

Name: _____ Period: _____

Score: _____ / _____ %

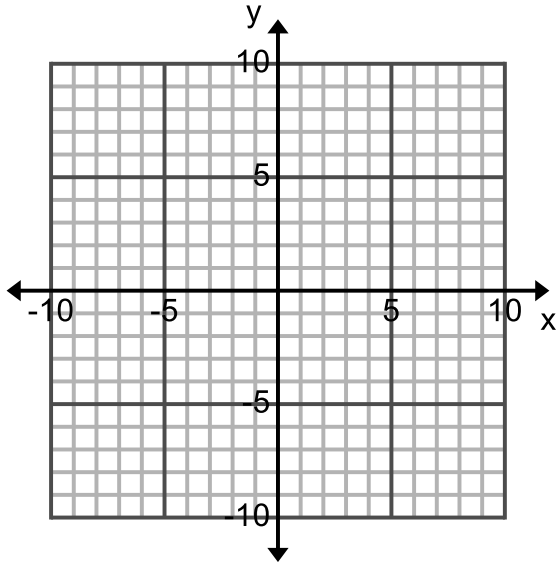
HW 9-3: Composition of Transformations

Graph and label the image of $A(3, -5)$ after the described glide reflection. Write the new coordinates.

1. Translation: $(x, y) \rightarrow (x, y - 4)$

Reflection: across the y -axis

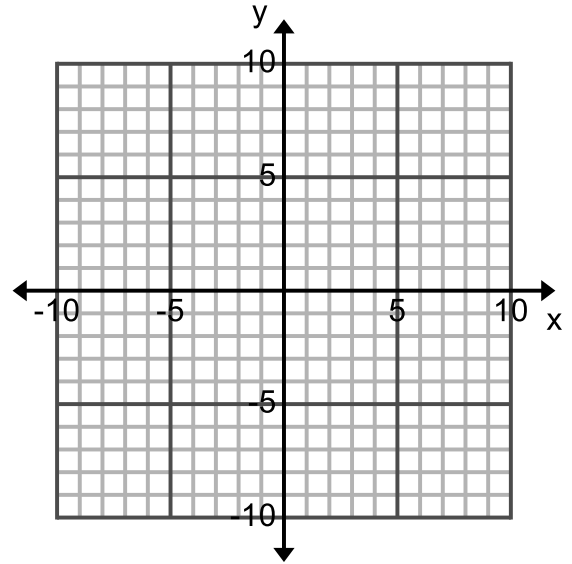
New Coordinates: _____



3. Translation: $(x, y) \rightarrow (x - 6, y - 1)$

Reflection: in the y -axis

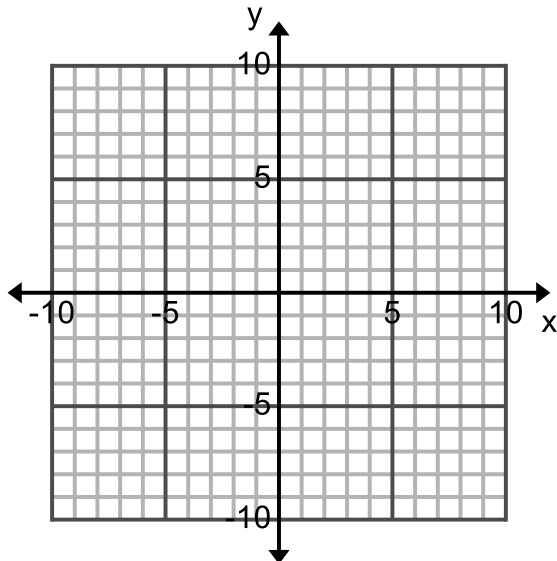
New Coordinates: _____



