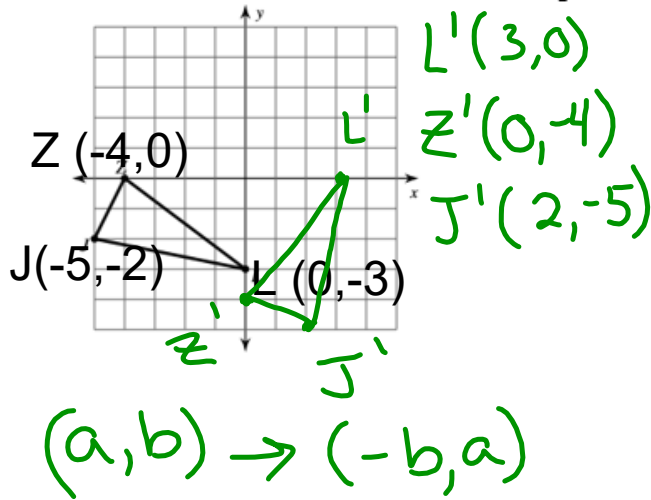


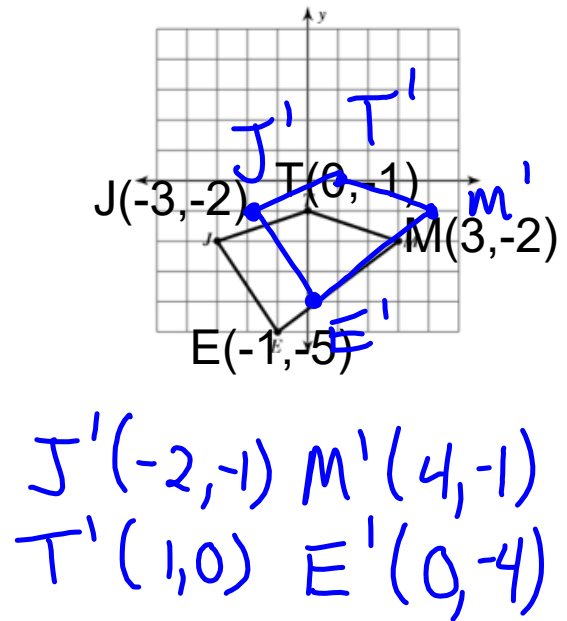
Warm Up

Identify the coordinates of the image after following transformations.

1. Rotation 90° counterclockwise about the origin.



3. Translation: 1 unit right and 1 unit up



Goals For Today

- Review Transformations
- Sequences of Transformations
 - Coordinate Notation

This is a neat website that will allow you to practice transformations.

 <http://www.shodor.org/interactivate/activities/TransmographerTwo/>

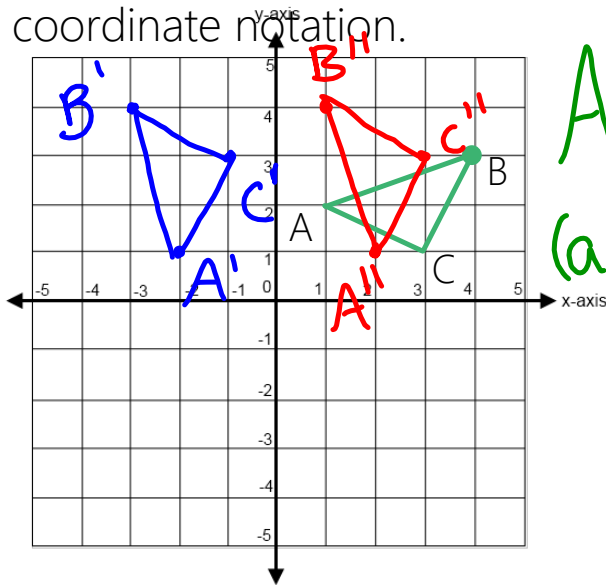
What if you want to do more than 1 transformation at a time?

This is called a sequence of transformations.

Example

Transformation

Rotate the following figure 270 degrees clockwise, then translate it 4 spaces to the right. Write the coordinate notation.



