

Lesson 7-6

Reinforce Understanding

Determine Distance on the Coordinate Plane

I can find the distance between two points on the coordinate plane using absolute value.

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. Both points in each row share a coordinate. Find the distance.

Complete the table. Show how you found each value.

Point 1	Point 2	Shared Coordinate	Distance
(-5, 1)	(3, 1)	$y = 1$	
(2, -4)	(2, 6)	$x = 2$	
(-3, -2)	(-3, 4)	$x = -3$	
(-1, 5)	(4, 5)	$y = 5$	

Show your work

2. Plot -4 and 2 on the number line. Count the distance between them.

Mark and label each value on the number line.

Show your thinking

3. What is the distance between (-4, 3) and (2, 3)?

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

- A. 2 units
- B. 4 units
- C. 6 units
- D. 8 units

Show your work
