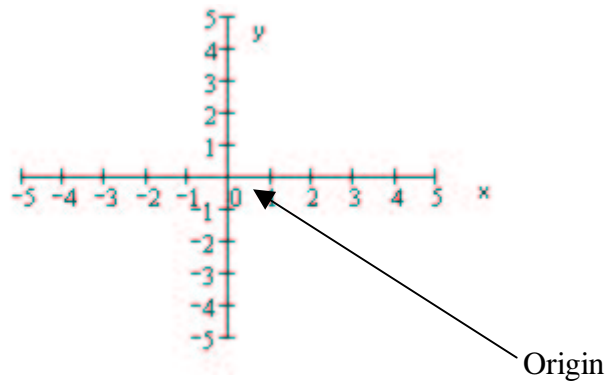


## The Cartesian Coordinate System

The Cartesian Coordinate System (Rectangular Coordinate System) is the perpendicular crossing of two number lines (axis), one horizontal (x) and one vertical (y).

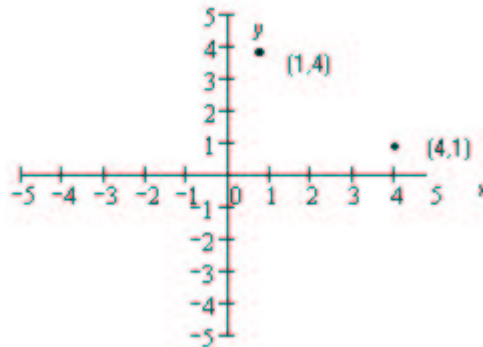
Using the Cartesian Coordinate System, we can assign names to points on a plane.

The point where the two axes cross is called the origin.

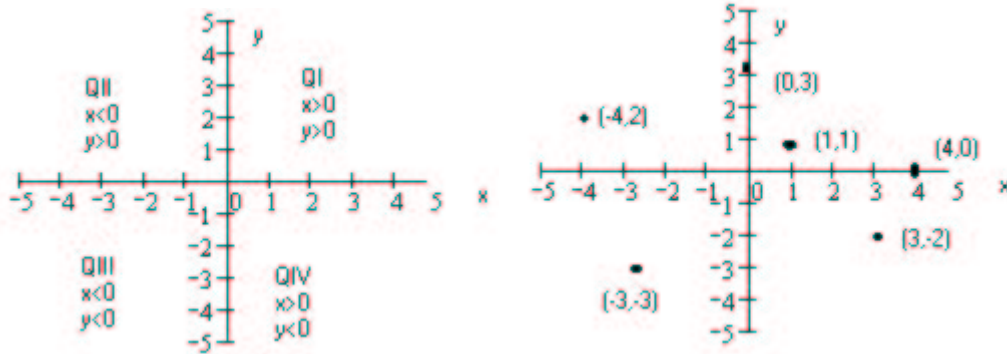


We name points on the Cartesian Plane by using the ordered pair  $(x,y)$ , where  $x$  (abscissa) is the position along the horizontal (x) axis and  $y$  (ordinate) is the position along the vertical (y) axis.

$(x,y)$  is called an ordered pair because, in this case, order matters.



The x- axis and the y-axis divide the Cartesian Plane into 4 sections called quadrants (QI, QII, QIII, QIV)



Points on either axis are not in any quadrant.

The graph of an equation is the set of points that are solutions to the equation

$$3x + 2y = 12$$

(4,0) is a solution

(0,6) is a solution

(1,1) is not a solution

