5.1 NOTES

"WRITE LINEAR EQUATIONS IN SLOPE-INTERCEPT FORM"

Example #1 → Write an equation of the line with the given slope and y-int.

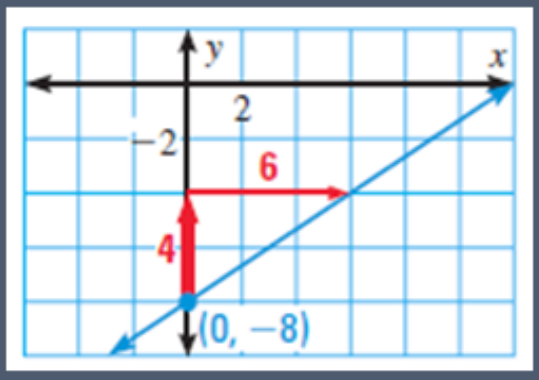
Slope = 2/3 and y-int. = −9

$y = mx + b$ ← slope

$y = \frac{2}{3}x - 9$

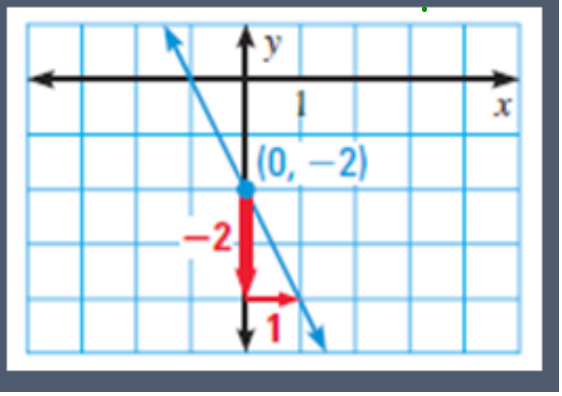
Example #2 → Write an equation of the line shown in slope-intercept form.

a.



$m = \frac{2}{3}$ $b = -8$ $y = \frac{2}{3}x - 8$

b.



$m = -2$ $b = -2$ $y = -2x - 2$

$y = -2 - 2x$

Example #3 → Write an equation of the line that passes through the given points.

$(2, -7), (0, -5)$

x_1 y_1 x_2 y_2

$m = -1$

$b = -5$

$\frac{y_2 - y_1}{x_2 - x_1}$ $\frac{-5 + 7}{0 - 2} = \frac{2}{-2} = -1$

$y = -1x - 5$

$y = -x - 5$

Example #4 → Write an equation for the linear function f with the given values.

$f(x) \rightarrow y$

$y = 7$

$f(0) = 7$, $f(3) = 1$

$x = 0$

$(0, 7)$

When x is 0, y is 7

When x is 3, y is 1

$(3, 1)$

$\frac{y_2 - y_1}{x_2 - x_1} = \frac{1-7}{3-0} = \frac{-6}{3}$

$m = -2$

$b = 7$

$y = -2x + 7$

Example #5 → Write an equation that represents the linear function shown in the table.

x	$f(x)$
-2	-6
-1	-3
0	0

y

(-2, -6)

(-1, -3)

(0, 0)

$\frac{-3-0}{-1-0} = \frac{-3}{-1}$ $m = 3$ $b = 0$

$y =$ $f(x) = 3x + 0$

HOMEWORK:

Pages 286-289
#'s 4-28 even,
32, 36, 42, 46,
48, 58, 62