LESSON MAKER PRO

Coordinate Quest

Locate points, reflect them, and find distances.

GRADE 6 · 6.NS.C.11

6.NS.C.11 "Find the position of pairs of integers and other rational numbers on the coordinate plane. a. Identify quadrant locations of ordered pairs on the coordinate plane based on the signs of the x and y coordinates. b..."

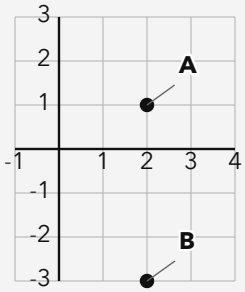
NAME _____ DATE _____

THE BIG IDEA

Points with the same x-coordinate are straight above or below each other. To find their distance, count the units between their y-coordinates. Changing the sign of y reflects a point across the x-axis; changing the sign of x reflects it across the y-axis.

WORKED EXAMPLE

How far apart are A and B on the grid?



1. A and B have the same x-coordinate, so count vertically.
2. From -3 to 1 is 4 units.

Answer: 4 units

PRACTICE 4 problems

1 Which quadrant contains (-5/2, 7/2)?

ANSWER _____

2 Reflect (5/2, -7/2) across the x-axis. What is the new point?

ANSWER _____

3 Reflect (-7/2, -5/2) across the y-axis. What is the new point?

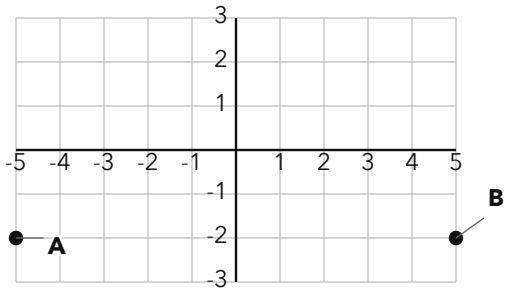
ANSWER _____

4 How far apart are (-5, -7) and (-5, 5)?

ANSWER _____

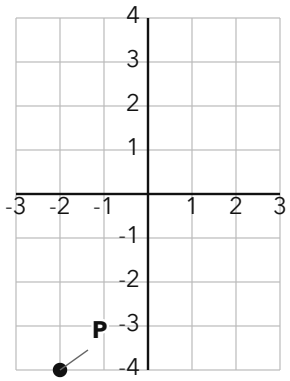
APPLY IT Show your work

1 Two friends mark their spots on a game map. Each grid unit is one block. How many blocks apart are A and B?



ANSWER _____

2 In a video game, each grid unit is one step. A portal appears when P reflects across the x-axis. How many steps straight up or down is the portal from P?



ANSWER _____

CHALLENGE One step up

Reflect (-7, 5) across the x-axis, then across the y-axis. What is the final point, and how far is it from (7, 5)?

WORK SPACE AND ANSWER

ANSWER KEY

Coordinate Quest

GRADE 6 · 6.NS.C.11

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Which quadrant contains (-5/2, 7/2)?	**Quadrant II**
2	Reflect (5/2, -7/2) across the x-axis. What is the new point?	**(5/2, 7/2)**
3	Reflect (-7/2, -5/2) across the y-axis. What is the new point?	**(7/2, -5/2)**
4	How far apart are (-5, -7) and (-5, 5)?	**12 units**

PART 2 · APPLY IT

1. **10 blocks** The spots have the same y-coordinate. From x = -5 to x = 5 is 10 blocks.
2. **8 steps** The portal is at (-2, 4). From y = -4 to y = 4 is 8 steps.

CHALLENGE

(7, -5); 10 units

Accept distances with or without units in the practice and challenge problems. In the challenge, the point after the first reflection is (-7, -5).