

Geometry

Target 9.1: Translate a polygon along the given translation vector and in the coordinate plane

Target 9.2: Reflect a polygon across a line in the coordinate plane

Target 9.3: Rotate a polygon about a given point and rotation angle and in the coordinate plane

Target 9.4: Perform a composition of transformations in the coordinate plane

Self-Assess: 1 (Uh oh)

2

3 (I am okay)

4

5 (I got this!!!)

9.1 - Translations

1) Describe the translation using vector $\langle -3, -1 \rangle$ in words.

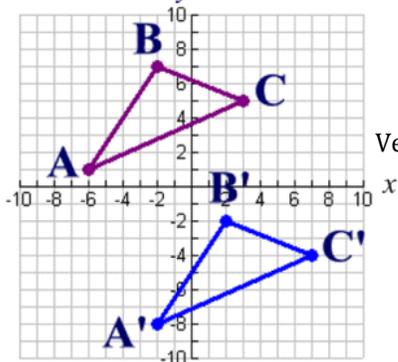
2) If B is at (50, -20) and B' is at (-300, -40) what is the translation vector in vector form?

3) What is the image of E(-1,6) mapped by translation $T\langle -6, -10 \rangle (x, y)$?

4) What is the pre-image of F'(9,-6) mapped by translation $T\langle 7, -1 \rangle (x, y)$?

5) Given the following diagram, write the translation vector in vector form.

6) What is the image of coordinate M(4, 7) when it is translated along the vector $\langle -6, 3 \rangle$?



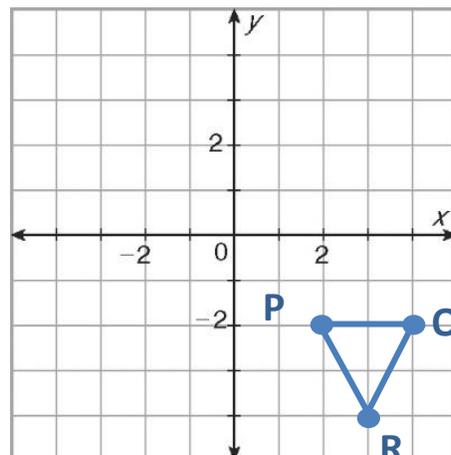
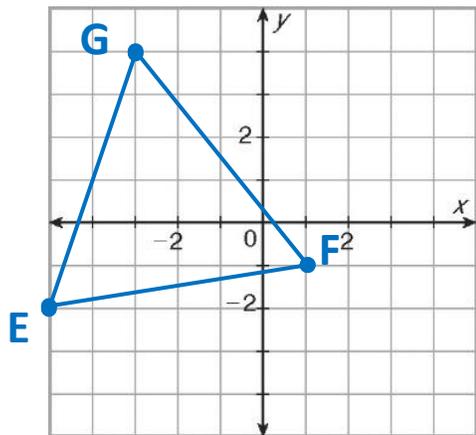
Vector Form _____

9.2 - Reflection: Give the coordinates of the reflection.

7) E (-5, -3), F (1, -2), G (-3, 4); x - axis

9) Reflect $\triangle PQR$ over the line $x = 1$.

P' (____, ____), Q' (____, ____), R' (____, ____)

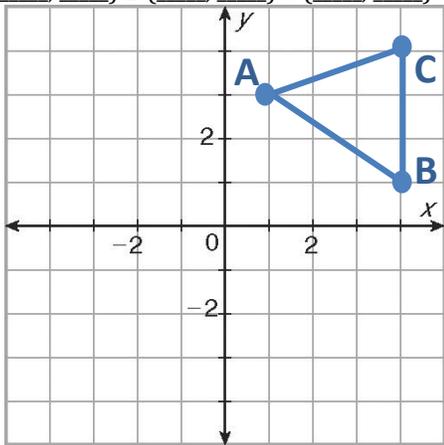


9.3 - Rotations

Rotate the given vertices about the origin using the given angle of rotation.

