In Mathematics, we try to describe relationships between quantities. There are many options for doing this. One option that we use often is a graph. A graph is a "picture" of the relationship.

In order to construct a graph, we must have a system for displaying the quantities. We do this by taking two real number lines, one horizontal and the other vertical, and intersect them at their zero points. These two intersecting lines form what we call the rectangular coordinate system otherwise known as the xy-plane. The intersection point of the two lines is called the **origin**. The horizontal axis is called the x-axis and the vertical axis is called the y-axis. The scales on the x and y axes need not be the same. Unless specified otherwise, it is assumed that there is a one unit scale on both axes.
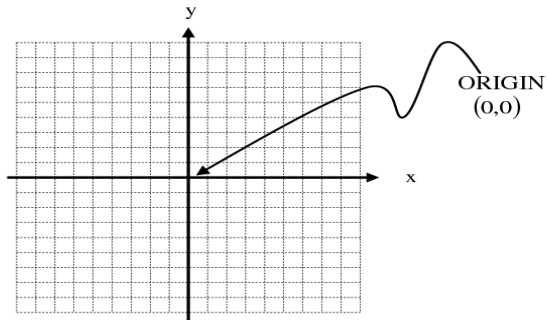
To specify any point on the plane, we must specify two things:

1.) The location relative to the x axis.

2.) The location relative to the y axis.

To do this we use an **ordered pair**. The first number is the x coordinate and the second number is the y coordinate.

$$(-3,4)$$

Move -3 in the x Move 4 in the y
     direction   direction

Why do we use the term "ordered pair" for $(-3,4)$? _____

What is the value of x on the y axis? _____   What is the value of y on the x axis? _____

On any _____ line, the x's are constant. On any _____ line, the $y's$ are constant.

EXAMPLE: Graph each point on the provided coordinate grid.

    a.) $(3,5)$

    b.) $(-2,-4)$

    c.) $(0,-2)$

    d.) $(3,-7)$

    e.) $(-3,0)$