

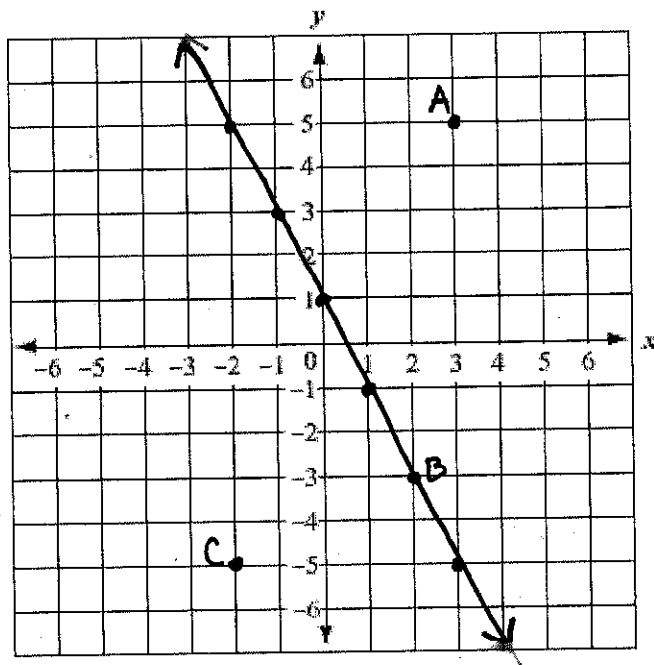
Solutions to Linear Equations Notes 5/5/15

Graphically:

- An ordered pair that is on the graph of the function

$$y = -2x + 1$$

$$\text{slope} = \frac{-2}{1}$$
$$y\text{-intercept} = (0, 1)$$



Are these solutions to the function?

A (3, 5) ← No

B (2, -3) ← Yes

C (-2, -5) ← No

Algebraically

• An ordered pair that produces a true statement when the x - and y -coordinate values are substituted for the variables in an equation

$$y = -2x + 1$$

$$\begin{array}{l} (3, 5) \\ \uparrow \quad \uparrow \\ x \quad y \end{array} \quad \begin{array}{l} 5 = -2(3) + 1 \\ 5 = -6 + 1 \\ 5 = -5 \\ \text{NO} \\ \text{(Not a solution)} \end{array}$$

$$\begin{array}{l} (2, -3) \\ \uparrow \quad \uparrow \\ x \quad y \end{array} \quad \begin{array}{l} -3 = -2(2) + 1 \\ -3 = -4 + 1 \\ -3 = -3 \\ \text{Yes} \\ \text{(Yes a solution)} \end{array}$$

$$3x - y = 7$$

$$\begin{array}{l} (3, 4) \\ \uparrow \quad \uparrow \\ x \quad y \end{array} \quad \begin{array}{l} 3(3) - (4) = 7 \\ 9 - 4 = 7 \\ 5 = 7 \\ \text{NO} \\ \text{(Not a solution)} \end{array}$$

$$\begin{array}{l} (1, -4) \\ \uparrow \quad \uparrow \\ x \quad y \end{array} \quad \begin{array}{l} 3(1) - (-4) = 7 \\ 3 + 4 = 7 \\ 7 = 7 \\ \text{Yes} \\ \text{(Yes a solution)} \end{array}$$