

Coordinate Quest

Plot points across the whole coordinate plane.

GRADE 6 • 6.MG.3.c

6.MG.3.c "Graph ordered pairs in the four quadrants and on the axes of a coordinate plane. Ordered pairs will be limited to coordinates expressed as integers."

NAME _____

DATE _____

PLOTTING ORDERED PAIRS

An ordered pair is written (x, y) . Start at the origin, move left or right for x , then move up or down for y . Points with a 0 coordinate are on an axis, not in a quadrant.

WORKED EXAMPLE

Graph $(5, -2)$.

1. Start at the origin, $(0, 0)$.
2. Move 5 units right.
3. Move 2 units down.

Answer: Plot the point at $(5, -2)$. It is in Quadrant IV.

PRACTICE 6 problems

1 Graph $(-6, 7)$. Then name its quadrant.

ANSWER _____

2 Graph $(8, 1)$. Then name its quadrant.

ANSWER _____

3 Graph $(-9, -4)$. Then name its quadrant.

ANSWER _____

4 Graph $(6, -7)$. Then name its quadrant.

ANSWER _____

5 Graph $(0, 9)$. Is the point in a quadrant or on an axis?

ANSWER _____

6 Graph $(-8, 0)$. Is the point in a quadrant or on an axis?

ANSWER _____

APPLY IT Show your work

1

A game designer places three checkpoints on a map. Checkpoint A is at $(-3, 6)$, checkpoint B is at $(7, 0)$, and checkpoint C is at $(0, -8)$. Graph the checkpoints. Name the quadrant or axis for each checkpoint.

WORK SPACE

ANSWER _____

2

At a robotics contest, supply stations are located at $(6, -1)$, $(-7, -6)$, and $(0, 4)$. Graph the stations. Which station is closest to the y-axis?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

Plot $(-1, 7)$, $(9, 7)$, $(9, -6)$, and $(-1, -6)$. Connect the points in the order listed, then connect the last point to the first point. What figure do you make? Explain how the coordinates show this.

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	Graph $(-6, 7)$. Then name its quadrant.	$(-6, 7)$ is in Quadrant II.
2	Graph $(8, 1)$. Then name its quadrant.	$(8, 1)$ is in Quadrant I.
3	Graph $(-9, -4)$. Then name its quadrant.	$(-9, -4)$ is in Quadrant III.
4	Graph $(6, -7)$. Then name its quadrant.	$(6, -7)$ is in Quadrant IV.
5	Graph $(0, 9)$. Is the point in a quadrant or on an axis?	$(0, 9)$ is on the y-axis.
6	Graph $(-8, 0)$. Is the point in a quadrant or on an axis?	$(-8, 0)$ is on the x-axis.

PART 2 • APPLY IT

- A is in Quadrant II. B is on the x-axis. C is on the y-axis.** Plot each point by moving left or right first, then up or down. A has a negative x-coordinate and positive y-coordinate, while B and C each have one coordinate equal to 0.
- $(0, 4)$ is closest to the y-axis.** A point's distance from the y-axis is the absolute value of its x-coordinate. The x-coordinates are 6, -7, and 0, so the station at $(0, 4)$ is on the y-axis.

CHALLENGE

The figure is a rectangle. The first and second points have the same y-coordinate, as do the third and fourth points, so those sides are horizontal. The second and third points have the same x-coordinate, as do the fourth and first points, so those sides are vertical.

Accept correctly plotted points even if students label quadrants with Roman numerals or words. Points with $x = 0$ belong on the y-axis, and points with $y = 0$ belong on the x-axis.