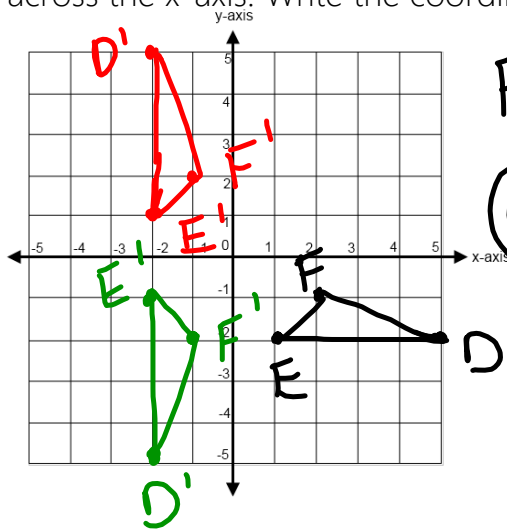
$$A(1,2) \rightarrow A'(-2,1) \rightarrow A''(2,1)$$

$$(a,b) \rightarrow (-b,a) \rightarrow (-b+4,a)$$

Example

Transformation

$\triangle DEF$ has vertices $D(5, -2)$, $E(1, -2)$, and $F(2, -1)$. Rotate $\triangle DEF$ 270° CCW about the origin and then reflect it across the x-axis. Write the coordinate notation



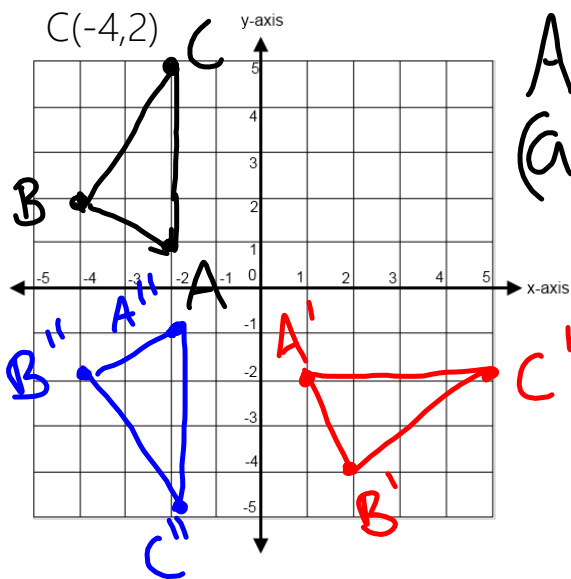
$$F(2, -1) \rightarrow F'(-1, -2) \rightarrow F''(-1, 2)$$

$$(a, b) \rightarrow (b, -a) \rightarrow (-b, -a)$$

Example

Transformation

Reflect $\triangle ABC$ over $y=x$ then rotate it 90 degrees clockwise about the origin. Write a generic coordinate for the final image. $A(-2, 1)$ $B(-2, 5)$



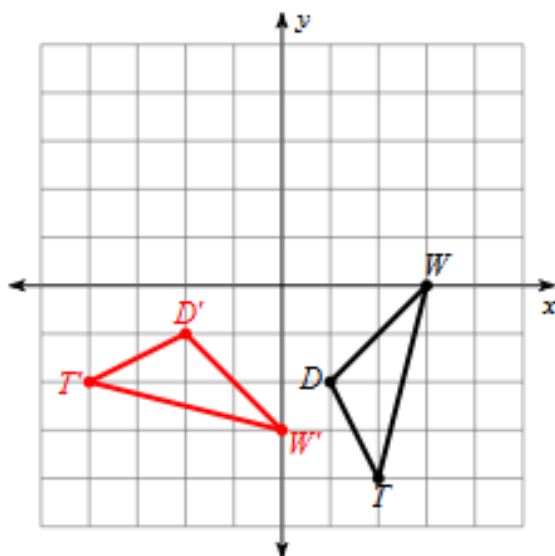
$$A(-2, 1) \rightarrow A'(1, -2) \rightarrow A''(-2, -1)$$

$$(a, b) \rightarrow (b, a) \rightarrow (a, -b)$$

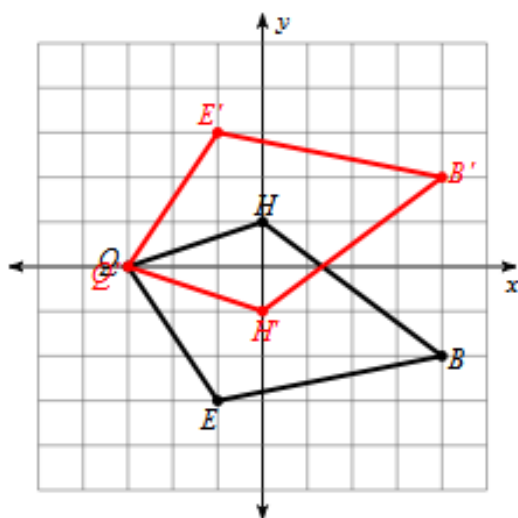
You do
Sequence of Transformations
1, 3, and 5

On the following slides, you will be shown a transformation. Identify a transformation that would take the pre-image to the image and the rule used to transform it.

