

Name _____
Date _____ Period _____

The dependent Variable is represented by the letter y.

The y-value depends on what # you put in for x.
So we say the y depends on x.

Key words:

Vertical Axis
(Up and Down)

The independent Variable is represented by the letter x.

The x-value causes the y-value to change.

As the x increases, or decreases the y will change.

Key words:

Horizontal Axis
(Left and Right)

Example 1:

$$y = mx + b$$

$$y = \frac{3}{5}x - 8$$

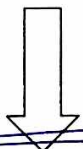
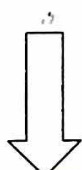
$$m = \frac{3}{5}$$

slope

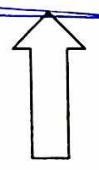
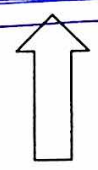
$$b = -8$$

y-intercept

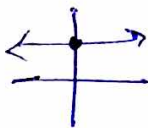
Watch for the NEG. signs!!



$$y = mx + b$$



Example 2:



$y = 9$
same as $y = 0x + 9$

$m = 0$
 $b = 9$

The Coefficient of x is the # next to x.

m is called:

slope
rate of change

Key words:

The Constant is the # by itself.

b is called:

y-intercept
start point

Key phrases:

Example 3:



$x = 7$!!!
(hey, there is no y!)

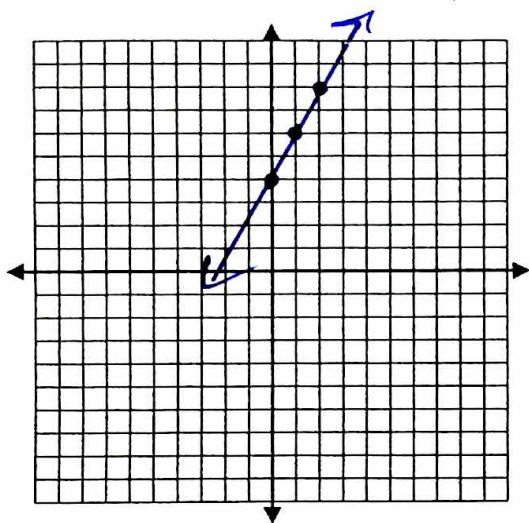
$m = \text{undefined}$
 $b = \text{undefined}$

The graph of the equation $y = mx + b$ is a line whose slope is m and whose y-intercept is b .

State the slope and the y-intercept. Then graph the line.

