LESSON MAKER PRO

Coordinate Routes

Find distances across the coordinate plane.

GRADE 6 · 6.NS.8

6.NS.8 "Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Find distances between points with the same first coordinate or the same second coordinate; relate absolute value and distance."

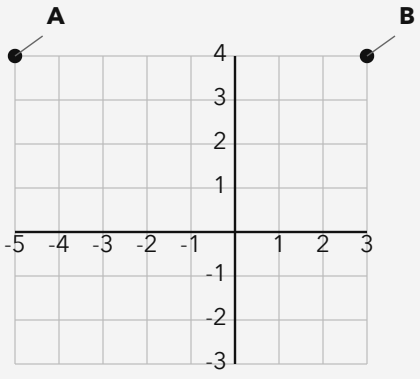
NAME _____ DATE _____

DISTANCE ON A GRID

Points with the same y-coordinate form a horizontal line, so subtract their x-coordinates to find the distance. Points with the same x-coordinate form a vertical line, so subtract their y-coordinates. Use absolute value because distance cannot be negative.

WORKED EXAMPLE

Find the distance between A and B.



1. A and B have the same y-coordinate.
2. Subtract their x-coordinates: 3 - (-5) = 8.
3. Take the absolute value: |8| = 8.

Answer: 8 units

PRACTICE 4 problems

1 Find the distance between (-2, 1) and (2, 1).

ANSWER _____

2 Find the distance between (1, -6) and (1, 1).

ANSWER _____

3 Find the distance between (-6, -2) and (-1, -2).

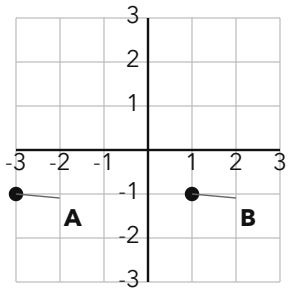
ANSWER _____

4 Find the distance between (6, -1) and (6, 2).

ANSWER _____

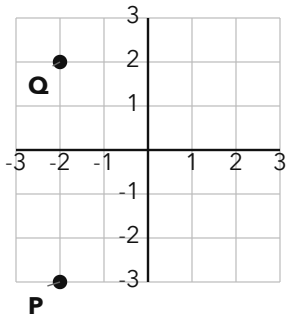
APPLY IT Show your work

1 A and B mark two checkpoints in a video game. Each grid unit is 1 step. How many steps apart are they?



ANSWER _____

2 P and Q mark two ramps on a skatepark map. Each grid unit is 1 meter. How far apart are the ramps?



ANSWER _____

CHALLENGE One step up

A drone flies from A(-1, -2) to B(2, -2), then to C(2, 2). Find the total distance. Show two absolute-value expressions.

WORK SPACE AND ANSWER

ANSWER KEY

Coordinate Routes

GRADE 6 · 6.NS.8

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the distance between (-2, 1) and (2, 1).	**4 units**
2	Find the distance between (1, -6) and (1, 1).	**7 units**
3	Find the distance between (-6, -2) and (-1, -2).	**5 units**
4	Find the distance between (6, -1) and (6, 2).	**3 units**

PART 2 · APPLY IT

1. **4 steps** The checkpoints have the same y-coordinate. Their distance is |1 - (-3)| = 4 steps.
2. **5 meters** The ramps have the same x-coordinate. Their distance is |2 - (-3)| = 5 meters.

CHALLENGE

7 units; |2 - (-1)| + |2 - (-2)| = 3 + 4 = 7.

Accept reversed subtraction inside absolute-value expressions. Distances must be nonnegative.