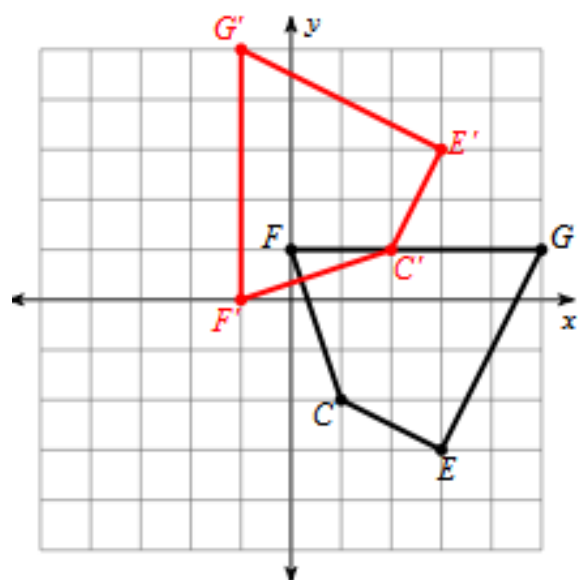
Write your answer on the dry erase board and hold it up.



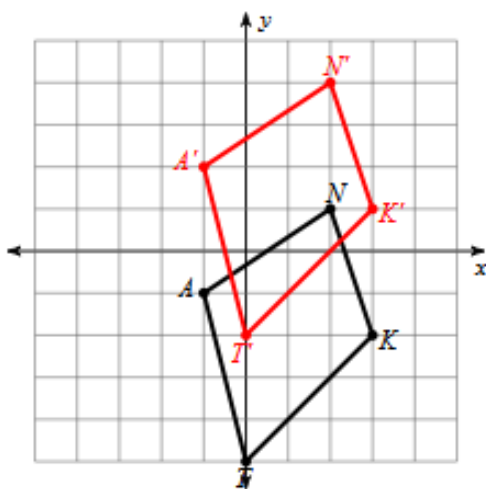
Rotation of 90° clockwise
about the origin



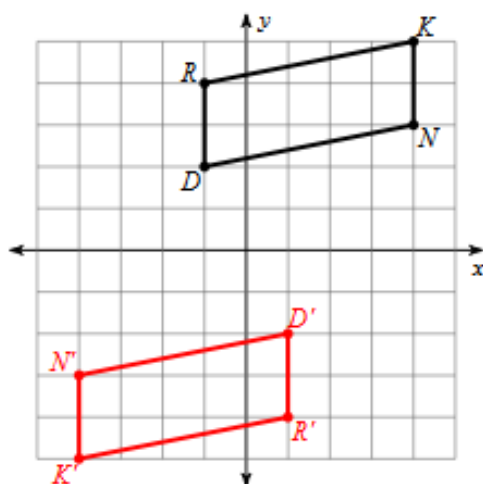
A reflection over the x-axis



A rotation of 90° ccw
about the origin



A translation up 3



Rotation of 180°
about the origin.

What is the generic coordinate for the transformation, given the following points.

$$A(4,-1) \rightarrow A'(-1, 4)$$

$$(a,b) \rightarrow (b,a)$$

What is the generic coordinate for the transformation, given the following points.

$$C(3, -8) \rightarrow C'(5, -4)$$

$$(a, b) \rightarrow (a+2, b+4)$$

What is the generic coordinate for the transformation, given the following points.

$$B(1, 7) \rightarrow B'(3, 8) \rightarrow B''(-8, 3)$$

$$(a, b) \rightarrow (a+2, b+1) \rightarrow (-b-1, a+2)$$

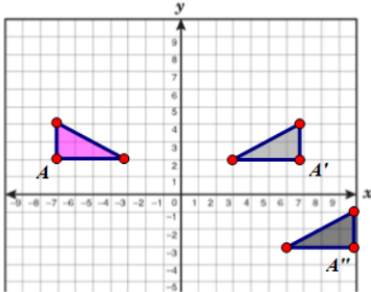
What is the generic coordinate for the transformation, given the following points.

$$H(6,2) \rightarrow H'(-2, -6) \rightarrow H''(2, 6)$$

$$(a,b) \rightarrow (-b,-a) \rightarrow (b,a)$$

Recap

Identify the transformations in the following sequence.



Reflection over the
y-axis then a translation
right 3 down 3.

Write the generic coordinate for sequence of transformations.

$$(x, y) \rightarrow (-x, y) \rightarrow (-x+3, y-3)$$

Quizlet