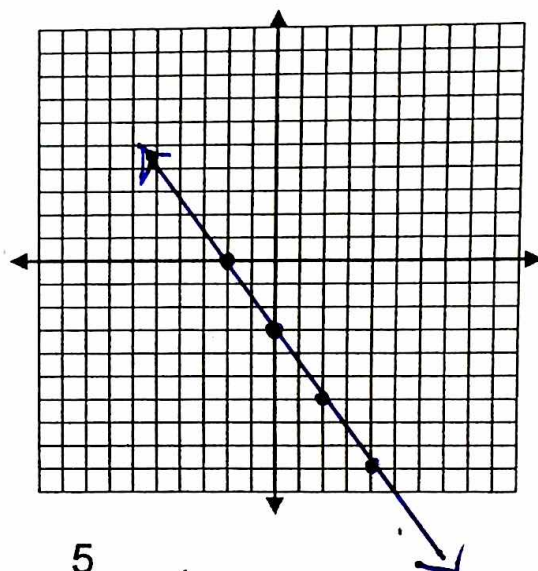
5. $y = 2x + 4$

$m = 2$ or $\frac{2}{1}$ $b = 4$



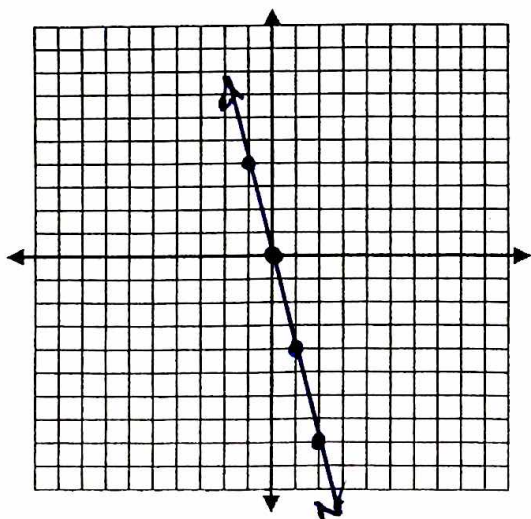
6. $y = -\frac{3}{2}x - 3$

$m = -\frac{3}{2}$ or $-\frac{3}{2}$ $b = -3$



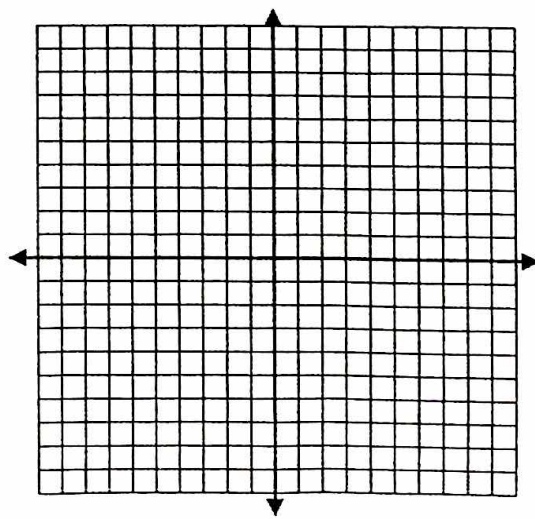
7. $y = -4x + 0$

$m = -4$ or $-\frac{4}{1}$ $b = 0$



8. $y = \frac{5}{3}x - 4$

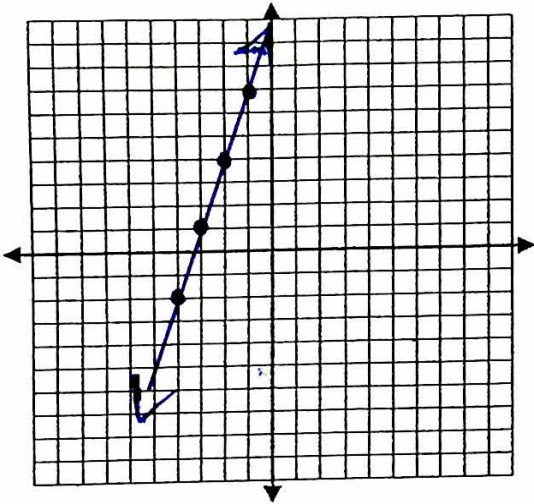
$m =$ _____ $b =$ _____



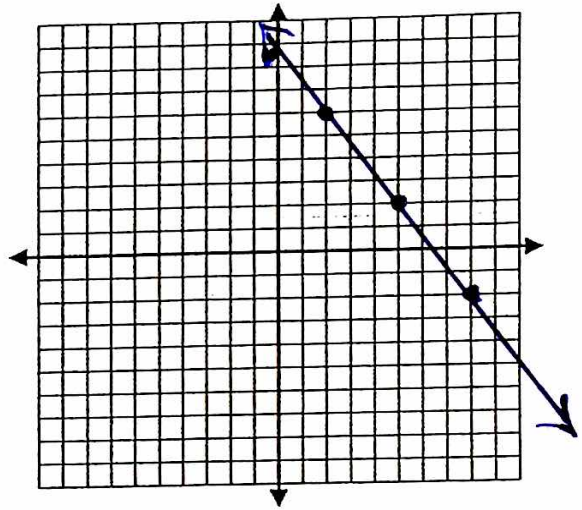
TOPIC # 6 - 6: Graphing Lines in $y = mx + b$ Form

Start at the given point $\hat{=}$ draw a line with the given slope.
 Through the given point, draw a line with the given slope.

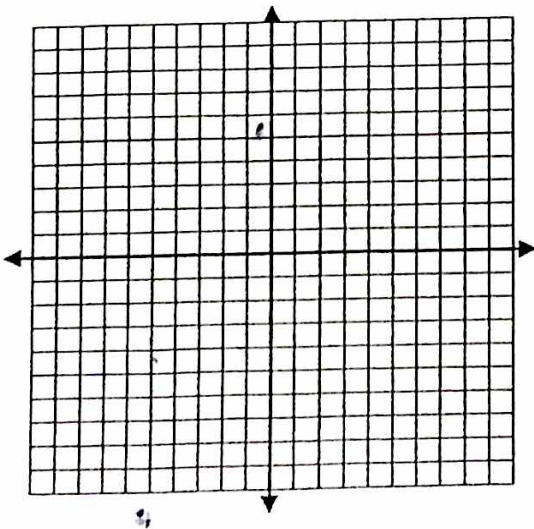
1. $A(-3, 1)$: slope = 3 or $\frac{3}{1}$
 start pt $\begin{matrix} x, y \\ m \end{matrix}$