2. Translation: $(x, y) \rightarrow (x + 4, y + 1)$

Reflection: about the x -axis

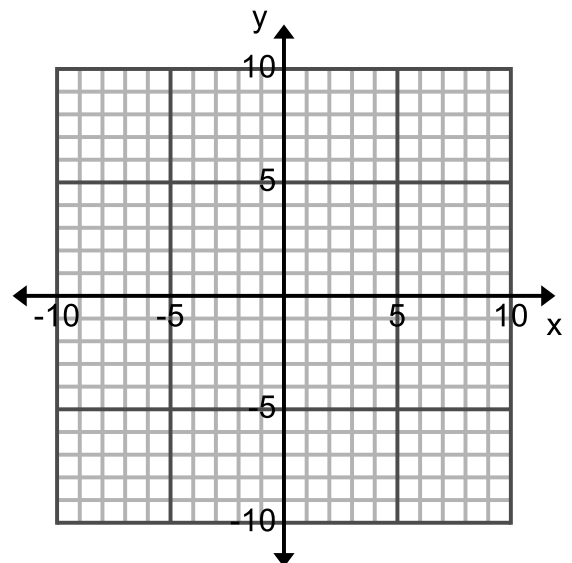
New Coordinates: _____



4. Translation: $(x, y) \rightarrow (x - 3, y - 3)$

Reflection: about the x -axis

New Coordinates: _____



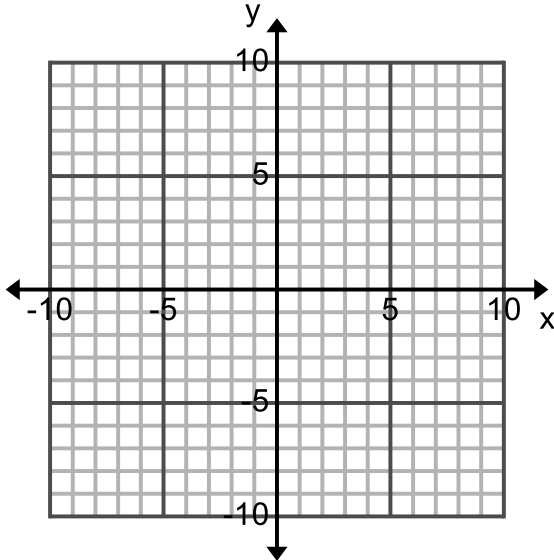
Graph and label ΔPQR and every image following the composition of transformations in the order they appear. Write the vertices of the final image.

5. $P(4,2)$, $Q(7,0)$, $R(9,3)$

Translation: $(x, y) \rightarrow (x - 2, y + 3)$

Rotation: 90° clockwise about the origin.

