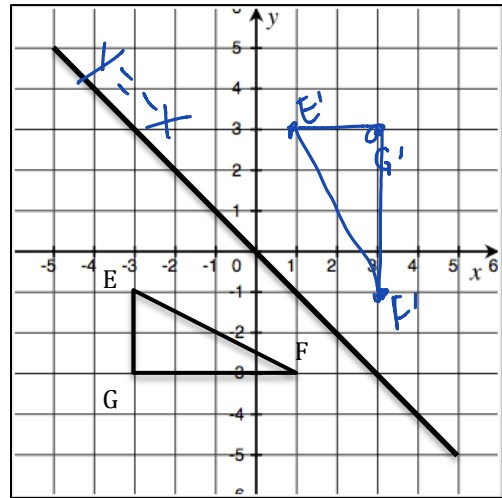
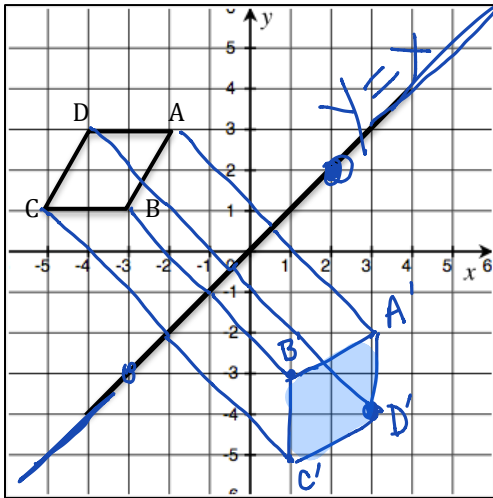


**LEARNING OBJECTIVE:** We will perform a sequence of reflections and translations. (G8M2L5)

**ACTIVATING PRIOR KNOWLEDGE:**

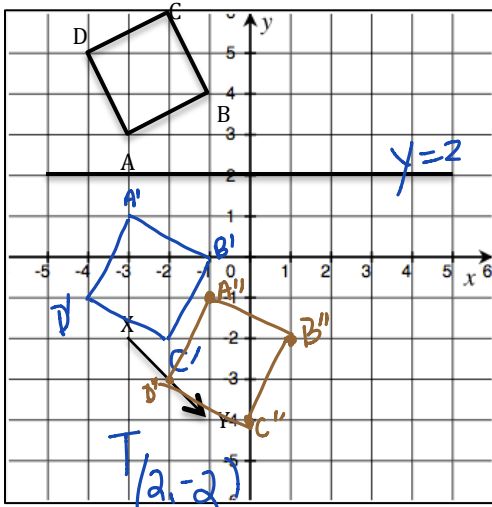
We can reflect objects around a line of reflection:



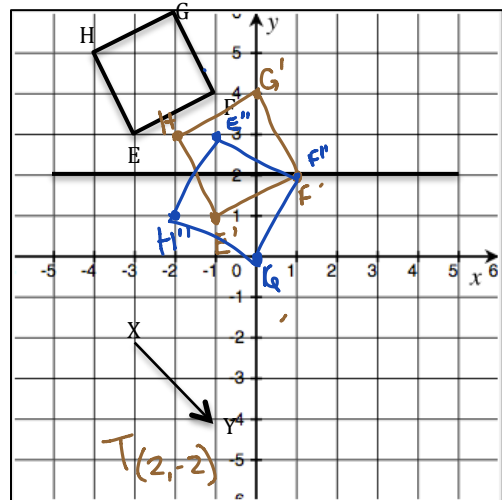
**CONCEPT DEVELOPMENT:**

- Does the order of the sequence of rigid motions matter?
  - YES! When you're talking about reflections and translations.
  - NO! Not when we're talking about two or more translations (we saw that in the last lesson).

