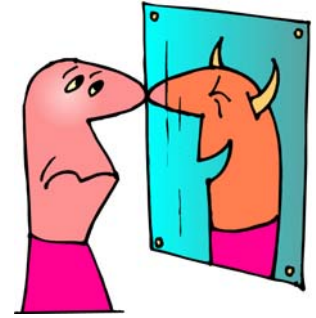


Reflections

Name _____



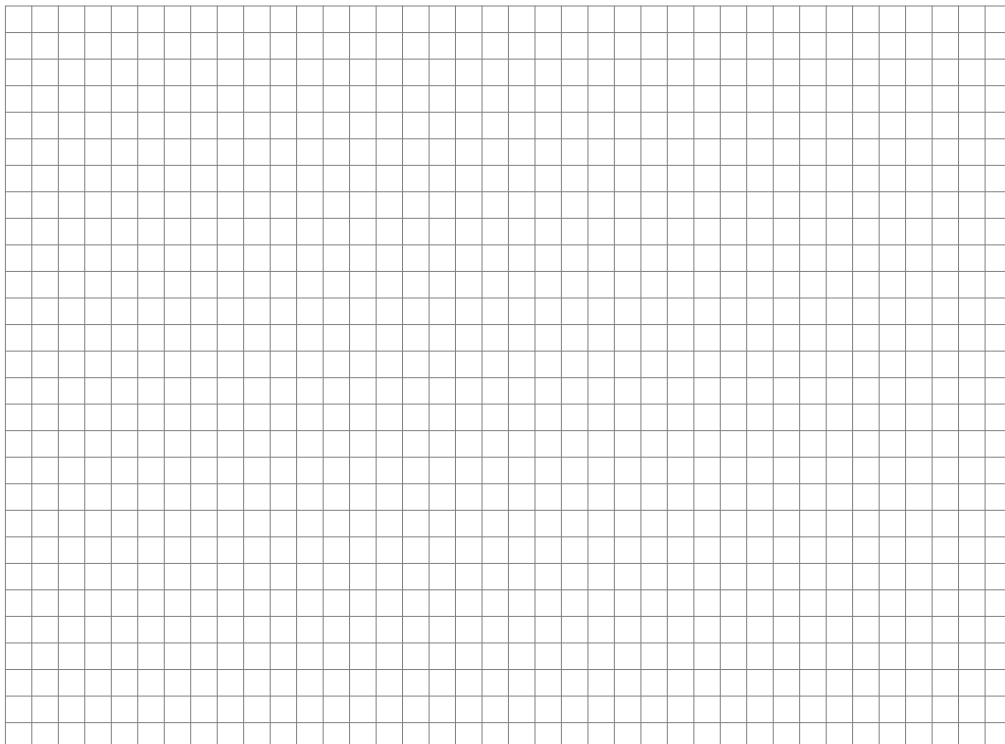
1. What are the coordinates of the image of the point $(-3,6)$ under a reflection in $y = x$. _____
2. The function f is defined as $f : (x, y) \rightarrow (-x, y)$. Describe this transformation in words.
3. An isometry is a transformation that preserves _____.
Is a reflection a direct or opposite isometry? _____. Explain:
4. If the function g is a reflection in the line $y = -x$, then the rule for g is:
a.) $(x, y) \rightarrow (x, -y)$ b.) $(x, y) \rightarrow (-x, y)$ c.) $(x, y) \rightarrow (y, x)$ d.) $(x, y) \rightarrow (-y, -x)$

Write the coordinates of a point which remains fixed under this reflection. _____

5. The vertices of a triangle are $A (5,7)$, $B (1,0)$ and $C (9,5)$. Find the coordinates of the images of the vertices of $\triangle ABC$, under the transformations stated below. State the coordinates of each new point. Graph all three triangles and label.

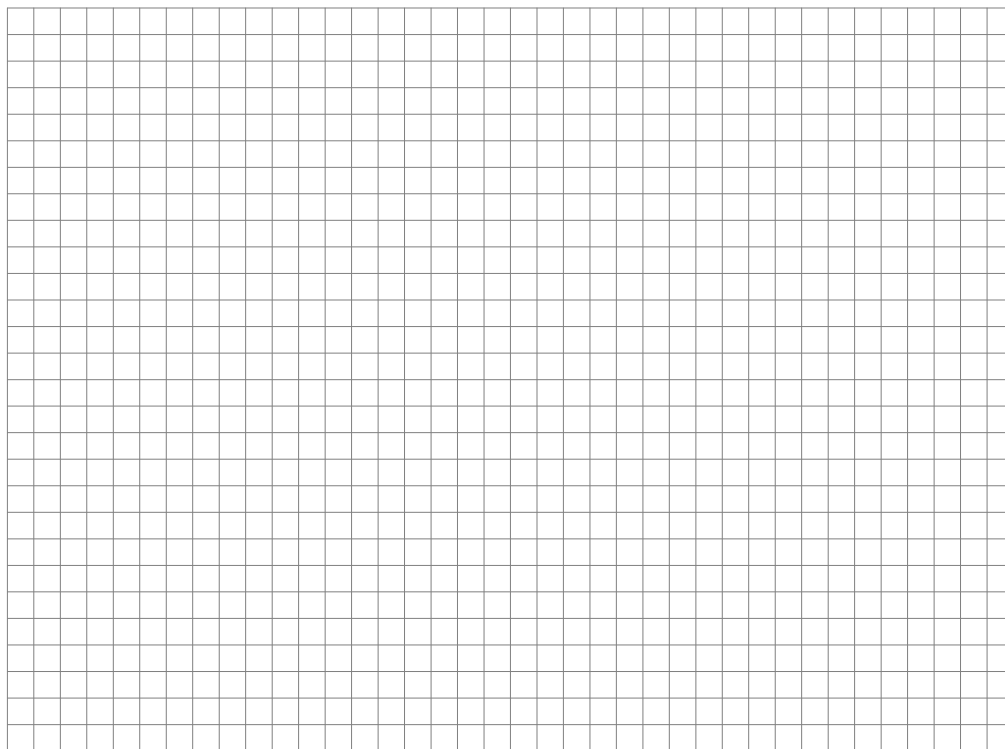
a. $r_{x\text{-axis}}$ $A' =$ _____ $B' =$ _____ $C' =$ _____

b. $r_{y\text{-axis}}$ $A'' =$ _____ $B'' =$ _____ $C'' =$ _____



6. $\Delta A'B'C'$ is the image of ΔABC . ΔABC : $A(1,3), B(2,5), C(5,3)$
 $\Delta A'B'C'$: $A'(1,1), B'(2,-1), C'(5,1)$

On the same set of axes, draw both triangles, and write the **equation of the line of reflection**.



7. Draw the reflection of $g(x)$ in the y -axis. State the coordinate(s) which remains fixed (stationary) during the reflection. _____

