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

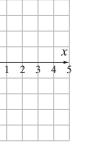
- **3.** Graph the triangle.
- **4.** What is a rotation?
- 5. What direction does the figure rotate?
- **6.** Rotate the figure  $90^{\circ}$  and mark each vertex.
- **7.** Rotate the original figure  $180^{\circ}$  and mark each vertex.
- **8.** Rotate the original figure  $270^{\circ}$  and mark 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°,  $180^{\circ}$ , and  $270^{\circ}$  about the origin.



8 10

4 6



v 4 3

2 1

-2 -3

4

5 - 4 - 3 - 2 - 10