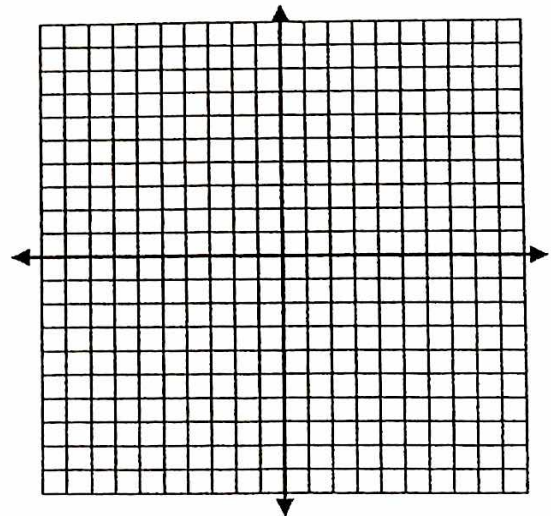
2. $B(5, 2)$; slope = $-\frac{4}{3}$



3. $C(-3, -5)$; slope = -4



4. $D(2, -4)$; slope = $\frac{1}{3}$



NEW

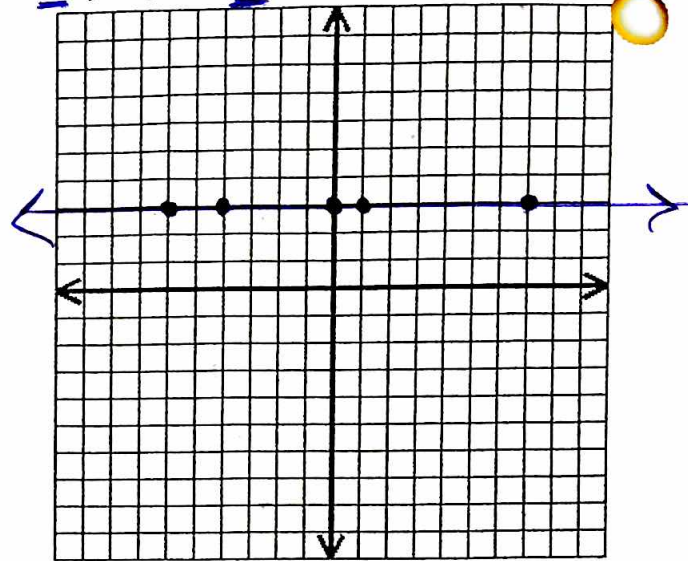
5. Plot the points $(7,3)$, $(-4,3)$, $(1,3)$, $(-6,3)$

Draw the line. What do you notice about the points?

They all have the same y-values.

Equation: $y = 0x + 3$ or $y = 3$

$m = 0$ $b = 3$



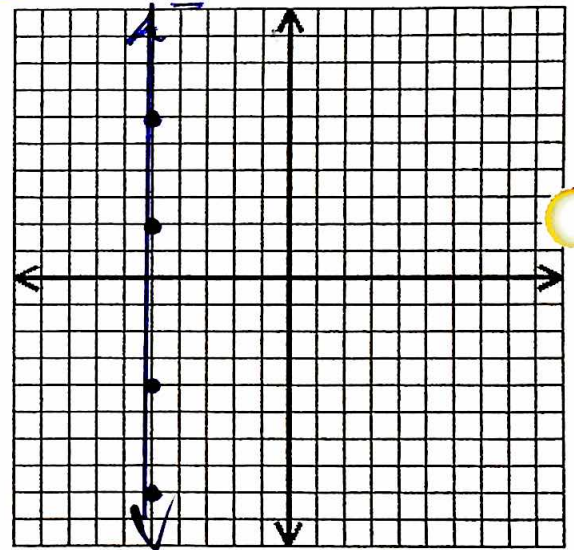
6. Plot the points $(-5,2)$, $(-5,-4)$, $(-5,6)$, $(-5,-8)$.

Draw the line. What do you notice about the points?

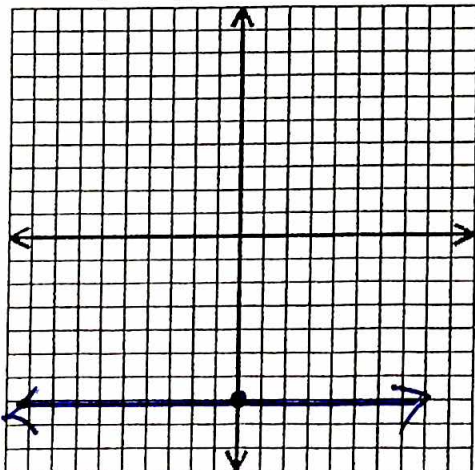
They all have the same x-values

Equation: $x = -5$

$m = \text{und}$ $b = \text{und}$



7. Graph $y = -7$



8. Graph $x = 2$

