10 8

6

0 2

-2 -4

-6 -8 -10^{\perp}

-10 -8 -6

8-3 • Guided Problem Solving

GPS Student Page 267, Exercise 12:

Graph $\triangle JKL$ with vertices J(1, -3), K(6, -2), and L(6, -4). Graph the three images formed by rotating the triangle 90°, 180°, and 270° about the origin. Give the coordinates of the vertices of each image.

Understand

Name_

- **1.** What are you asked to do?
- 2. Around what point will the triangle be rotated?

Plan and Carry Out

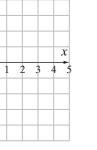
- **3.** Graph the triangle.
- **4.** What is a rotation?
- 5. What direction does the figure rotate?
- **6.** Rotate the figure 90° and mark each vertex.
- **7.** Rotate the original figure 180° and mark each vertex.
- **8.** Rotate the original figure 270° and mark each vertex.

Check

9. How can you check that your figures are rotated correctly?



- **10.** a. Graph $\triangle ABC$ with vertices A(2,2), B(1,1), and C(1,3).
 - **b.** Draw the three images formed by rotating the triangle 90°, 180° , and 270° about the origin.



8 10

4 6



v 4 3

2 1

-2 -3

4

5 - 4 - 3 - 2 - 10