

# Graph on a Coordinate Plane

A **coordinate plane** is a grid divided into four quadrants by both a horizontal  $x$ -axis and a vertical  $y$ -axis. **Coordinate points** can be located on the grid using **ordered pairs**. Ordered pairs are given in the form of  $(x,y)$ . The  $x$  represents the location of the point on the horizontal  $x$ -axis, and the  $y$  represents the location of the point on the vertical  $y$ -axis. The  $x$ -axis and  $y$ -axis intersect at the **origin**, which is coordinate point  $(0,0)$ .

## Graphing Ordered Pairs

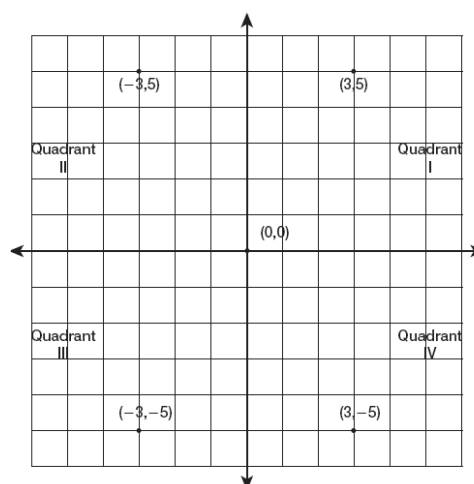
The  **$x$ -coordinate** is listed first in the ordered pair, and it tells you how many units to move to either the left or the right. If the  $x$ -coordinate is positive, move from the origin to the right. If the  $x$ -coordinate is negative, move from the origin to the left.

The  **$y$ -coordinate** is listed second and tells you how many units to move up or down. If the  $y$ -coordinate is positive, move up from the origin. If the  $y$ -coordinate is negative, move down from the origin.

### Example

Graph the following points:

$(0, 0)$        $(3, 5)$        $(3, -5)$        $(-3, 5)$        $(-3, -5)$

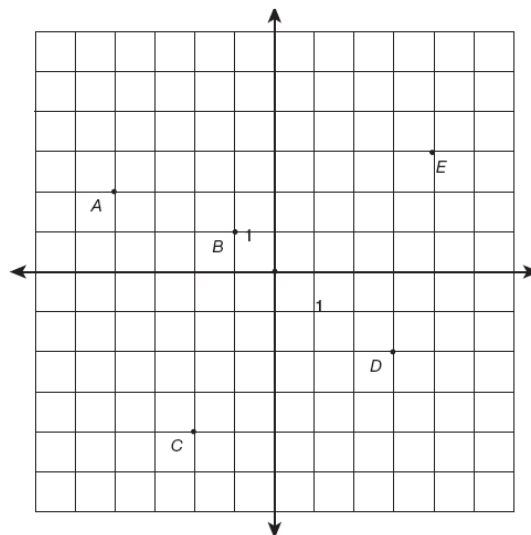


Notice that the graph is broken up into four quadrants with one point plotted in each one. The chart below indicates which quadrants contain which ordered pairs based on their signs:

POINT	SIGNS OF COORDINATES	QUADRANT
(3,5)	(+,+)	I
(-3,5)	(-,+)	II
(-3,-5)	(-,-)	III
(3,-5)	(+,-)	IV

**Example**

What are the coordinates of the points plotted on the coordinate system



a. *A*

*A* (2,-4)

b. *B*

*B* (-1,1)

c. *C*

*C* (-2,-4)

d. *D*

*D* (3,-2)

e. *E*

*E* (4,3)