Final Vertices: _____

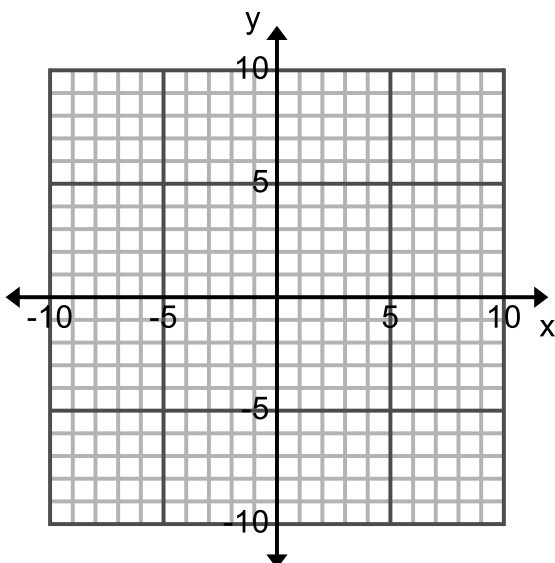


6. $P(4,5)$, $Q(7,1)$, $R(8,8)$

Translation: $(x, y) \rightarrow (x, y - 7)$

Reflection: across the y -axis

Final Vertices: _____

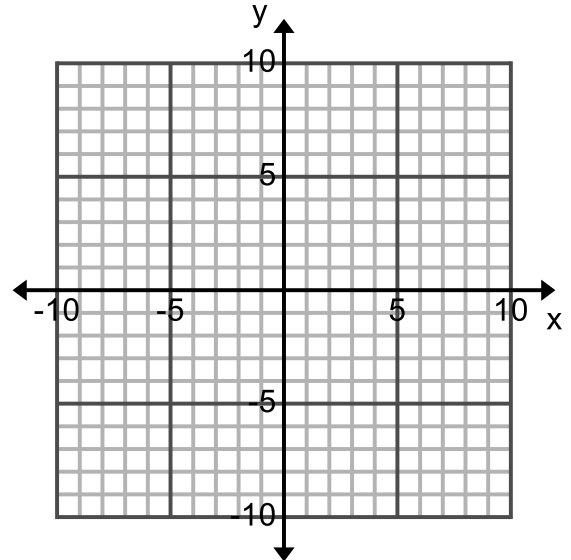


7. $P(-9,-2)$, $Q(-9,-5)$, $R(-5,-4)$

Translation: $(x, y) \rightarrow (x + 14, y + 1)$

Translation: $(x, y) \rightarrow (x - 3, y + 8)$

Final Vertices: _____



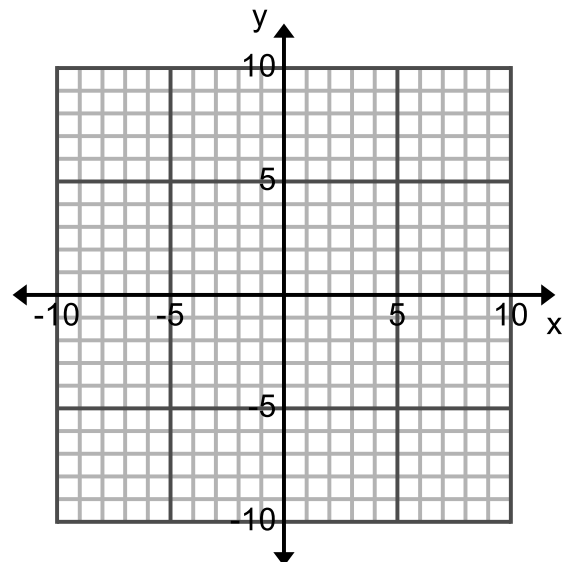
8. What single transformation could map ΔPQR to $\Delta P''Q''R''$? Identify the transformation and give the details.

9. $P(-7,2)$, $Q(-6,7)$, $R(-2,-1)$

Reflection: about the line $x = -1$

Rotation: 90° clockwise about the origin

Final Vertices: _____



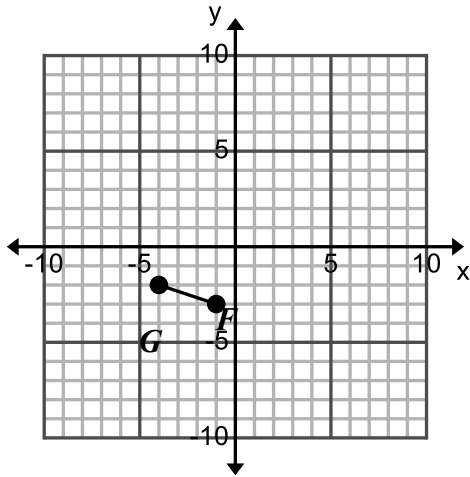
Graph and label the image of \overline{FG} after a composition using the given transformation in the order they appear. Write the vertices of the final image.

