: $(0, 2)$



3) reflection across the y -axis



4) reflection across the x -axis

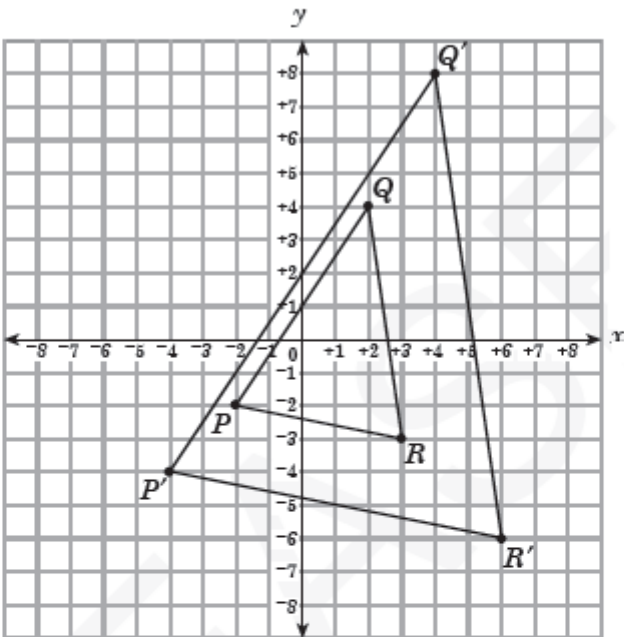


5) A dilation by a scale factor of $1/2$ was applied to QRS . The image is as follows: $Q'(-8, 4)$, $R'(8, 0)$, and $S'(0, -4)$. Find the coordinates of Q , R , and S .

6) A translation of $(-3, 7)$ was applied to the figure $DMNR$. What are the coordinates of the translation if $D(0, 9)$, $M(3, 4)$, $N(-1, -1)$, $R(-6, 7)$?

7) If $Z' = (-8, 4)$ after the translation of $(x', y') \rightarrow (x-3, y+9)$, what are the coordinates of Z ?

8) What is the transformation shown below?



For the graph to the right, find the coordinates of the image for the following transformations.

a) a rotation 180° CW

b) reflection over $y = -x$

c) a rotation 90° CCW

d) a rotation 270° CW

