

Coordinate Quest

Plot rational-number locations in every quadrant.

GRADE 6 • TEKS 6.11

6.11 "Measurement and data. The student applies mathematical process standards to use coordinate geometry to identify locations on a plane. The student is expected to graph points in all four quadrants using ordered pairs of rational numbers."

NAME _____

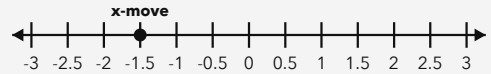
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PLOT IN ORDER

An ordered pair is written (x, y) . Move left or right for x first, then move up or down for y . Use the signs to check the quadrant.

WORKED EXAMPLE

A robot moves horizontally as shown on the number line, then moves $5/2$ units up. Plot R and name its quadrant.

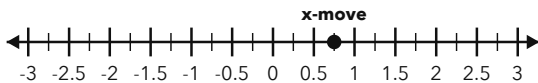


1. Read $x = -3/2$ from the number line.
2. Move $5/2$ units up for y .
3. Write $R = (-3/2, 5/2)$.
4. Both signs show Quadrant II.

Answer: $R = (-3/2, 5/2)$, Quadrant II

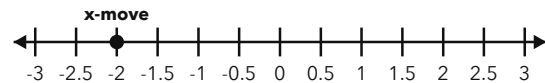
PRACTICE 4 problems

- 1** A garden app marks a fountain. Its horizontal move is shown. The fountain is 1 unit down. Plot the point and name its quadrant.



ANSWER _____

- 2** A game designer places a treasure chest. Its horizontal move is shown. The chest is $1/2$ unit up. Plot the point and name its quadrant.



ANSWER _____

- 3** A drone show uses the point $(-1/4, -2)$ for a light. Plot the light and name its quadrant.

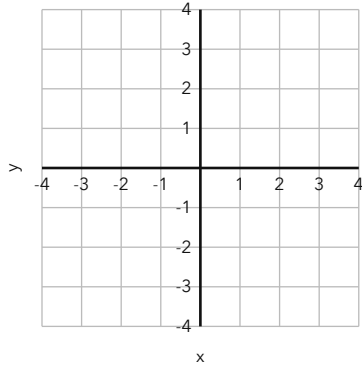
ANSWER _____

- 4** A music studio marks a speaker at $(7/4, -3)$. Plot the speaker and name its quadrant.

ANSWER _____

APPLY IT Show your work

- 1** On the tournament map, plot the Badge Booth at $(-2, 1)$ and the Snack Booth at $(2, 1)$. What alignment do the booths share?



ANSWER _____

- 2** An animal shelter app marks water at $(-3/4, -1)$, treats at $(1, 2)$, and toys at $(2, -3/4)$. Name the quadrant for each location.

WORK SPACE

ANSWER _____

CHALLENGE One step up

An AR game route connects $A(-3, 4/3)$ to $B(3, 4/3)$, then $C(3, -1)$, then $D(-1, -1)$, then back to A . Which route segments cross the y -axis? Give each crossing point and explain.

WORK SPACE AND ANSWER

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	A garden app marks a fountain. Its horizontal move is shown. The fountain is 1 unit down. Plot the point and name its quadrant.	(3/4, -1), Quadrant IV
2	A game designer places a treasure chest. Its horizontal move is shown. The chest is 1/2 unit up. Plot the point and name its quadrant.	(-2, 1/2), Quadrant II
3	A drone show uses the point $(-1/4, -2)$ for a light. Plot the light and name its quadrant.	(-1/4, -2), Quadrant III
4	A music studio marks a speaker at $(7/4, -3)$. Plot the speaker and name its quadrant.	(7/4, -3), Quadrant IV

PART 2 • APPLY IT

1. **Badge Booth: (-2, 1). Snack Booth: (2, 1). They are on the same horizontal line, $y = 1$.** Plot both points. Their y-coordinates match, so they line up horizontally.
2. **Water: Quadrant III. Treats: Quadrant I. Toys: Quadrant IV.** Use the signs of x and y for each ordered pair to identify its quadrant.

CHALLENGE

Segments AB and CD cross the y-axis. AB crosses at $(0, 4/3)$, and CD crosses at $(0, -1)$. Each segment has x-values on both sides of 0.

Accept decimal equivalents for fractions, such as 0.75 for $3/4$. Accept a correctly plotted point with the correct quadrant or alignment description.