**Linear Functions and their Graphs**

1. A point where a graph intersects the x-axis is called a(n) _____.

2. If the x-intercept is $x = -2$, and the y-intercept is $y = 3$ for a particular line, write each intercept as an ordered pair, plot each on a coordinate plane, and draw the line determined by these points. Be sure to label your axis.

3. Give the coordinates of the labeled points, and state the quadrant or axis where it is located.
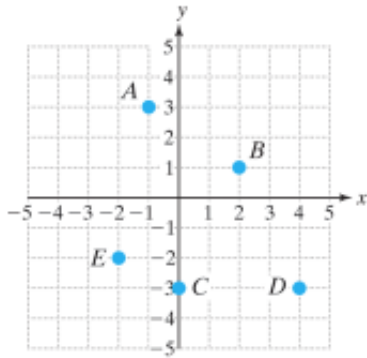
4. Determine of the ordered pair is a solution for the given equation.

$$x = \frac{1}{3}y + 1, \quad (-1, 0), \quad (2, 3), \quad (-1, -6)$$

5. Complete the table, then graph the line defined by these points.

$3x - 2y = 4$

x	y
0	
	4
-1	
	0

6. Graph the following linear equations, by first finding their x and y-intercepts.

$$5x + 3y = 15 \qquad\qquad y = -2x + 2 \qquad\qquad y = \frac{5}{3}x + 1 \qquad\qquad x = -3y$$

7. A business owner buys several new computers for the office for \$1500 each. The accounting office depreciates each computer by \$300 per year. The value y (in \$) for each computer can be represented by $y = 1500 - 300x$, where x is the number of years after the purchase.

    a. How much will a computer worth 2 years after purchase?

    b. After how many years will the computer be worth only \$300?

    c. Determine the y-intercept, and interpret its meaning in the context of this problem.

    d. Determine the x-intercept, and interpret its meaning in the context of this problem.

8. Identify each as either a vertical or horizontal line, then sketch their graph.

$$x = -4 \qquad\qquad y = 3 \qquad\qquad 2x = 8 \qquad\qquad 3y + 4 = 3$$