Transformations Quiz Review

Geometry

Describe each algebraic rule below with the transformation it defines.

1. $(x,y) \rightarrow (-x, y)$ reflection over y-axis
2. $(x,y) \rightarrow (-x, -y)$ 180° rotation
3. $(x,y) \rightarrow (-y, x)$ 90° rotation
4. $(x,y) \rightarrow (y+2, x-5)$ translation

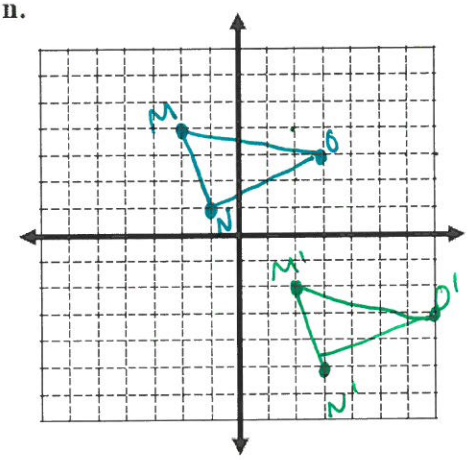
Describe each transformation using an algebraic rule:

1. Reflection across y=-x. $(-y, -x)$
2. 90° rotation clockwise. $(y, -x)$
3. Reflection across the y-axis followed by a translation up 4, left 5.

$(-x, y)$, then $(x, y) \rightarrow (x-5, y+4)$

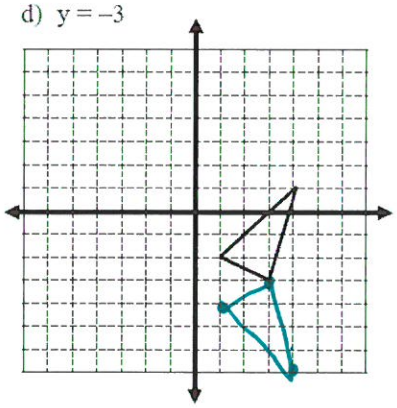
The vertices of $\triangle MNO$ are M(–2, 4), N(–1, 1) and O(3, 3). Graph and label the image of the triangle using prime notation.

$(x, y) \rightarrow (x + 4, y - 6)$

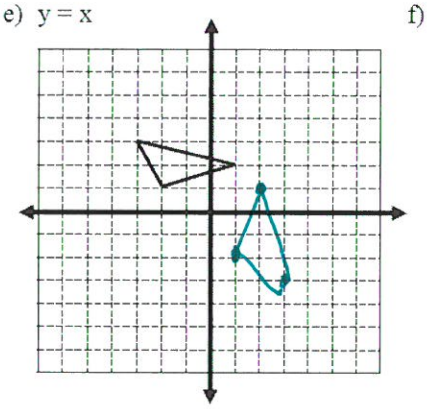


Reflect across the given lines.

