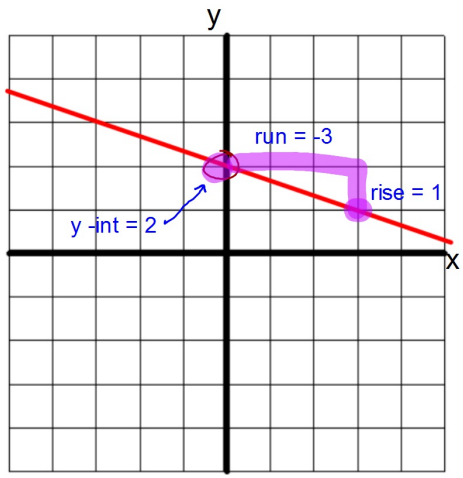
Write the equation of this line in Slope-Intercept Form:



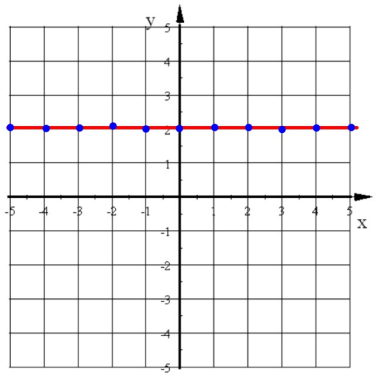
$y = mx + b$

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

$b = 2$

$y = -\frac{1}{3}x + 2$

Write the equation of this line in Slope-Intercept Form



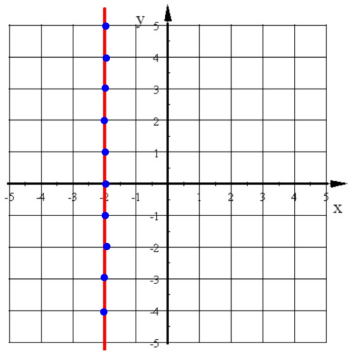
The slope is zero and the y-intercept is 2:

y = 0x + 2

y = 2

Every point on the line has a y-coordinate of 2!

Write the equation of this line.



Slope-Intercept Form:

Can't be written in this form

Point-Slope Form:

Can't be written in this form

Every point on this line has an x-coordinate of -2!

$x = -2$

Norma won a $100 prize. Her dad put it in a savings account for her then she added $5 each week to the savings account. Model this situation with an equation.

EQ: $y = 5x + 100$

y = Amount $

x = # weeks

When slope-intecept models a real situation

$y = mx + b$

y-intercept:
Initial amount

Slope:
Rate of Change
in the situation

You can now finish Hwk #26 Sec 6-2

Pages 294-295

Problems 6, 7, 22-25, 46, 56, 58, 70, 71

Due Thursday

What situation could be modeled by this equation?

$y = 12x + 20$

Emad has 20 cats. He gets 12 cats every week.

x = # of weeks.

y = Total # of cats after x weeks.

Find the y-intercept and x-intercept of this line:

$y = 2x + 3$

Since this line is written in Slope-intercept Form the y-intercept is +3

Since an x-intercept is a point on the x-axis y must be zero. One way to find x-intercepts is to make y=0 and just solve for x:

$0 = 2x + 3$
$-3 \quad -3$

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

x-int $= -\frac{3}{2}$ or -1.5

Find the slope and y-intercept of each line.

1. $y - 4 = -2(x + 8)$

$m = -2$

change to Slope-Intercept Form

$y - 4 = -2x - 16$

$+4 \quad +4$

$y = -2x - 12$

$y\text{-int} = -12$

Or make x=0 and find y.

$y - 4 = -2(0 + 8)$

$y - 4 = -2(8)$

$y - 4 = -16$

$+4 \quad +4$

$y\text{-int} = -12$

2. $3x - 9y = 18$

To find both the slope and y-intercept you could change this equation into Slope-Intercept Form:

$3x - 9y = 18$

$-3x \quad -3x$

$\frac{-9y}{-9} = \frac{18 - 3x}{-9}$

$y = -2 + \frac{1}{3}x$

$m = \frac{1}{3}$

$b = -2$

If all you wanted to find was the y-intercept you could replace x with zero and find y.

$3(0) - 9y = 18$

$\frac{-9y}{-9} = \frac{18}{-9}$

$y = -2$

Write an equation to model each situation.

1. You have 75 songs on your i-pod right now and plan to download 4 more each week.

Slope-Intercept Form

$T = 4w + 75$

w = # of weeks

T = Total # of songs after w weeks.

2. At the ballgame you bought 3 hot dogs and 4 Cokes for $25.25

Standard Form

$3H + 4C = 25.25$

H = cost of a hot dog

C = cost of a Coke