**Reflect first, then Translate**



**Translate First, then Reflect**



NAME: \_\_\_\_\_

Math \_\_\_\_\_, Period \_\_\_\_\_

Mr. Rogove

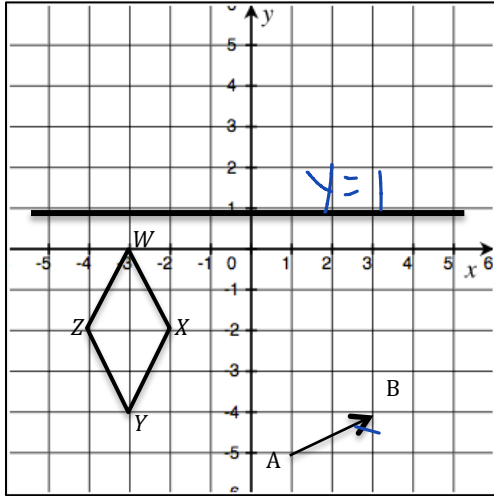
Date: \_\_\_\_\_

**GUIDED PRACTICE:**

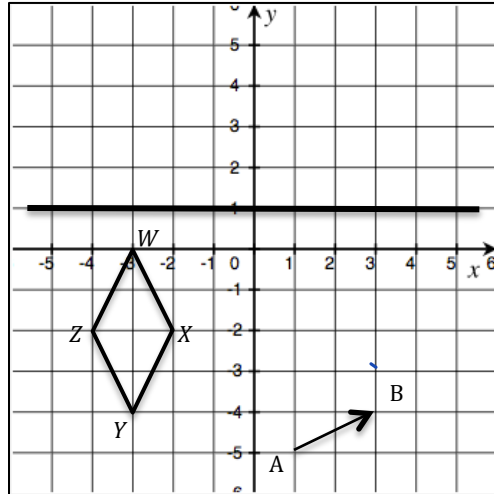
**Steps for Sequencing Translations and Reflections**

1. Read the instructions and perform your first transformation.
2. Perform your second transformation.
3. Label your points.

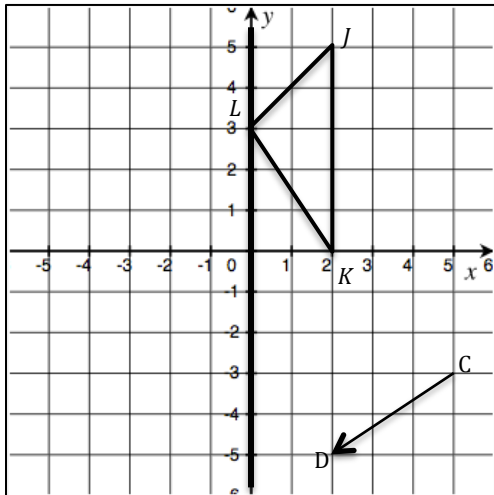
Reflect across line  $y = 1$ , then translate along  $\overrightarrow{AB}$ .



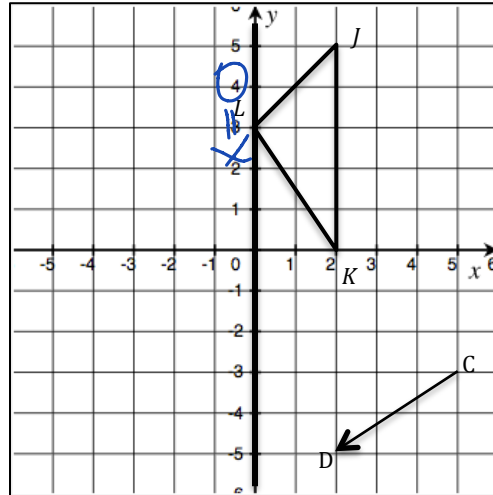
Translate along  $\overrightarrow{AB}$  and then reflect across the line  $y = 1$ .



Translate along  $\overrightarrow{CD}$  and then reflect across y-axis.



