4.3 Slope-Intercept Form

Date: _____

Slope-Intercept Form: $y = mx + b$.

The "m" is the slope.

The "b" is the y-intercept (0, #)

Identify the slope and y-intercept of the line with the given equation.

Ex.1: a.) $y = 3x + 4$ $y = mx + b$

m = 3 b = 4 (0, 4)

b.) $3x + y = 2$

$-3x \quad -3x$

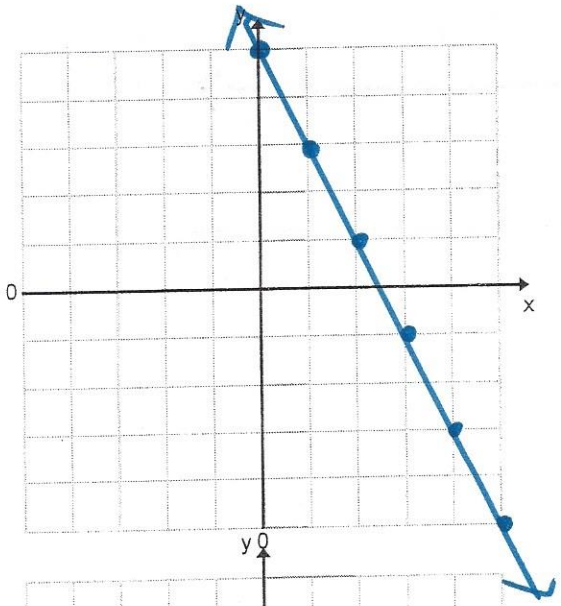
$y = -3x + 2$

m = -3 b = 2

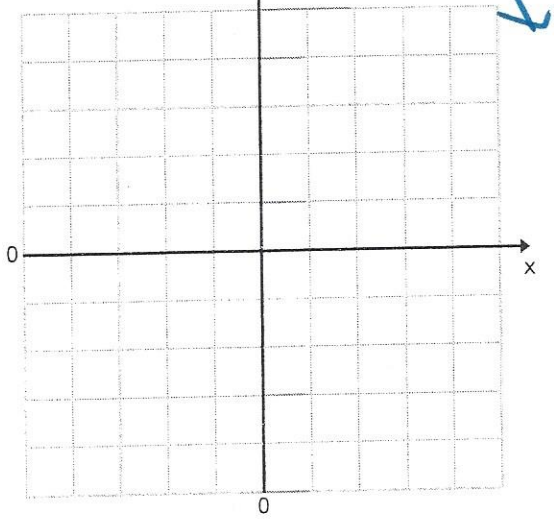
Ex.2: Graph the equation $y = -2x + 5$

② $m = -\frac{2}{1}$

① $b = 5$ (0, 5)



Ex.3: Graph the equation $2x + y = 3$



$y = mx + b$

Write an equation for the line with the given slope that passes through the given point.

