

**Algebra 3-3: The Coordinate Plane**

**Warm-Up**

Solve. Show your steps. Check.

1.  $-3x = 15$   
 $\div -3 \div -3$   
 $x = -5$

2.  $-4 + m = 16$   
 $+4 +4$   
 $m = 20$

3.  $6 - n = 15$   
 $-6 -6$   
 $-n = 9$   
 $\div -1 \div -1$   
 $n = -9$

4.  $t - 4 = -3$   
 $+4 +4$   
 $t = 1$

A **plane** is a flat surface that stretches forever in all directions. The **coordinate plane** looks like 2 lines that intersect at a 90° angle.

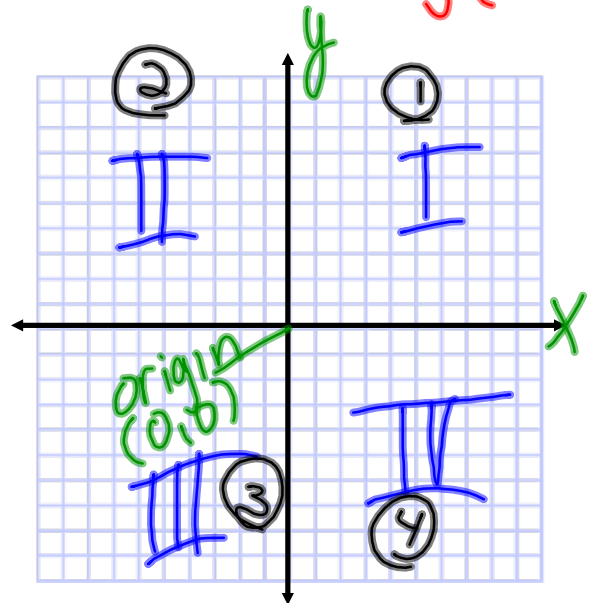
**Label:**

x-axis

y-axis

Origin

4 Quadrants



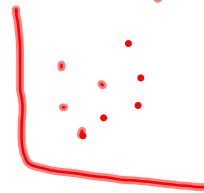
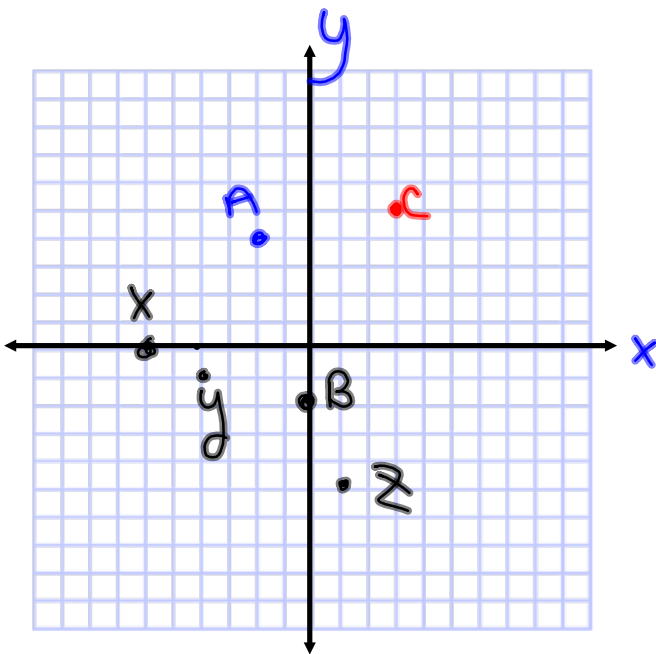
In order to locate a point on the Coordinate Plane, we need a x and a y coordinate. When we **write coordinates**, we put the x coordinate first, then a comma and lastly, the y coordinate. We always put the coordinates inside ( , ).

**Example:**

Plot the following points.      A (-2, 4)      B (0, -2)      C (3, 5)

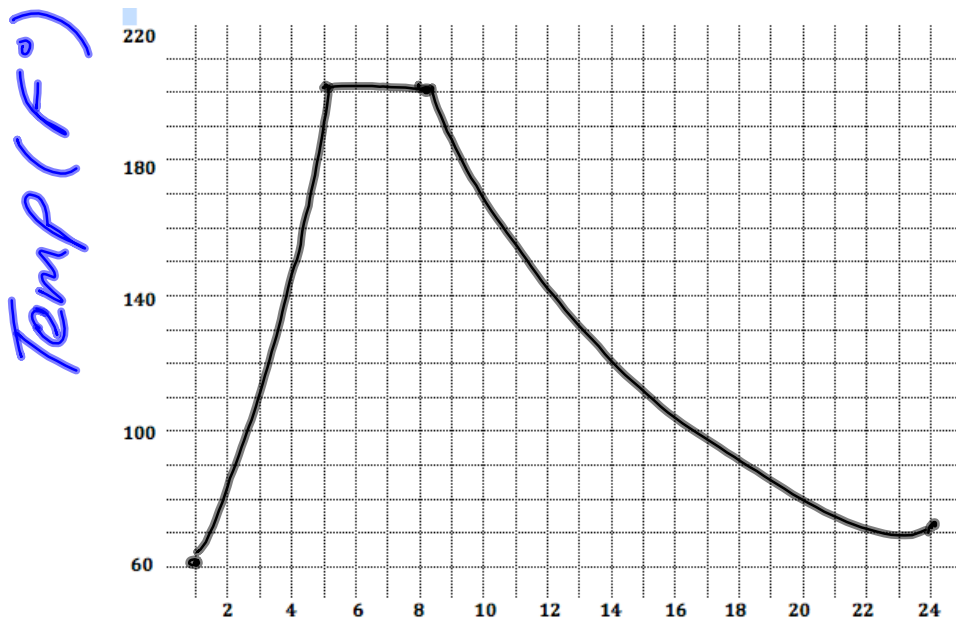
Name the coordinates.      X (-6, 0)      Y (-4, -1)      Z (1, -5)

A **scatterplot** is a type of graph that plots data points



The graph below shows the temperature (in degrees Fahrenheit) of water in a pot on a stove over time (in minutes).

1. Label the axes.
2. Write a story (3 sentences) that explains the graph. Be sure to mention times and temperatures of important points on the graph.



Minutes

The temp is going up between 0 + 5 minutes. The temp stays the same for 3 minutes. Gradually, it decreases in temp until 24 minutes.