

Coordinate Quest

Use points and absolute value to measure distances.

GRADE 6 • 6.NS.C.8

CCSS.Math.Content.6.NS.C.8 "Solve real-world and mathematical problems by graphing points in all four quadrants of the coordinate plane. Include use of coordinates and absolute value to find distances between points with the same first coordinate or the same second..."

NAME _____

DATE _____

MAP POINTS AND DISTANCES

To graph a point (x, y) , move x units left or right, then move y units up or down. Points with the same x -coordinate are vertically aligned, and points with the same y -coordinate are horizontally aligned. Use absolute value to find the positive distance between their different coordinates.

WORKED EXAMPLE

Find the distance between $P(-11, 12)$ and $Q(-11, -4)$.

1. The points have the same x -coordinate, so find the vertical distance.
2. $|12 - (-4)| = |16|$
3. The distance is 16 units.

Answer: 16 units

PRACTICE 6 problems

1 What quadrant contains $M(-3, 5)$?

ANSWER _____

2 What quadrant contains $N(2, -1)$?

ANSWER _____

3 Point R is 3 units left and 5 units down from the origin. Write its coordinates and quadrant.

ANSWER _____

4 Find the distance between $J(1, -2)$ and $K(1, 3)$.

ANSWER _____

5 Find the distance between $L(-5, 2)$ and $R(3, 2)$.

ANSWER _____

6 Point T is at $(-1, -3)$. Point S has the same x -coordinate and is 5 units above T . What are the coordinates of S ?

ANSWER _____

APPLY IT Show your work

- 1** In a video game, a portal is at $(-7, -2)$ and a treasure chest is at $(3, -2)$. How far apart are they horizontally?

WORK SPACE

ANSWER _____

- 2** A skate park app marks the ramp at $(6, -1)$ and the water station at $(6, 7)$. How far apart are the locations vertically?

WORK SPACE

ANSWER _____

CHALLENGE One step up

CHALLENGE

A game character moves from $A(-7, 6)$ to $B(-7, -3)$, then from B to $C(2, -3)$. How many total units does the character travel?

PART 1 • PRACTICE

#	PROBLEM	ANSWER
1	What quadrant contains M(-3, 5)?	Quadrant II
2	What quadrant contains N(2, -1)?	Quadrant IV
3	Point R is 3 units left and 5 units down from the origin. Write its coordinates and quadrant.	(-3, -5), Quadrant III
4	Find the distance between J(1, -2) and K(1, 3).	5 units
5	Find the distance between L(-5, 2) and R(3, 2).	8 units
6	Point T is at (-1, -3). Point S has the same x-coordinate and is 5 units above T. What are the coordinates of S?	(-1, 2)

PART 2 • APPLY IT

1. **10 units** The points have the same y-coordinate. Find the horizontal distance with $|3 - (-7)| = 10$.
2. **8 units** The points have the same x-coordinate. Find the vertical distance with $|7 - (-1)| = 8$.

CHALLENGE

18 units

Accept equivalent coordinate formatting, such as spaces or no spaces inside ordered pairs. Distance answers should be positive and may include the word units.