$m = \frac{1}{2}, (0,5)$

$y = \frac{1}{2}x + 5$

$m = -4, (0,2)$

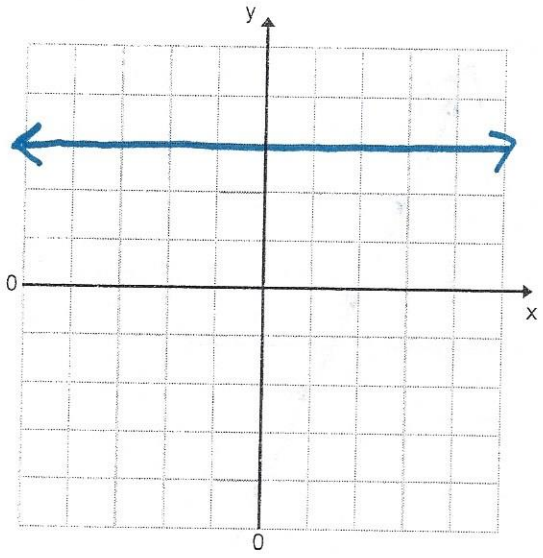
$y = -4x + 2$

$m = \frac{-5}{2}, (0,-4)$

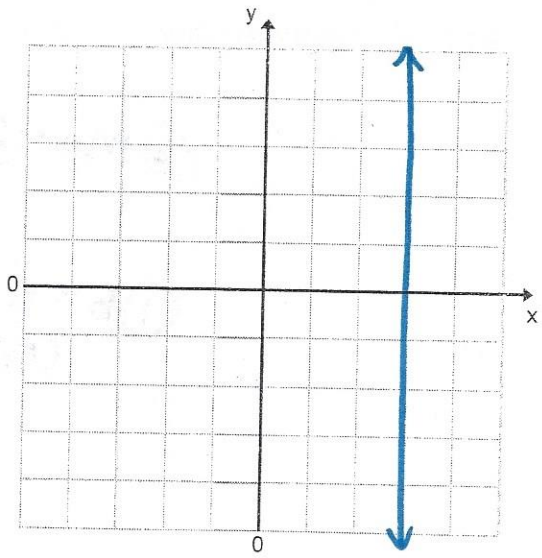
$y = \frac{-5}{2}x - 4$

Special Graphs:

$y = 3$



$x = 3$



4.3 Slope Intercept Form Day 2

Slope-Intercept Form: _____ where m is _____ and b is _____

If you are given the m and the b then just fill in the values into the equation.

Ex.1: Write an equation of the line with a slope of -2 and a y-int. of 5.

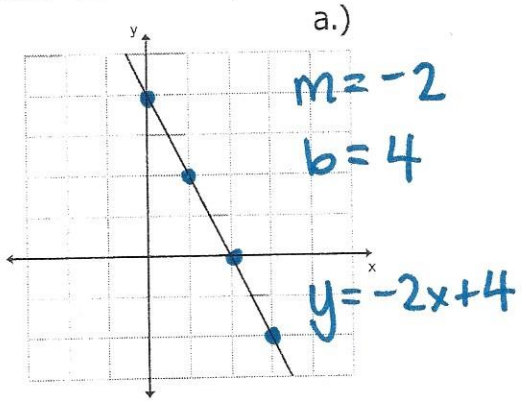
E = _____

Ex.2: Write an equation of the line with a slope of $\frac{3}{4}$ and a y-int. of -3.

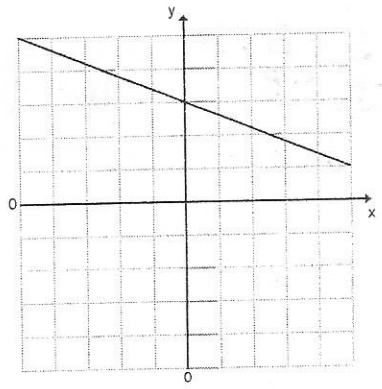
E = _____

Ex.3: Write an equation of the line shown:

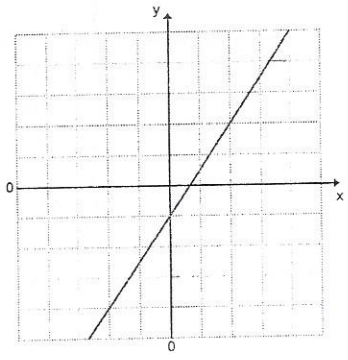
a.)



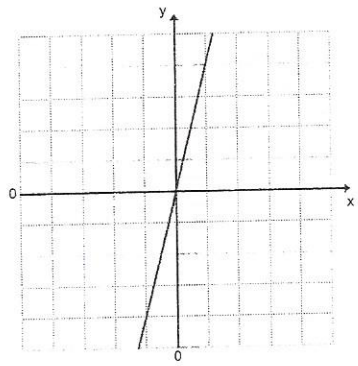
b.)



c.)



d.)



$y = mx + b$

Write an equation of the line in slope-intercept form that passes through the given point and has the given slope.

Ex. 1) (-1, 3); m=-4

x y

$3 = -4(-1) + b$

$3 = 4 + b$

$-4 \quad -4$

$b = -1$

$y = -4x - 1$

Ex. 2) (6, 3); m=2

x y

$3 = 2(6) + b$

$3 = 12 + b$

$-12 \quad -12$

$b = -9$

$y = 2x - 9$

~~Ex. 3) (6,3); m=-2~~

Write an equation of the line that passes through the given points.

Ex. 4) (-2, 5) (2, -1)

x y x y

$m = \frac{5-(-1)}{-2-2} = \frac{6}{-4} = \frac{-3}{2}$

$5 = \frac{-3}{2}(-2) + b$

$5 = 3 + b$

$-3 \quad -3$

$b = 2$

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

Ex. 5) (1, -2), (-5, 4)

Ex. 6) (3, 0), (2, -4)

Ex. 7)