Name _____ Date _____ Period _____

Lesson 7-7 · Apply Day

Reinforce Understanding

Designing Polygons with a Scale

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 rectangular lot needs an area of 30,000 square feet. Two of its vertices sit at (−2.5, 10.5) and (−2.5, 4.5). Each grid unit stands for 25 feet.

1. The x-coordinates match, so count the y-values: 10.5 − 4.5 gives six units.
2. Each unit stands for 25 feet, so that known side measures 150 feet.
3. Divide the area by that side: 30,000 ÷ 150 = 200 feet for the other side.
4. Turn 200 feet back into grid units: 200 ÷ 25 = eight units.

Answer: The lot measures 150 feet by 200 feet, drawn as six units by eight units on the grid.

Practice

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

1. Plot and name the quadrant for the new point (1, -1).

Complete each step, then write the final answer.

1. Move horizontally to x = ___.
2. Move vertically to y = ___.
3. Name the quadrant: ___.

Answer: _____

2. Plot and name the quadrant for the new point (-2, 3).

Complete each step, then write the final answer.

1. Move horizontally to x = ___.
2. Move vertically to y = ___.
3. Name the quadrant: ___.

Answer: _____

3. Plot and name the quadrant for the new point (3, 5).

Complete each step, then write the final answer.

1. Move horizontally to x = ___.
2. Move vertically to y = ___.
3. Name the quadrant: ___.

Answer: _____