

1. Use the translation $(x, y) \rightarrow (x + 1, y - 7)$ for questions a – d.

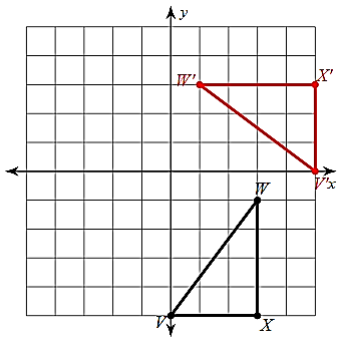
- What is the translation vector? _____
- What is the image of A (10, -4)? _____
- What is the image of A' from part b (which would be called A'')? _____
- What is the pre-image of C' (-9, 12)? _____

2. Answer the following questions.

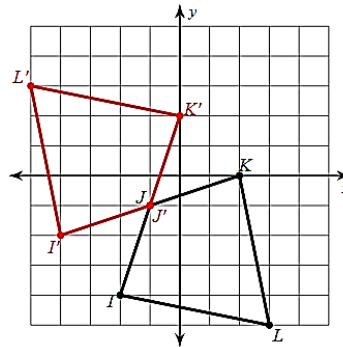
- After a reflection over the line $y = x$, (-2, 16) is the image of point C. What is the original location of point C?
- After a reflection over the x-axis, (8, 0) is the image of point M. What is the original location of point M?
- Given triangle FUN with coordinates F(-4, 1), U(11, -12) and N(-7, -9), find the image of point N after a rotation of 90 degrees counterclockwise.

3. Write the transformation rule for the following graphs.

a. _____



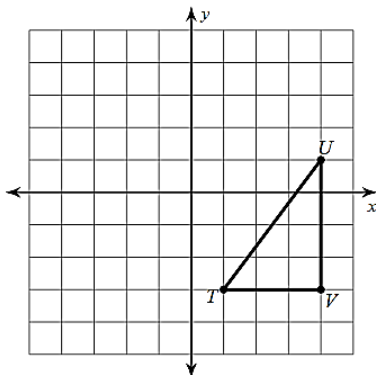
b. _____



Composition of Transformations

(Label the first transformation with $\Delta A'B'C'$. After the second transformation, label it with $\Delta A''B''C''$.)

- rotation 180 degrees
 - reflection over $y = -1$



- $\langle 2, -3 \rangle$
 - reflection over the x-axis

