

**Gibbons Geometry**  
**Reflections Rotations Translations Project**

Name \_\_\_\_\_  
Due Date: Thursday , December 19th

**Part A:**

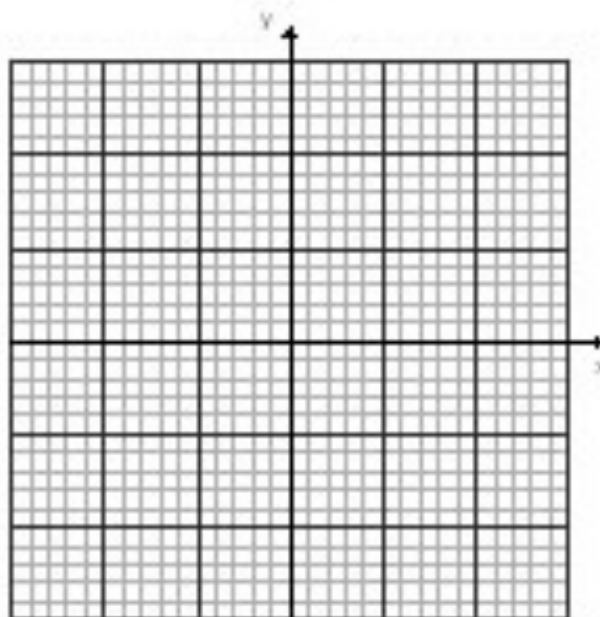
Triangle ABC is formed by the points  
A (-10, 12.5) B (-5, -9) C(6, 1)

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:**

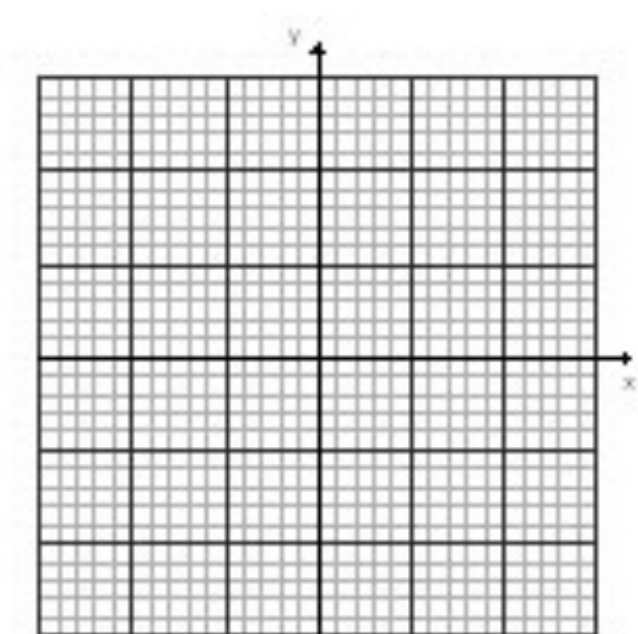
Triangle ABC is formed by the points  
A (8, 0) B (5, -2) C(-3.5, -10)

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 clockwise 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?

**Part C:**

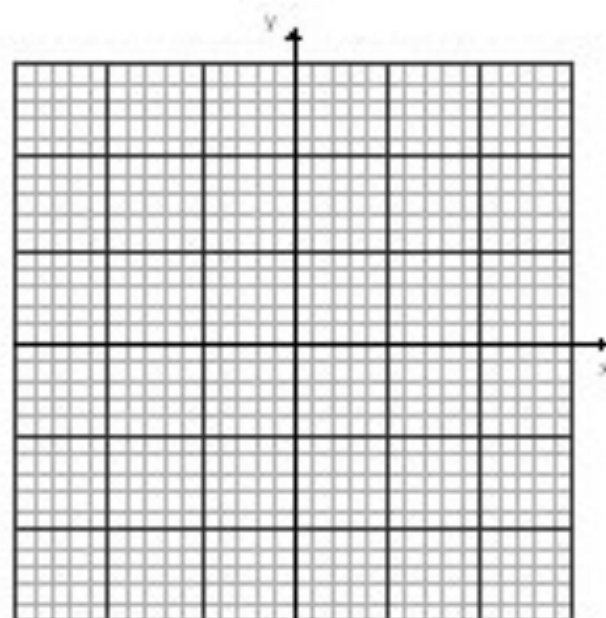
Triangle ABC is formed by the points  
A (0, -5) B (6, 7) C(-9, 14)

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?