

Lesson 7-6 • Group 2

Reinforce Understanding

7.6 Small Group • Group 2

I can find the distance between two points on the coordinate plane using absolute value, explain why the method works, and use it on a problem I have not seen before.

Worked model

On a map where each unit is one kilometer, find the distance from J(-4.5, 8.5) to K(-4.5, -3.5).

1. The x-coordinates match, so both points sit on one vertical line.
2. The y-coordinates have different signs, so the trip crosses the x-axis.
3. Distance from 0 for each y-coordinate: $8.5 = 8.5$ and $-3.5 = 3.5$
4. Join the two distances: $8.5 + 3.5 = 12$

Answer: The points are 12 units apart, so the trip is 12 kilometers straight up and down.

Practice

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

1. Plot these pairs and find each distance: A(-5, 3) to B(2, 3), and C(4, -2) to D(4, 4)

Plot and label each point on the grid.

Show your thinking

2. Find the perimeter of each rectangle using its vertex coordinates.

Complete the table. Show how you found each value.

Rectangle	Vertices	Width	Height	Perimeter
Rect 1	(-3, 1), (4, 1), (4, 5), (-3, 5)			
Rect 2	(-2, -4), (6, -4), (6, 2), (-2, 2)			

Show your work

3. A rectangle has corners (1, 2), (1, 5), (5, 5), and (5, 2). What is its perimeter?

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

- A. 7 units
- B. 10 units
- C. 12 units
- D. 14 units