Name _____ Date _____ Period _____

Lesson 7-7

Reinforce Understanding

Represent Polygons on the Coordinate Plane

I can draw polygons from their vertex coordinates on the coordinate plane, and use coordinates to find side lengths and solve perimeter and area problems.

Worked model

A rectangle has vertices at (−8.5, 7.5), (5.5, 7.5), (5.5, −3.5), and (−8.5, −3.5). Find its perimeter.

1. Plot the four vertices and connect them in order to draw the rectangle.
2. Top side: the y-coordinates match, so use the x-values: −8.5 + 5.5 = 14
3. Left side: the x-coordinates match, so use the y-values: 7.5 + −3.5 = 11
4. Perimeter adds all four sides: 14 + 11 + 14 + 11 = 50

Answer: The rectangle measures 14 units by 11 units, so its perimeter is 50 units.

Practice

Complete each exercise. Show the reasoning that supports your answer.

1. Vertices (-4.5, 3) and (5, 3) share y = 3. What is the distance between them?

Circle the letter of the best answer. Show how you know.

A. 0.5 units
B. 1.5 units
C. 8 units
D. 9.5 units

2. Vertices (5, 3) and (5, -3.75) share x = 5. What is the distance between them?

Circle the letter of the best answer. Show how you know.

A. 0.75 units
B. 5 units
C. 6.75 units
D. 8.75 units

3. What is the perimeter of the rectangle with side lengths 9.5 and 6.75 units?

Circle the letter of the best answer. Show how you know.

A. 16.25 units
B. 26 units
C. 32.5 units
D. 64.125 units