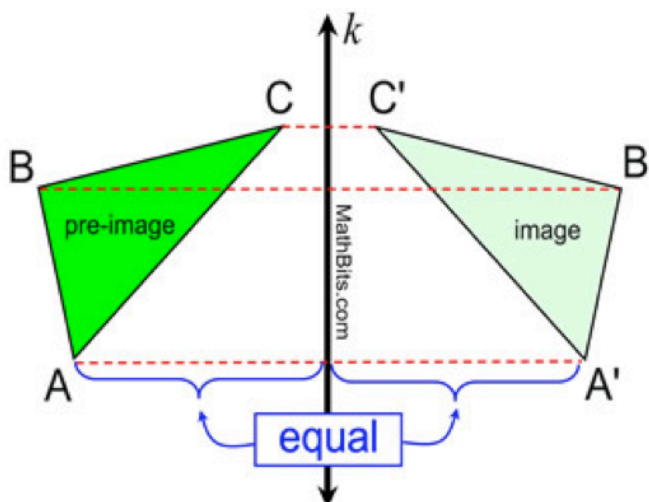


Reflections - Notes

A **reflection** is a transformation which _____ the figure over a _____.

This line is called the _____.



Rules for Reflections:

- Every point of the Image is moved to the other _____ of the _____ of _____.
- Each point in the Image is the _____ distance from the line of reflection as the corresponding point in the _____.
- The image is reflected at a _____ angle to the Line of Reflection.

Example 1:

$\triangle ABC$ is being reflected over the x -axis.

Draw and label the image $\triangle A'B'C'$.

We can use an arrow to describe this reflection.

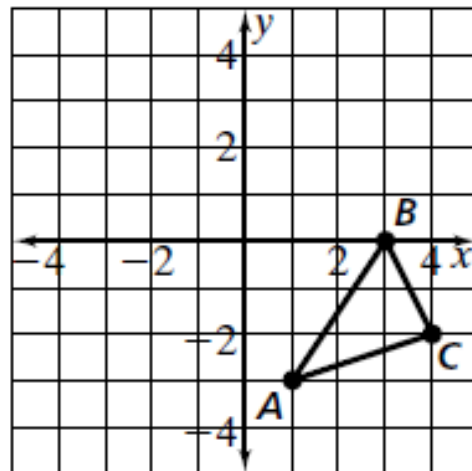
$$\triangle ABC \rightarrow \triangle A'B'C'$$

What are the coordinates of:

$$A \text{ ______ } \rightarrow A' \text{ ______ }$$

$$B \text{ ______ } \rightarrow B' \text{ ______ }$$

$$C \text{ ______ } \rightarrow C' \text{ ______ }$$



Can you write a general rule for a reflection across the x -axis?

$$(x, y) \rightarrow (\text{ ______ } , \text{ ______ }).$$

Example 2:

$\triangle ABC$ is reflected over the y -axis.

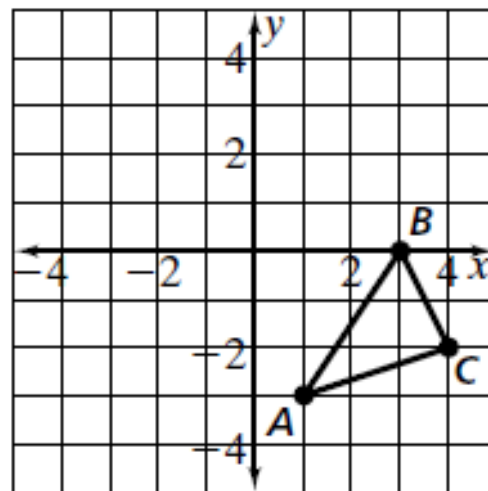
Draw the image $\triangle A'B'C'$.

What are the coordinates of:

$$A \text{ ______ } \rightarrow A' \text{ ______ }$$

$$B \text{ ______ } \rightarrow B' \text{ ______ }$$

$$C \text{ ______ } \rightarrow C' \text{ ______ }$$



Write a general rule for a reflection over the y -axis:

$$(x, y) \rightarrow (\text{ ______ } , \text{ ______ }).$$

Reflections can also be made over lines that are not the axes!

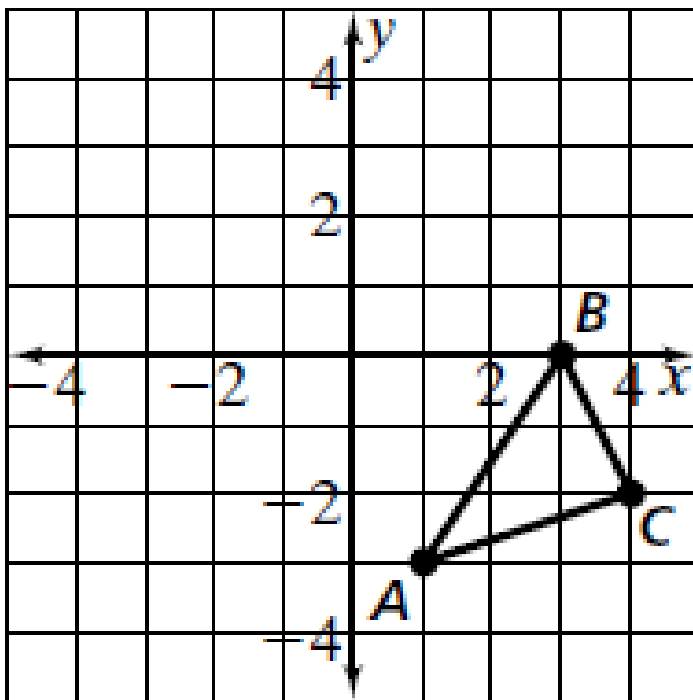
Example 3:

$\triangle ABC$ is reflected over the line $y = 1$. Draw the image $\triangle A'B'C'$.

Steps to reflecting over a line that is not one of the axes:

1. Draw your line of reflection on the graph
2. Move each point perpendicular **across** the line so that the new point is the same distance from the line of reflection as the original point.

Reflect $\triangle ABC$ over the line $y = 1$



It is not expected that you can write and use rules for reflecting over lines other than the axes. It is best to draw.