10a. $F(-1, -3), G(-4, -2)$

Reflection: in the y -axis

Translation: $(x, y) \rightarrow (x + 2, y + 10)$

Final Vertices: _____

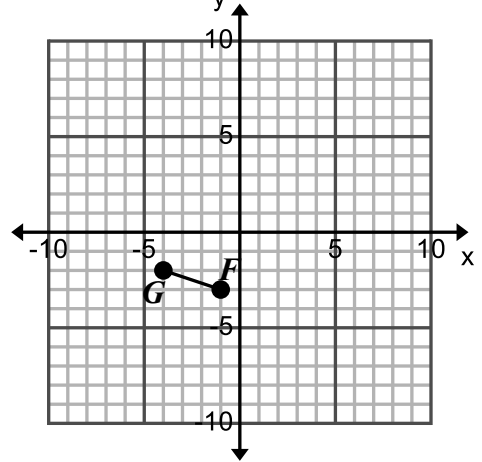


10b. $F(-1, -3), G(-4, -2)$

Translation: $(x, y) \rightarrow (x + 2, y + 10)$

Reflection: in the y -axis

Final Vertices: _____



11. Comparing problems 10a and 10b, does the order in which you perform the transformation affect the final image?

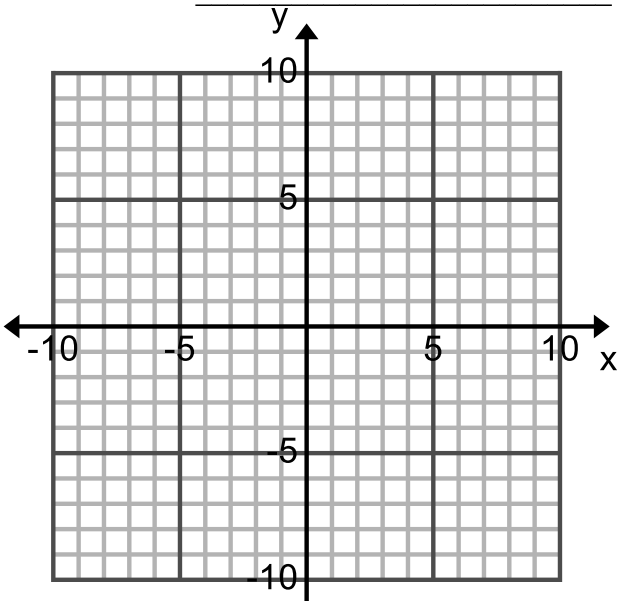
Graph and label $\triangle PQR$ and every image following the composition of transformations in the order they appear.

