EOC Review: Unit 1
Transformations
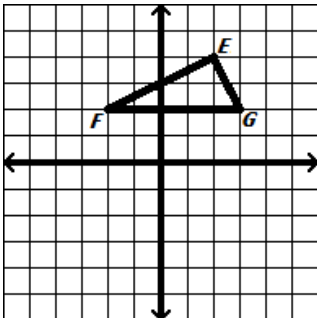
1. **The rule $(x, y) \rightarrow (x + 8, y - 12)$ is applied to a figure.**
   a. Find the image of the point F (10, 3).   b. Find the <u>pre</u>-image of the point G' (10, 3).
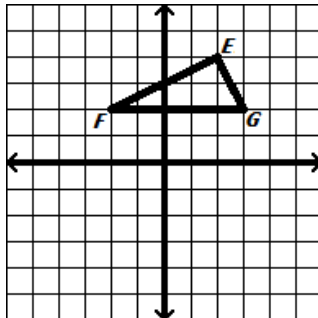
<u>DRAW</u> the image and write an algebraic <u>RULE</u> for the transformation.
Don't forget to LABEL the vertices of the image!
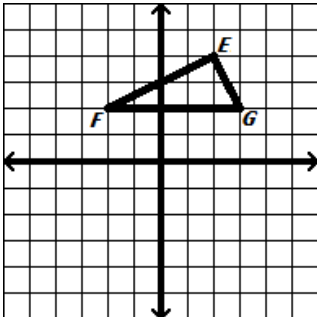
2. Translate left 2 and down 7.

$(x, y) \rightarrow$ _____
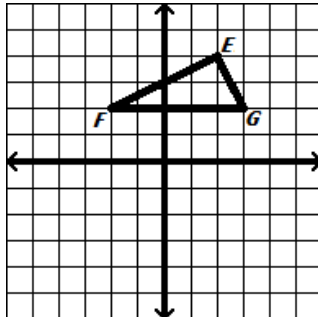
3. Reflect across the x-axis.

$(x, y) \rightarrow$ _____
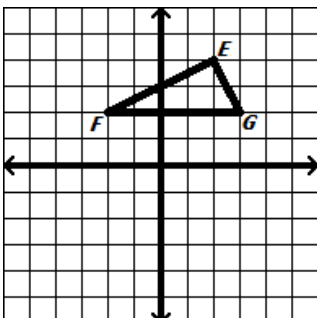
4. Reflect across the line $y = -x$.

$(x, y) \rightarrow$ _____
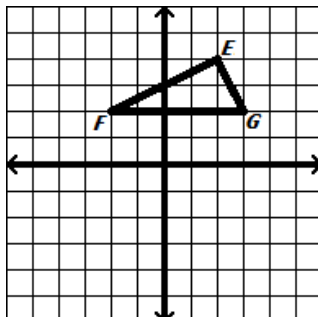
5. Rotate 180° around the origin.

$(x, y) \rightarrow$ _____

6. Rotate 90° clockwise around the origin.
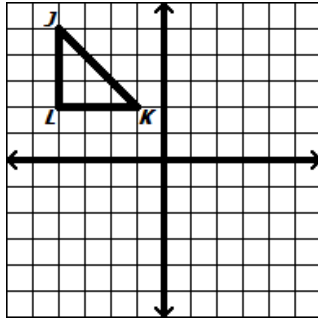

$(x, y) \rightarrow$ _____

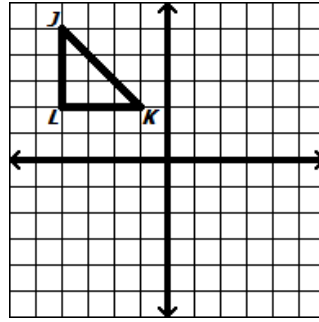7. Dilate from the origin by a scale factor of $\frac{3}{2}$

$(x, y) \rightarrow$ _____

DRAW the image. Don't forget to LABEL the vertices of the image!
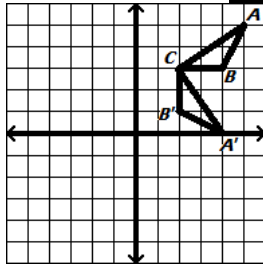
8. Reflect across the line $y = 1$.

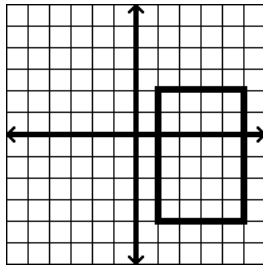**9.** Rotate 90° clockwise around the origin, then reflect $\triangle J'K'L'$ across the x-axis.

Describe (in words) the transformation that maps $\triangle ABC$ onto $\triangle A'B'C'$.
Make sure to <u>fully</u> describe the transformation (state the center of rotation, etc.)

10.

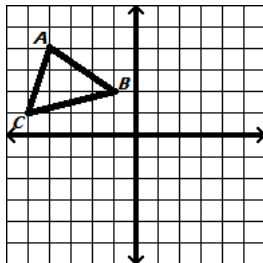**11.** Fill in the blanks to describe transformations that would map this rectangle onto itself:

   a. Reflect across the line $y =$ _____

   b. Reflect across the line $x =$ _____

   c. Rotate _____° around the point _____

12. **a.** Draw the result of the following transformations:
   Reflect $\triangle ABC$ across the x-axis, then translate $\triangle A'B'C'$ up 2 units.
   (You are only *required* to draw the final triangle: $\triangle A''B''C''$)

   b. Describe a single transformation that maps $\triangle ABC$ onto $\triangle A''B''C''$.