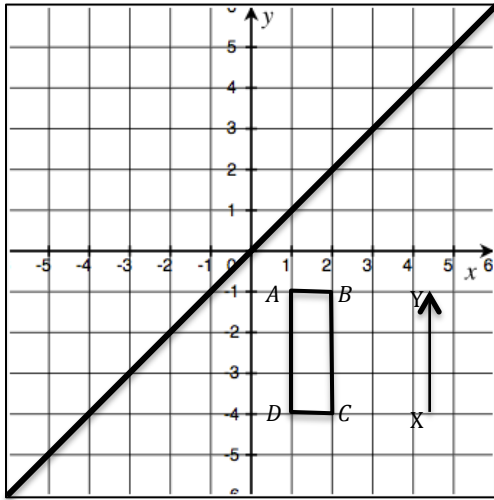
Reflect across y-axis and then translate along  $\overrightarrow{CD}$ .



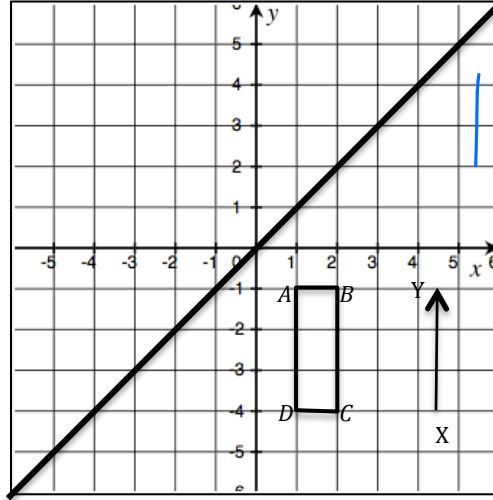
**Steps for Sequencing Translations and Reflections**

1. Read the instructions and perform your first transformation.
2. Perform your second transformation.
3. Label your points.

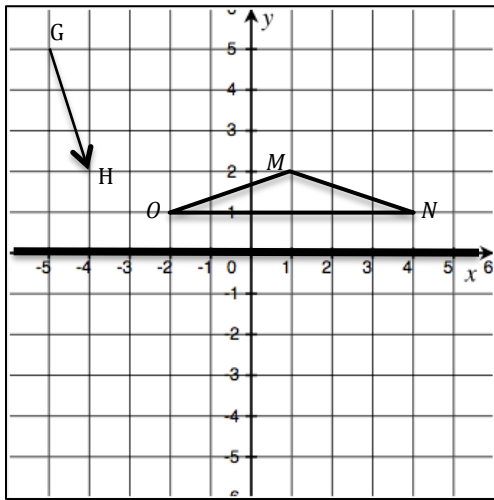
Reflect across the line  $y = x$ , then translate along  $\overrightarrow{XY}$ .



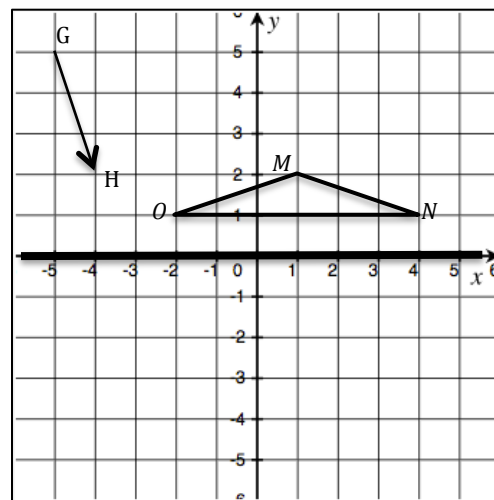
Translate along  $\overrightarrow{XY}$ , then reflect across the line  $y = x$ .



Translate along  $\overrightarrow{GH}$ , then reflect over the x-axis.



Reflect over the x-axis, then translate along  $\overrightarrow{GH}$ .

