# Coordinate Plane

The coordinate plane is a grid that is used to locate points by using numbers. A coordinate plane is a pair of perpendicular number lines or axes. One axis is the horizontal axis, or x-axis. The other axis is the vertical axis, or y-axis. The axes divide the coordinate grid into four quadrants.

Each point is assigned an **ordered pair,** (x, y). The ordered pair first gives the x-coordinate of the location of the point and then its y-coordinate. The point where the two axes meet is called the **origin.** The origin is located at $(0, 0)$. For the x-coordinate, values to the left of 0 are negative and values to the right of 0 are positive. For the y-coordinate, values below 0 are negative and values above 0 are positive.

Coordinate planes are commonly used on maps.
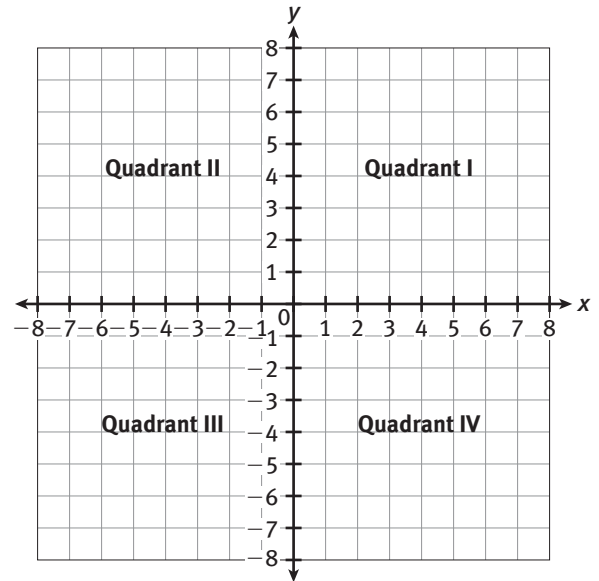
EXAMPLE A

What is the location of point A on the coordinate grid below?
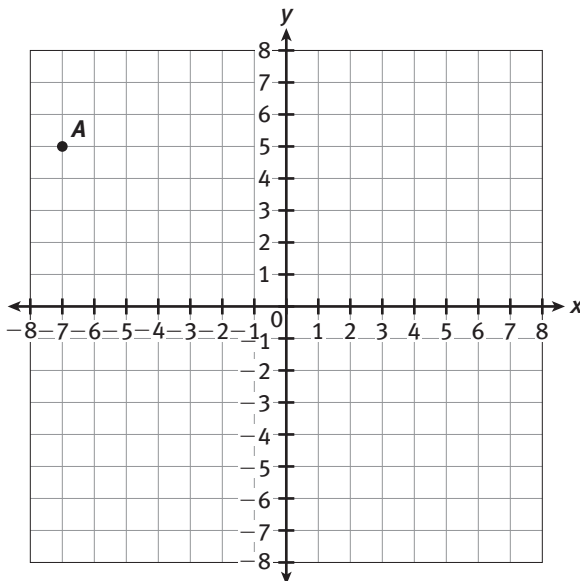
Step 1: *Find the value of the x-coordinate. Count the number of units to the left of 0.*

A is located 7 units to the left of 0. The x-coordinate is -7.

Step 2: *Find the value of the y-coordinate. Count the number of units above 0.*

A is located 5 units above 0. The y-coordinate is 5.

Step 3: *Write the ordered pair.*

The ordered pair is $(-7, 5)$.

Solution: Point A is located at $(-7, 5)$.

Coordinate Plane (continued)

You can plot points on a coordinate grid using these rules.

- The first coordinate tells the number of units to the left or right of 0.
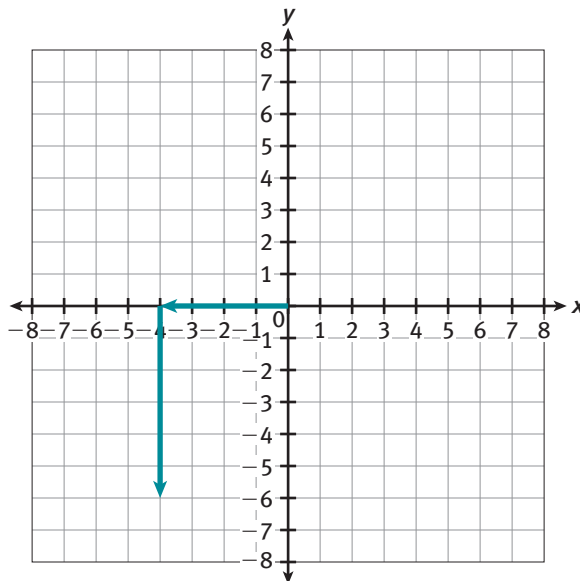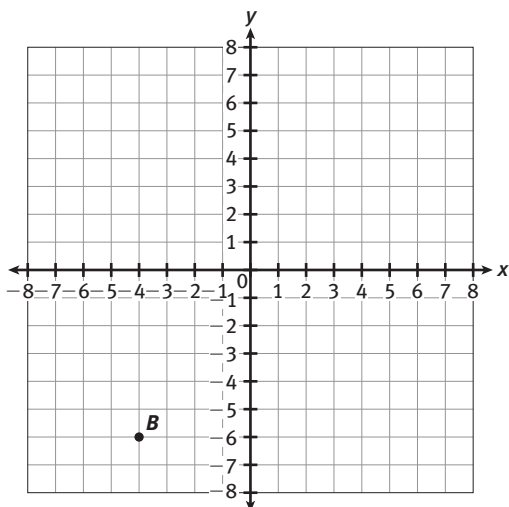- The second coordinate tells the number of units below or above 0.

EXAMPLE B

Plot point *B* at $(-4, -6)$ on a coordinate grid.

Step 1: Starting at (0, 0), move 4 units to the left.

Step 2: From that point, (−4, 0), move 6 units down.

Step 3: Plot point B.

Solution:

PRACTICE

Give the coordinates of each point.

1. *C* **2.** *D* **3.** *E*

4. *F* **5.** *G* **6.** *H*

Plot each ordered pair on the coordinate grid.

7. Point *J* at $(-5, 6)$ **8.** Point *K* at $(0, -6)$

9. Point *L* at $(5, 0)$

10. If you connect points *D*, *F*, and *G*, what polygon would you form? Describe it as specifically as you can. Explain why your answer is correct.