

Lesson 7-7 • Group 1

Reinforce Understanding**7.7 Small Group • Group 1**

With my small group, 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 — one step at a time, with support.

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. Sort each pair of vertices by the kind of side it makes.

Write the name of the correct group on each line.

Groups: Vertical side (same x) Horizontal side (same y)

- _____ $(5, 3)$ and $(5, -3)$
- _____ $(-2, 1)$ and $(-2, 6)$
- _____ $(4, -1)$ and $(4, 7)$
- _____ $(-4, 3)$ and $(5, 3)$
- _____ $(0, -2)$ and $(6, -2)$
- _____ $(-3, 5)$ and $(2, 5)$

2. Find the distance between each pair of vertices.

Complete the table. Show how you found each value.

Vertices	Shared coordinate	Distance (units)
$(-4, 3)$ and $(5, 3)$		
$(5, 3)$ and $(5, -4)$		
$(-2, -1)$ and $(6, -1)$		

Show your work

3. 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