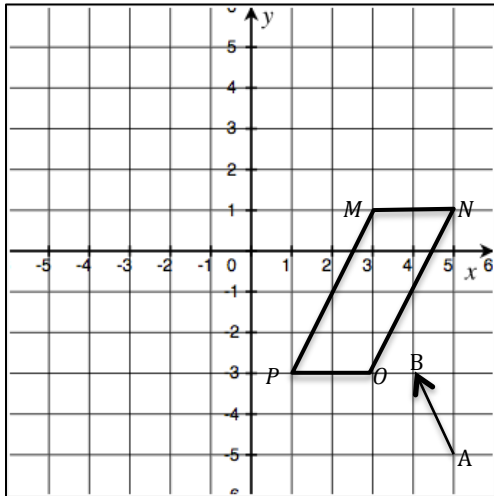


**INDEPENDENT PRACTICE:**

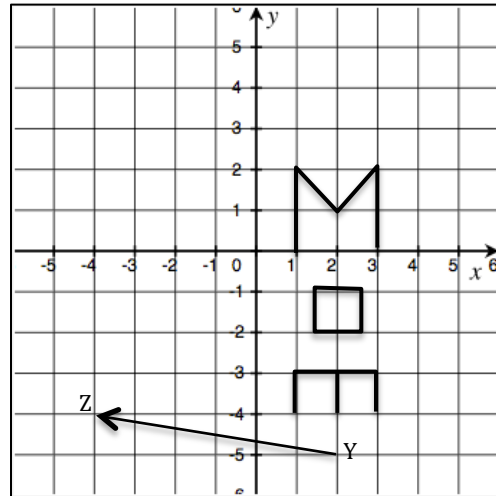
**Steps for Sequencing Transformations and Reflections**

1. Read the instructions and perform your first transformation.
2. Perform your second transformation.
3. Label your points.

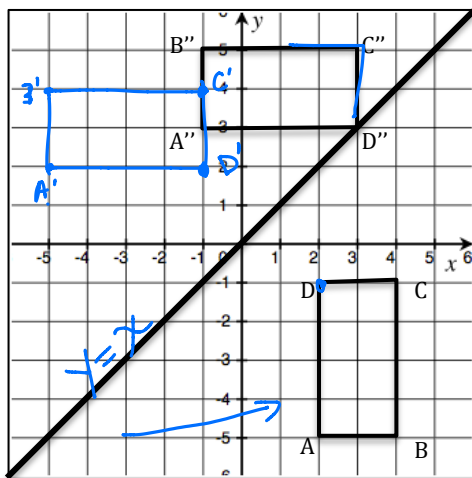
Reflect across line  $y = x$ , and then translate along  $\vec{AB}$ .



Translate along  $\vec{YZ}$ , then reflect over the line  $x = -3$ .



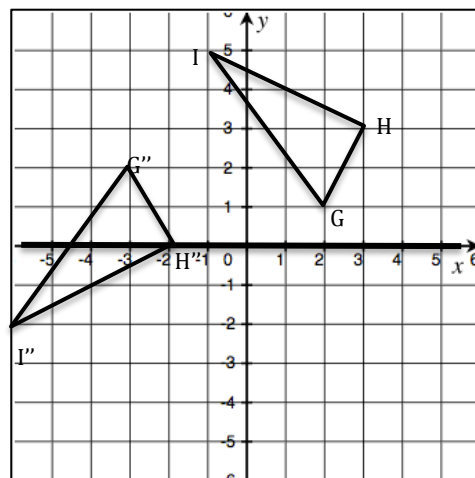
Determine the order of the sequence of transformations, and write the translation along a vector, and draw rectangle  $A'B'C'D'$ .



1. Reflect over  $y = x$

2.  $T(4, 1)$

Determine the order of the sequence of transformations, and write the translation along a vector, and draw triangle  $G'H'I'$ .



NAME: \_\_\_\_\_

Math \_\_\_\_\_, Period \_\_\_\_\_

Mr. Rogove

Date: \_\_\_\_\_

**CLOSURE:**

Using your whiteboards, draw an object (rectangle or triangle will work best), a line of reflection, and a vector. Show that the sequence of reflection and translation (which one you do first) actually matters in the final location of the object.

**TEACHER NOTES:**

HW should be KHAN Performing Transformations on the Coordinate Plane