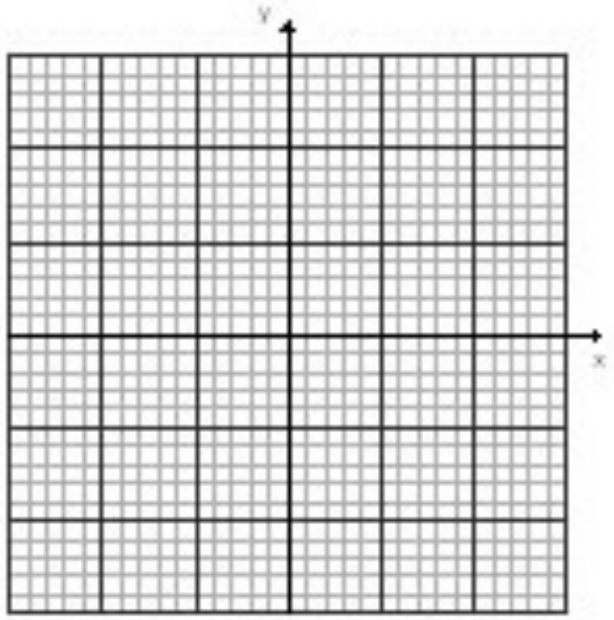
Gibbons Geometry **Name**_____
Reflections Rotations Translations Project **Due Date: Thursday , December 19th**

Part A:

Triangle ABC is formed by the points
A (-5, 10.5) B (-5.5, -10) C(6, 3)



1. Draw your triangle on the graph to the right

2. Use the distance formula to find the triangle's three side lengths

   AB:

   BC:

   AC:

3. In a different color, reflect ABC over the y axis to draw triangle XYZ.

4. What are the new coordinates of the triangle:

   X: Y: Z:

5. Use the distance formula to find the triangle's three side lengths:

   XY:

   YZ:

   XZ:

6. Are the side lengths the same after the triangle is reflected?

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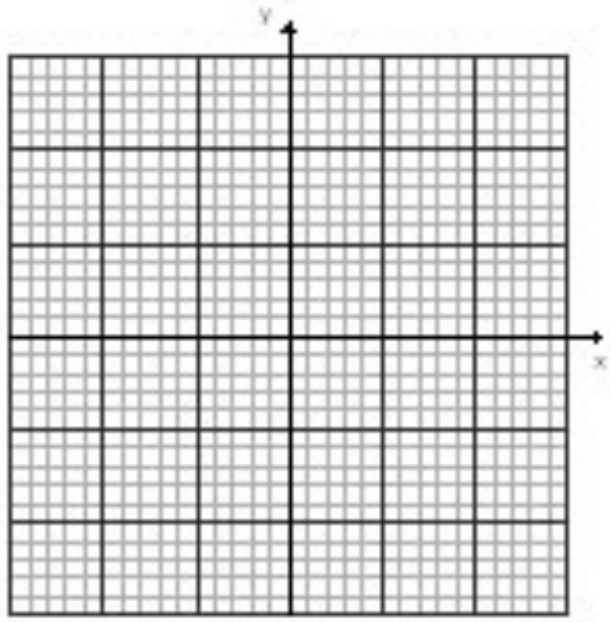
Part B:

Triangle ABC is formed by the points
A (8.5, 4) B (5, -2.5) C(-3, -10)

1. Draw your triangle on the graph to the right



2. Use the distance formula to find the triangle's three side lengths

AB

BC

AC

3. In a different color, rotate ABC 90 degrees counterclockwise to draw triangle XYZ.

4. What are the new coordinates of the triangle:

X: Y: Z:

5. Use the distance formula to find the triangle's three side lengths:

XY

YZ

XZ

6. Are the side lengths the same after the triangle is rotated?

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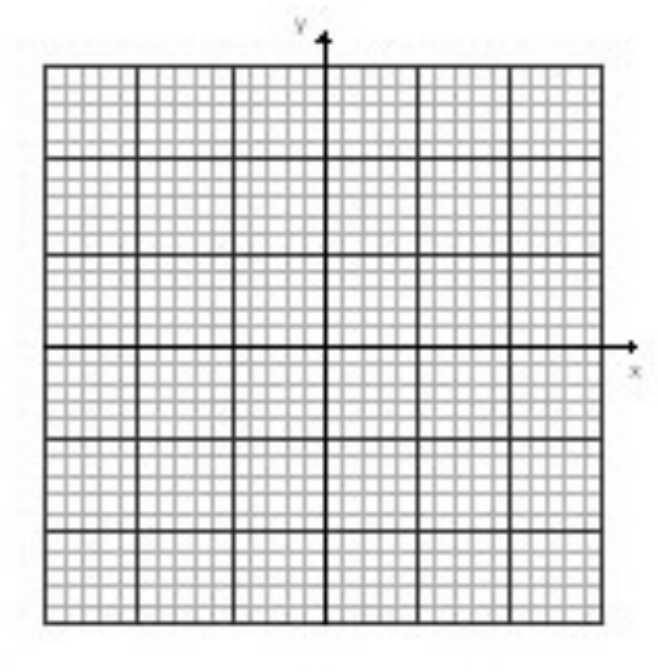
Part C:

Triangle ABC is formed by the points
A (-3, 5.5) B (7.5, 10) C(2, -6)

1. Draw your triangle on the graph to the right



2. Use the distance formula to find the triangle's three side lengths

AB:

BC:

AC:

3. In a different color, slide ABC three units right and 4 units down to draw triangle XYZ.

4. What are the new coordinates of the triangle:

X: Y: Z:

5. Use the distance formula to find the triangle's three side lengths:

XY:

YZ:

XZ:

6. Are the side lengths the same after the triangle is translated?