LESSON MAKER PRO

Signs Point the Way

Find locations without plotting ordered pairs.

GRADE 6 · 6.NOS.C.7.a

6.NOS.C.7.a "Use understanding of the relationship between signs and value of coordinates in ordered pairs to reason about the location of an ordered pair without plotting."

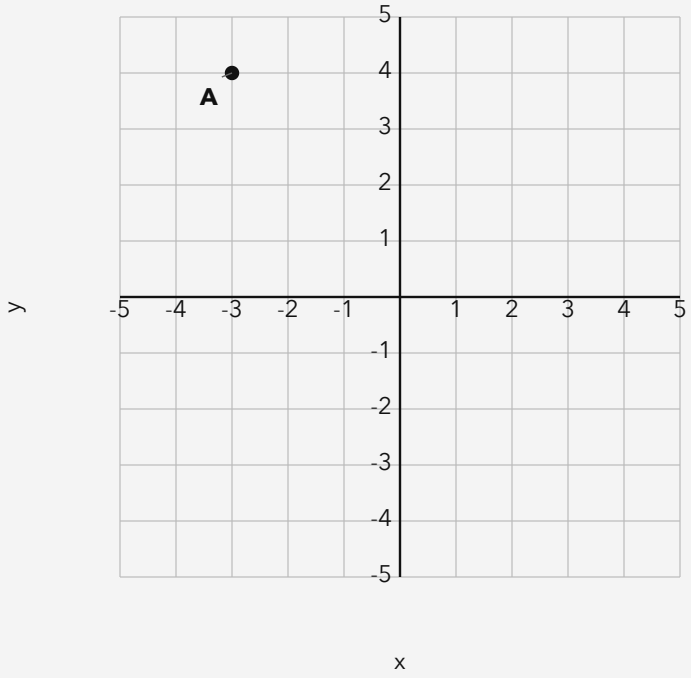
NAME _____ DATE _____

READ THE SIGNS

The first coordinate tells you whether a point is left or right of the y-axis. The second tells you whether it is above or below the x-axis. If a coordinate is 0, the point is on an axis, not in a quadrant.

WORKED EXAMPLE

Which pair, (-8, 7), (8, 7), or (-8, -7), is in the same quadrant as A? Do not plot the pairs.

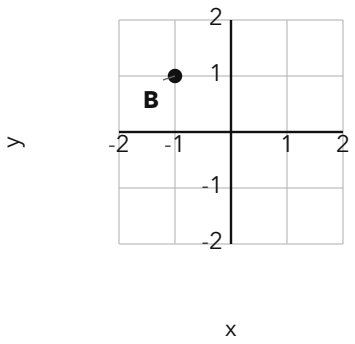


1. A is left of the y-axis and above the x-axis.
2. A matching pair needs a negative first coordinate and a positive second coordinate.
3. Only (-8, 7) has those signs.

Answer: (-8, 7)

PRACTICE 6 problems

1 Which pair, (-10, 11) or (10, 11), is in the same quadrant as B? Do not plot the pairs.

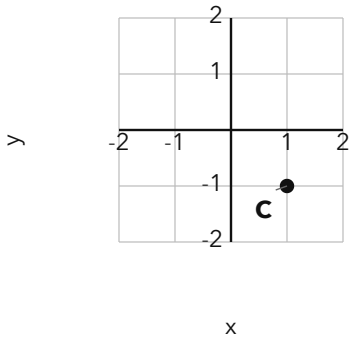


ANSWER _____

2 Without plotting, name the quadrant that contains (-11, -12).

ANSWER _____

3 Which pair, (12, -13) or (-12, -13), is in the quadrant directly across the y-axis from C? Do not plot the pairs.



ANSWER _____

4 Without plotting, name the quadrant that contains (15, 16).

ANSWER _____

5 Is (0, -17) in a quadrant? If not, name the axis it lies on.

ANSWER _____

_____

6 Is (-18, 0) in a quadrant? If not, name the axis it lies on.

ANSWER _____

_____

APPLY IT Show your work

1 A game map uses its center as (0, 0). Right is positive x, and up is positive y. A hidden chest is at (-19, 20). Which quadrant holds the chest? Do not plot it.

WORK SPACE

ANSWER _____

2 On a school festival map, the snack stand is at (0, 0). East is positive x, and north is positive y. A booth is at (21, -22). Is it northeast, northwest, southeast, or southwest of the snack stand? Do not plot it.

WORK SPACE

ANSWER _____

CHALLENGE One step up

Without plotting, choose every pair that is in the same quadrant as (-23, 24) and farther from the y-axis: (-25, 26), (-22, 27), (25, 26), (-24, -28). Explain your choice.

WORK SPACE AND ANSWER

ANSWER KEY

Signs Point the Way

GRADE 6 · 6.NOS.C.7.a

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Which pair, (-10, 11) or (10, 11), is in the same quadrant as B? Do not plot the pairs.	**(-10, 11)**
2	Without plotting, name the quadrant that contains (-11, -12).	**Quadrant III**
3	Which pair, (12, -13) or (-12, -13), is in the quadrant directly across the y-axis from C? Do not plot the pairs.	**(-12, -13)**
4	Without plotting, name the quadrant that contains (15, 16).	**Quadrant I**
5	Is (0, -17) in a quadrant? If not, name the axis it lies on.	**No. It lies on the y-axis.**
6	Is (-18, 0) in a quadrant? If not, name the axis it lies on.	**No. It lies on the x-axis.**

PART 2 · APPLY IT

1. **Quadrant II** The negative x-coordinate places the chest left of the center. The positive y-coordinate places it above the center.
2. **Southeast** The positive x-coordinate means east. The negative y-coordinate means south.

CHALLENGE

(-25, 26). It has a negative first coordinate and a positive second coordinate, and 25 is greater than 23, so it is farther from the y-axis.

Accept quadrant names or Roman numerals. For the challenge, accept an explanation that compares the absolute values of the first coordinates.