12. $P(3, -1), Q(4, -6), R(6, -7)$

Translation: $(x, y) \rightarrow (x - 2, y + 9)$

Reflection: across the line $y = x$

Final Vertices: _____

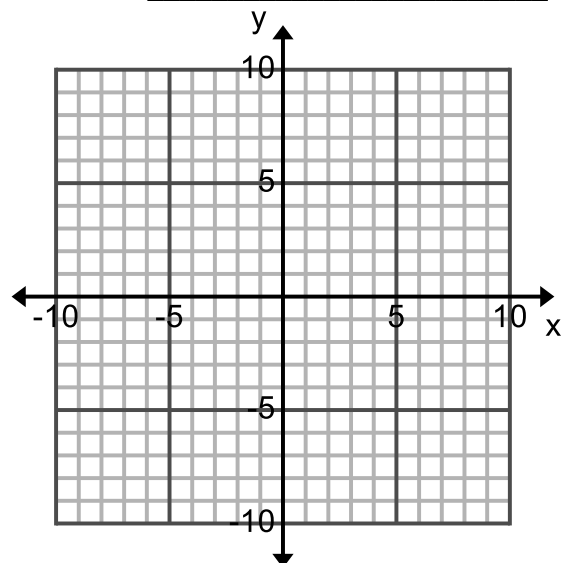


13. $P(4, 2), Q(4, -2), R(6, -4)$

Reflection: across the y -axis

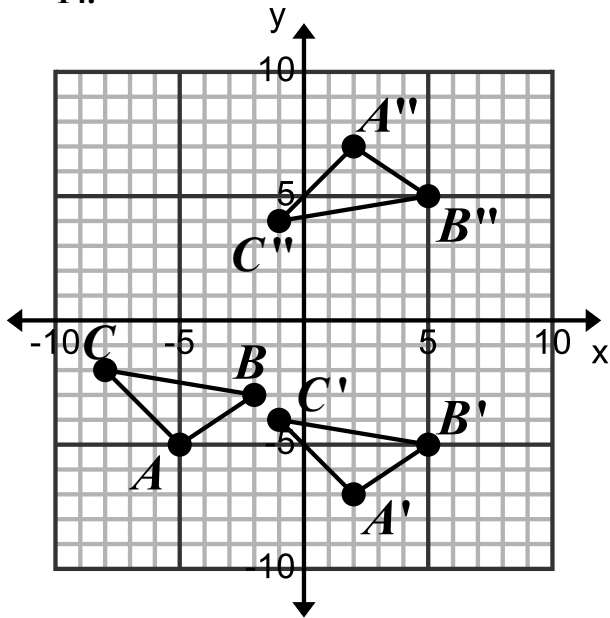
Reflection: across the x -axis

Final Vertices: _____



Identify the following composition of transformations.

14.



a. Identify what type of transformation occurred first and describe using the proper notation.

1st Transformation _____

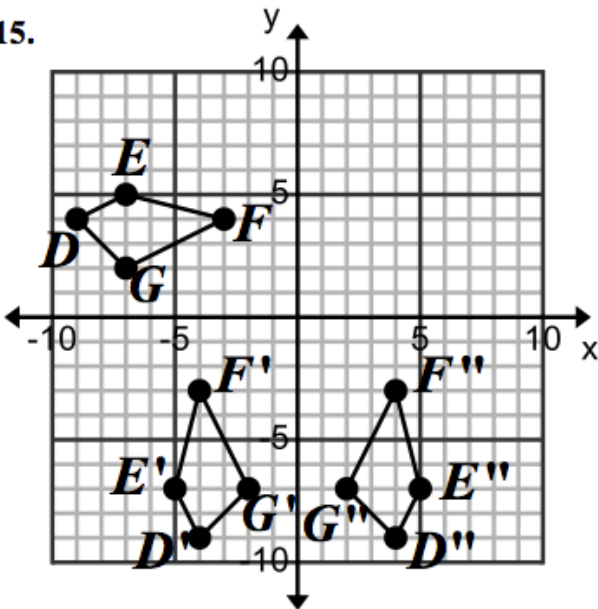
Notation: _____

b. Identify what type of transformation occurred second and describe using the proper notation

2nd Trans: _____

Notation: _____

15.



a. Identify what type of transformation occurred first and describe using the proper notation.

1st Transformation _____

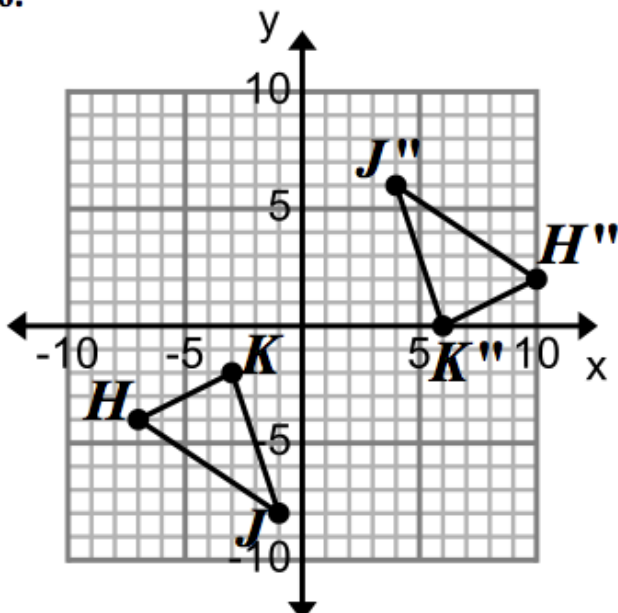
Notation: _____

b. Identify what type of transformation occurred second and describe using the proper notation

2nd Trans: _____

Notation: _____

16.



a. Identify what type of transformation occurred first and describe using the proper notation.

1st Transformation _____

Notation: _____

b. Identify what type of transformation occurred second and describe using the proper notation

2nd Trans: _____

Notation: _____