

Grid Mission

Use coordinates to locate points and measure grid distances.

GRADE 6 • MA.6.GR.1

MA.6.GR.1 "Apply previous understanding of the coordinate plane to solve problems."

NAME _____

DATE _____

COORDINATE MOVES

An ordered pair (x, y) tells you where to move from the origin. The x-coordinate moves left or right, and the y-coordinate moves down or up. When two points are directly across from or above each other, subtract their different coordinates to find the distance.

WORKED EXAMPLE

Find the distance between (10, -4) and (10, 5).

1. The x-coordinates match, so the distance is vertical.
2. Subtract the y-coordinates: $5 - (-4) = 9$.
3. The distance is 9 units.

Answer: 9 units

PRACTICE 6 problems

1 Which quadrant contains the point (-3, 7)?

ANSWER _____

2 A point is 8 units right and 1 unit down from the origin. Write its coordinates.

ANSWER _____

3 Start at (-1, 6). Move 7 units left and 3 units down. What are the new coordinates?

ANSWER _____

4 Find the distance between (-8, 1) and (-2, 1).

ANSWER _____

5 Find the distance between (7, -6) and (7, 2).

ANSWER _____

6 A bug walks from (-3, -1) to (3, -1), then to (3, 7). How far does it walk in all?

ANSWER _____

APPLY IT Show your work

- 1** At coding club, a robot starts at $(-7, -2)$ on a game grid and moves straight up to $(-7, 6)$. How far does the robot move?

WORK SPACE

ANSWER _____

- 2** On a video game map, a player travels from $(-6, 3)$ to $(2, 3)$, then from $(2, 3)$ to $(2, -8)$. How far does the player travel in all?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Points $J(-8, 7)$, $K(-2, 7)$, $L(-2, -1)$, and $M(-8, -1)$ are the corners of a rectangle. Find the perimeter of the rectangle.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Which quadrant contains the point $(-3, 7)$?	Quadrant II
2	A point is 8 units right and 1 unit down from the origin. Write its coordinates.	$(8, -1)$
3	Start at $(-1, 6)$. Move 7 units left and 3 units down. What are the new coordinates?	$(-8, 3)$
4	Find the distance between $(-8, 1)$ and $(-2, 1)$.	6 units
5	Find the distance between $(7, -6)$ and $(7, 2)$.	8 units
6	A bug walks from $(-3, -1)$ to $(3, -1)$, then to $(3, 7)$. How far does it walk in all?	14 units

PART 2 • APPLY IT

- 8 units** The points have the same x-coordinate, so the robot moves vertically. The y-coordinates differ by 8.
- 19 units** The first horizontal distance is 8 units and the second vertical distance is 11 units. Add $8 + 11$ to get 19 units.

CHALLENGE

28 units

Accept coordinate pairs with or without a space after the comma. For distance and perimeter answers, accept the numerical answer only if the units are clear from the student work.