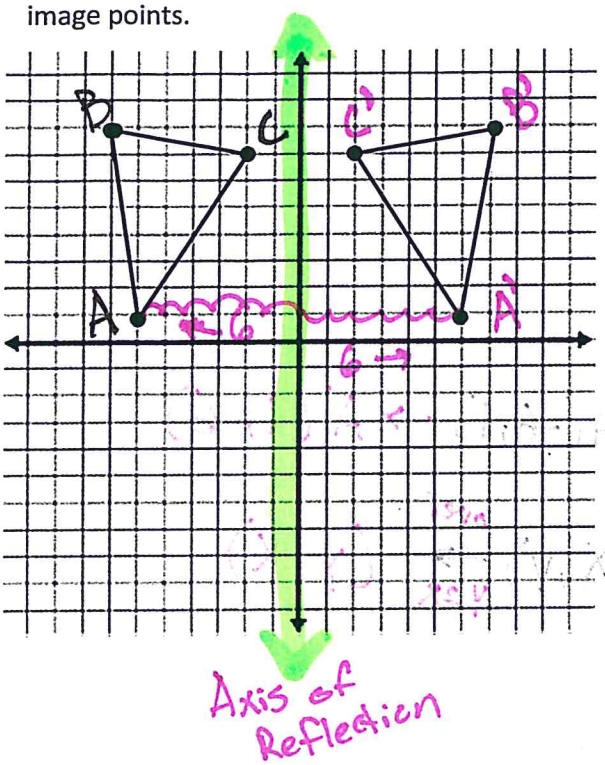
Reflections

Notice the pre-image and the images below. What relationship do their coordinate points have? What is the axis of reflection for each example? Write a rule for the coordinate points, but also find the "easy" method for finding the image points.

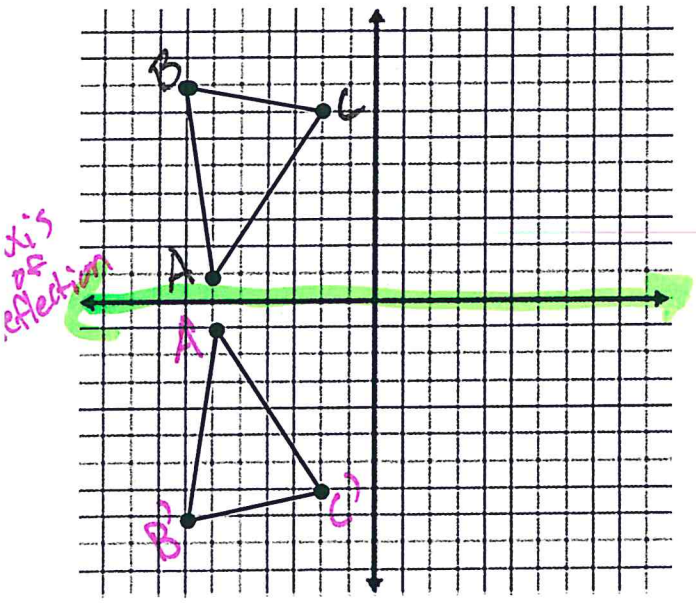


y-axis Reflection

A(-6,1) → A'(6,1)

(x,y) $\xrightarrow[\text{y-axis}]{\text{over}}$ (-x,y) "opposite x"

Can just count distance from axis of reflection



x-axis reflection

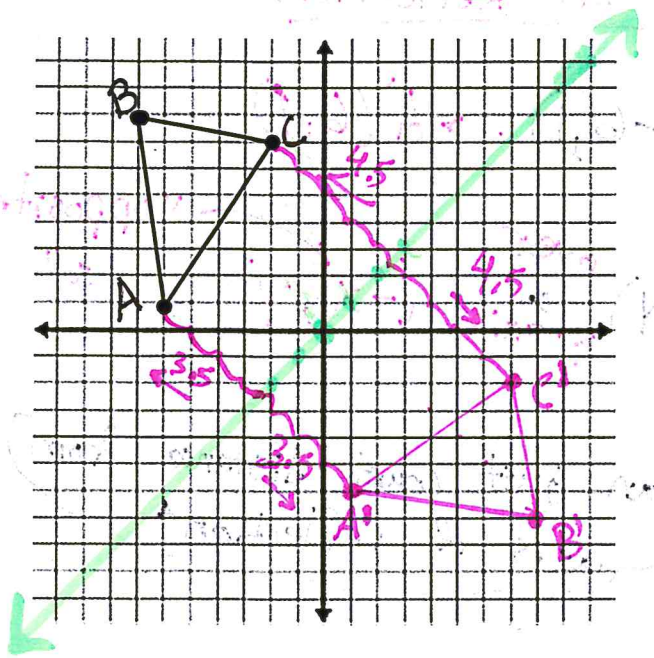
B(-7,8) → B'(-7,-8)

(x,y) $\xrightarrow[\text{x-axis}]{\text{over}}$ (x,-y) "opposite y"

A **reflection** is a type of rigid transformation in which the preimage is flipped across the axis of **reflection** to create the image. Each point of the image is the same distance from the line as the preimage is, just on the opposite side of the line.

What about diagonal lines of reflection?

Reflect the triangle over the line y = x

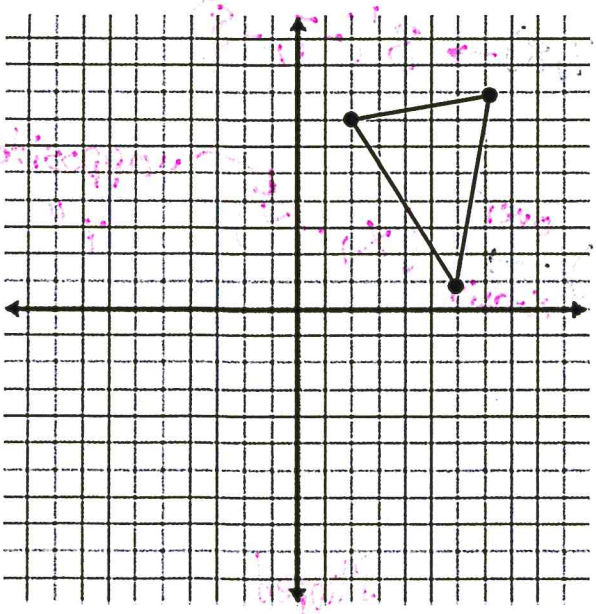


Do you notice a pattern in the coordinate points?

$A(-6,1) \rightarrow A'(1,-6)$

$(x,y) \xrightarrow[y=x]{\text{over}} (y,x)$

Reflect the triangle over the line y = -x



Do you notice a pattern in the coordinate points?