Name _____ Date _____

The Coordinate Plane

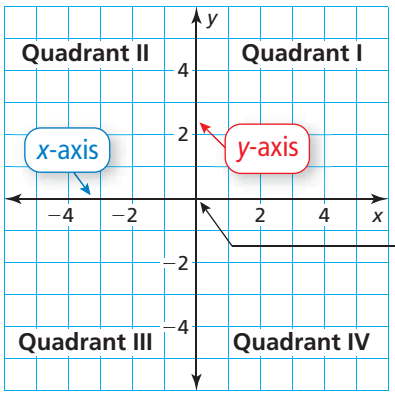
A **coordinate plane** is formed by the intersection of a horizontal number line and a vertical number line. The number lines intersect at the **origin** and separate the coordinate plane into four regions called **quadrants**.

An **ordered pair** is used to locate a point in a coordinate plane.

ordered pair: $(4, -2)$

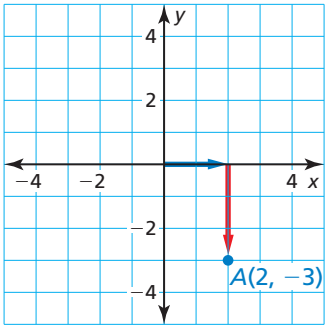
x-coordinate

y-coordinate

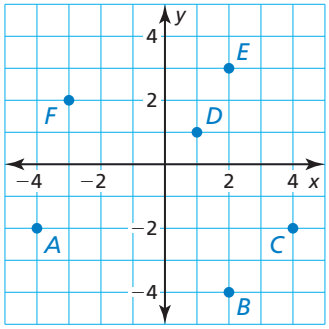


Example 1 **Plot the point $A(2, -3)$ in a coordinate plane. Describe the location of the point.**

Start at the origin. Move 2 units right and 3 units down. Then plot the point. The point is in Quadrant IV.



Example 2 **What ordered pair corresponds to point *A*?**



Point A is 4 units to the left of the origin and 2 units down. So, the x-coordinate is -4 and the y-coordinate is -2.

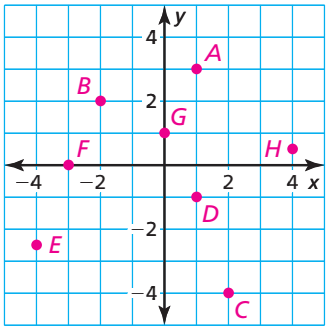
▶ The ordered pair $(-4, -2)$ corresponds to point A.

Practice

Check your answers at BigIdeasMath.com.

Plot the ordered pair in a coordinate plane. Describe the location of the point.

1. $A(1, 3)$ Quadrant I
2. $B(-2, 2)$ Quadrant II
3. $C(2, -4)$ Quadrant IV
4. $D(1, -1)$ Quadrant IV
5. $E(-4, -2.5)$ Quadrant III
6. $F(-3, 0)$ *x*-axis
7. $G(0, 1)$ *y*-axis
8. $H\left(4, \frac{1}{2}\right)$ Quadrant I



Use the graph in Example 2 to answer the questions.

9. What ordered pair corresponds to point C? $(4, -2)$
10. What ordered pair corresponds to point F? $(-3, 2)$