

The Rectangular Coordinate System

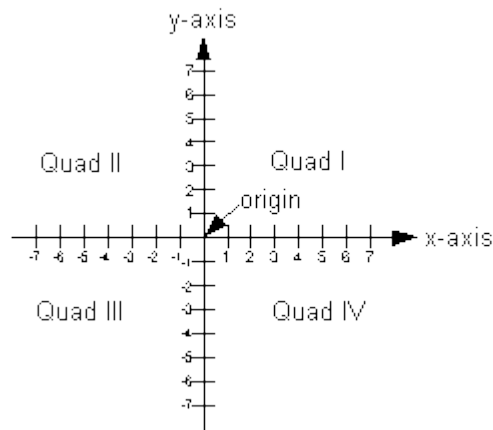
Rectangular coordinate system: consists of a horizontal x-axis and a vertical y-axis.

On the x-axis, positive is to the right and negative is to the left.

On the y-axis, positive is up and negative is down.

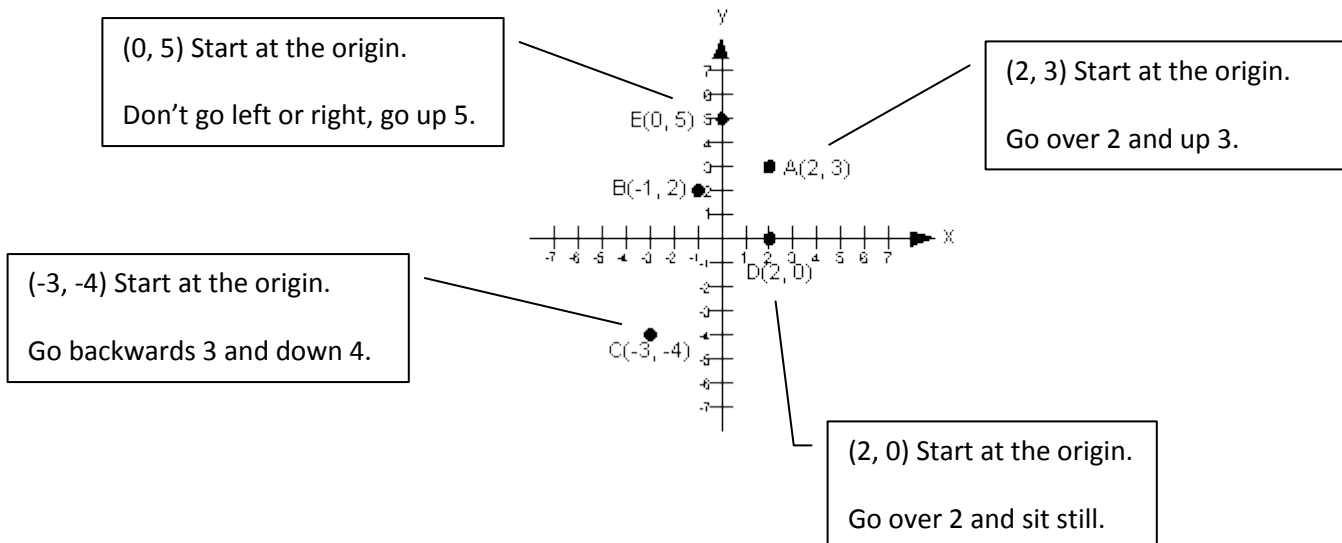
Origin: The point where the axes intersect.

Quadrants: The 2 axes divide the plane into 4 sections called quadrants. They are numbered with roman numerals. The numbering then goes counter-clockwise.



Ordered pair: (x, y) gives the “directions” of how to move from the origin to the point

Remember that each ordered pair associates with only one point on the graph. Just line up the x value and then the y value to get your location.



Note: If a point is on the x-axis, its y-coordinate is 0; for example, (2, 0)

If a point is on the y-axis, its x-coordinate is 0; for example, (0, 5)

Linear Equation: the equation of a line. It may have one or two variables.

Solutions of linear equations: all of the points whose coordinates (x, y) make the equation a true statement.

To determine if a point is on a line...

OR

To determine whether an ordered pair is a solution to an equation...

Plug the coordinates of the point into the equation of the line and see if you get a true statement.

Completing ordered pair solutions: Plug the value that you know into the equation and solve for the missing one.

Note: (3,) means $x = 3$ and you need to find y

(, 5) means $y = 5$ and you need to find x

Scatter diagram: Real data is plotted even though it does not make an exact line and then the graph is used to look for patterns.

