Chapter 8 section 2
Graphing Linear Equations

$y = x + 1$ equation two variables

Evaluate this equation with the ordered pair (x, y) = (1, 2)

$y = x + 1$ The x value is 1 and the y value is 2.

$2 = 1 + 1$ Simplify

$2 = 2$

Since this statement is true, 2 = 2, the ordered pair (1, 2) is a solution to the equation $y = x + 1$

Try:
$y = 2x + 5$ Which ordered pair is a solution to this equation? a) (-3, -2) b) (5, 15)

The Graph of an Equation. set of all ordered pairs that are solutions of the equation.

$y = 2x + 5$

The value of y depends on the value of x, so y is the dependent variable and x is the independent variable

Horizontal axis Independent variable x
vertical axis Dependent variable y

To find the ordered pairs, use a table of values

$y = 2x + 5$

x	y	(x, y)

Choose a number for x, put into the table, then compute the value of y by evaluating the equation when x is the value chosen.

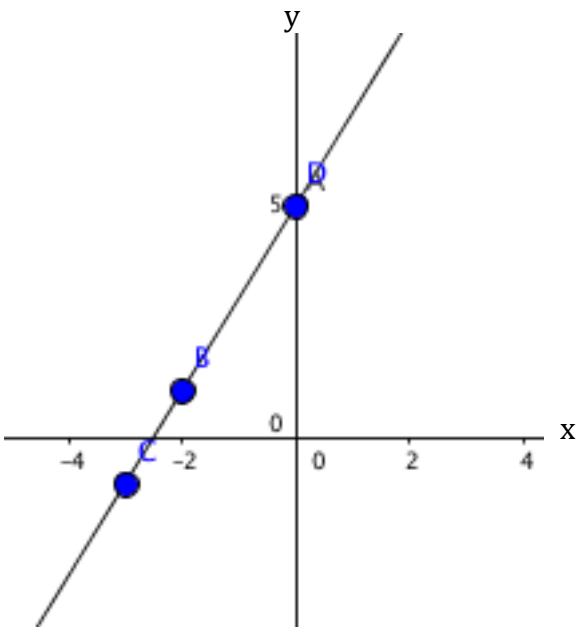
choose x as -3. Replace the x value in the equation by 2 and evaluate.
$y = 2\ x + \ 5$
$y = 2(-3) + 5$
$y = \ - 6 \ \ + 5$
$y = -1$
Check table below.

$y = 2x + 5$

x	y	(x, y)
-3	-1	(-3, -1)
-2	1	(-2, 1)
0	5	(0, 5)

Choose two more values for x so that there will be 3 ordered pairs.

Plot the points on the coordinate system and draw a line connecting the dots with a straight edge.



Find the value of 'k' so that the point (2, k) is on the graph of the equation, y = 3x – 2

Linear equation: the graph of y = mx + b where , m and b are constants, will always be a line

Graph: $y = -\frac{3}{2}x + 4$

When choosing points for the table, be wise.