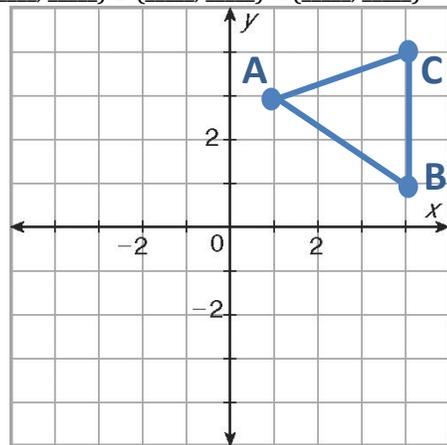
12) Rotate $\triangle ABC$ about the origin 90°

$A'(\underline{\quad}, \underline{\quad})$ $B'(\underline{\quad}, \underline{\quad})$ $C'(\underline{\quad}, \underline{\quad})$



13) Rotate $\triangle ABC$ about the origin 180°

$A'(\underline{\quad}, \underline{\quad})$ $B'(\underline{\quad}, \underline{\quad})$ $C'(\underline{\quad}, \underline{\quad})$

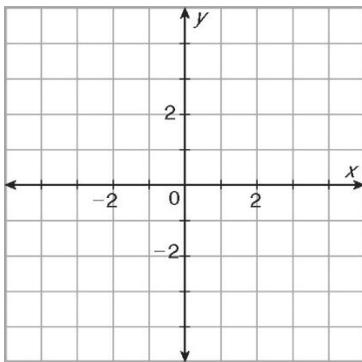


9.4 - Composition of Transformations

Complete the composition of transformations. Write as a composition of transformations. (9.4)

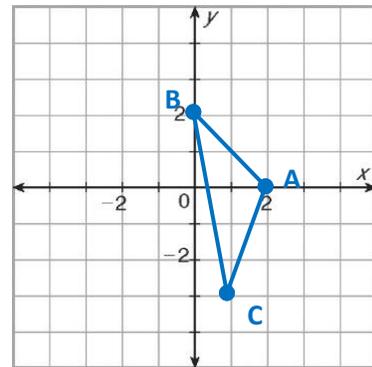
14) Point D (-2, -4) was mapped to point D'' (-3, 4)

first by a reflection across the y-axis, and then by what translation vector?



15) Given $\triangle ABC$, A (2,0), B (0,2) and C (1, -3)

Reflect across y - axis then translate by vector $\langle -2, 4 \rangle$



Given the diagrams, decide if it is a reflection, rotation, or translation.

a) _____



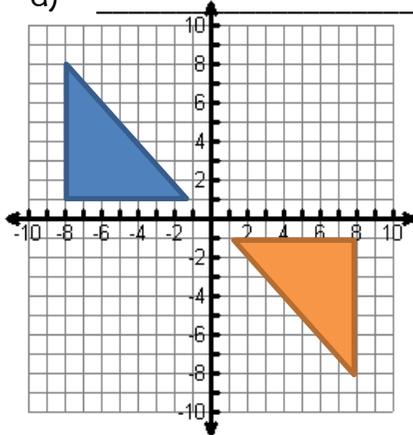
b) _____



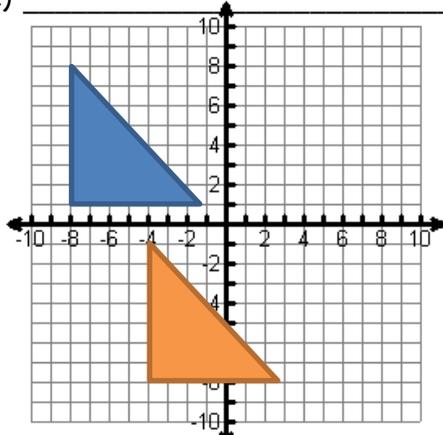
c) _____



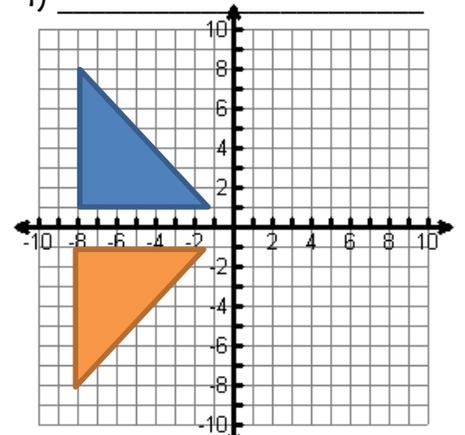
d) _____



e) _____



f) _____



**What do you notice about the SIZE and SHAPE of all of these images? _____