LESSON MAKER PRO

Quadrant Sign Clues

Use positive and negative signs to locate points.

GRADE 6 · 6.PAR.8.2

6.PAR.8.2 "Show and explain that signs of numbers in ordered pairs indicate locations in quadrants of the coordinate plane and determine how two ordered pairs may differ based only on the signs."

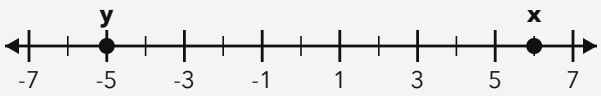
NAME _____ DATE _____

READ THE SIGNS

The sign of the x-coordinate tells whether a point is right of or left of the y-axis. The sign of the y-coordinate tells whether a point is above or below the x-axis, and the two signs identify the quadrant.

WORKED EXAMPLE

The number line shows the x- and y-coordinates of point R. Which quadrant contains R?

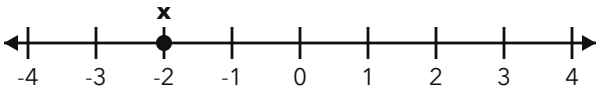


1. The x-coordinate is 6, so x is positive.
2. The y-coordinate is -5, so y is negative.
3. A point with signs (+, -) is in Quadrant IV.

Answer: Quadrant IV

PRACTICE 6 problems

1 The number line shows the x-coordinate of point A. Point A is (x, 4). Which quadrant contains A?

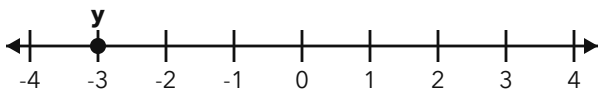


ANSWER _____

2 Which quadrant contains the point (-4, -1)?

ANSWER _____

3 The number line shows the y-coordinate of point B. Point B is (2, y). Which quadrant contains B?



ANSWER _____

4 Points C and D are C(-1, 4) and D(-2, 3). Do their x- and y-coordinates have the same signs? Are the points in the same quadrant?

ANSWER _____

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5 Which ordered pair is in Quadrant IV? A. (-3, 2) B. (4, -2) C. (-1, -4)

ANSWER _____

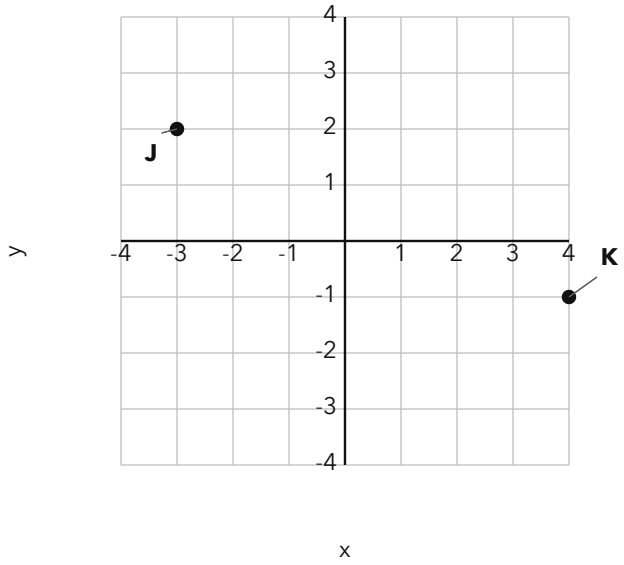
6 Point E is (2, -4), and point F is (-3, -1). Name each quadrant. Then state which coordinate sign is the same for both points.

ANSWER _____

_____

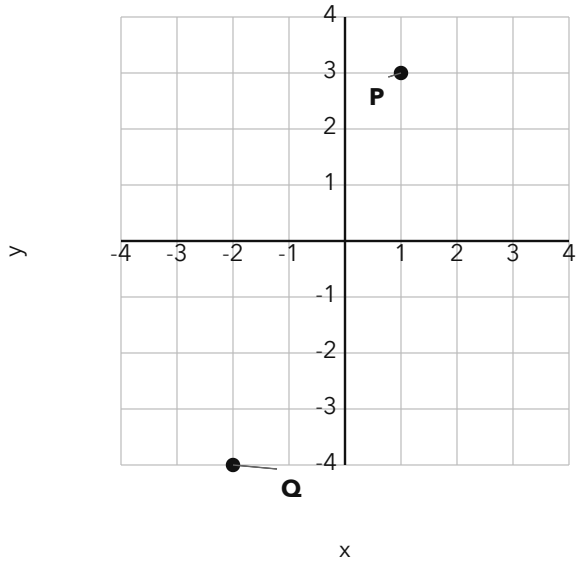
APPLY IT Show your work

1 A game designer places two power-ups on the coordinate grid. Point J is a jump boost, and point K is a shield. Name the quadrant of each power-up. How do their coordinate signs differ?



ANSWER _____

2 A robotics team programs two robots to stop at points P and Q on the grid. Name the quadrant of each point. Can the robots be in the same quadrant based only on the signs of their coordinates? Explain.



ANSWER _____

CHALLENGE One step up

Point G is in Quadrant II. Point H has an x-coordinate with the opposite sign of G's x-coordinate, but H's y-coordinate has the same sign as G's y-coordinate. Which quadrant contains H? Explain your reasoning.

WORK SPACE AND ANSWER

ANSWER KEY

Quadrant Sign Clues

GRADE 6 · 6.PAR.8.2

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	The number line shows the x-coordinate of point A. Point A is (x, 4). Which quadrant contains A?	**Quadrant II**
2	Which quadrant contains the point (-4, -1)?	**Quadrant III**
3	The number line shows the y-coordinate of point B. Point B is (2, y). Which quadrant contains B?	**Quadrant IV**
4	Points C and D are C(-1, 4) and D(-2, 3). Do their x- and y-coordinates have the same signs? Are the points in the same quadrant?	**Yes. Both points have a negative x-coordinate and a positive y-coordinate, so both are in Quadrant II.**
5	Which ordered pair is in Quadrant IV? A. (-3, 2) B. (4, -2) C. (-1, -4)	**B. (4, -2)**
6	Point E is (2, -4), and point F is (-3, -1). Name each quadrant. Then state which coordinate sign is the same for both points.	**E is in Quadrant IV. F is in Quadrant III. Both y-coordinates are negative.**

PART 2 · APPLY IT

1. **J is in Quadrant II, and K is in Quadrant IV. J has signs (-, +), while K has signs (+, -). Both coordinate signs are different.** Read J as having a negative x-coordinate and positive y-coordinate. Read K as having a positive x-coordinate and negative y-coordinate.
2. **P is in Quadrant I, and Q is in Quadrant III. No, they cannot be in the same quadrant because both coordinate signs are different.** P has signs (+, +), and Q has signs (-, -). Different sign patterns place points in different quadrants.

CHALLENGE

Quadrant I. G has signs (-, +). Changing only the x-coordinate sign gives H signs (+, +), which is Quadrant I.

Accept quadrant names written as Roman numerals or as Quadrant 1, 2, 3, or 4. For explanations, accept any accurate statement connecting positive and negative coordinate signs to the correct quadrants.