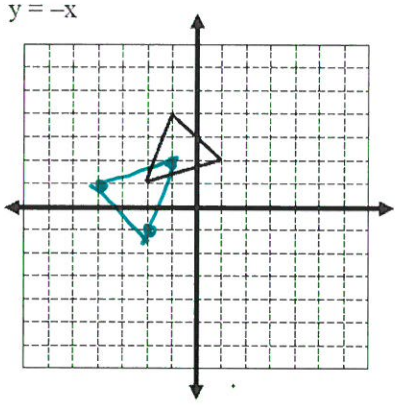
d) $y = -3$



e) $y = x$



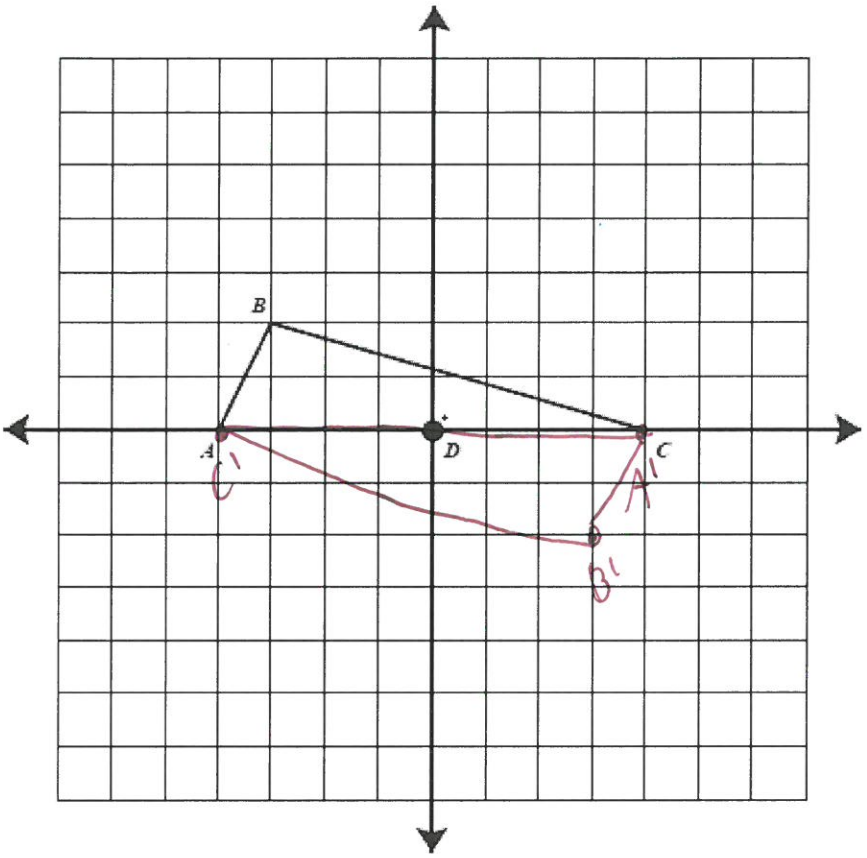
f) $y = -x$



Complete the rotation.

Transformation Review

. Rotate ΔABC 180° counter-clockwise about point D. Label the corresponding vertices. Write the coordinates in the table below in order to find the rule for a 180° counter-clockwise rotation.

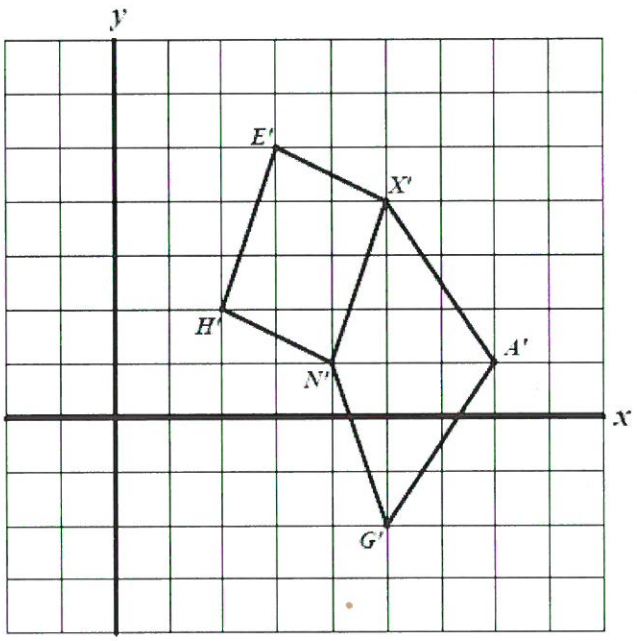


	Pre-image	Image
A	(-4, 0)	(4, 0)
B	(-3, 2)	(3, -2)
C	(4, 0)	(-4, 0)

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

Read this next one very carefully!

Polygon $H'E'X'A'G'N'$ is the image resulting from the translation rule $(x, y) \rightarrow (x + 7, y - 4)$. Find the coordinates of the pre-image.



$H(-5, 6)$
$E(-4, 9)$
$X(-2, 8)$
$A(0, 5)$
$G(-2, 2)$
$N(-3, 5)$