

example.

graph:

$$-2x + 4y + 8 = 0 \quad -8$$

$$-2x + 4y = -8 + 2x$$

$$4y = \frac{2x - 8}{4}$$

$$y = \frac{2}{4}x - \frac{8}{4}$$

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

$$y = mx + b$$

$$y = ax + k$$

x	y
0	?
2	?

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

$$x = 0$$

$$y = \frac{1}{2}(0) - 2$$

$$y = -2$$

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

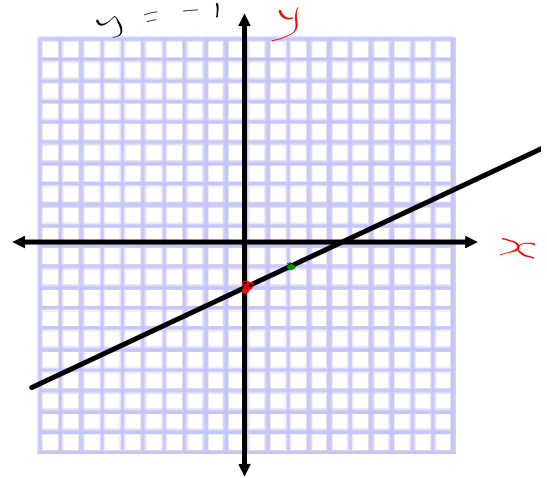
$$x = 2$$

$$y = \frac{1}{2}(2) - 2$$

$$y = 1 - 2$$

$$y = -1$$

x	y
0	-2
2	-1



Lesson 2: Determining the Equation of a Line

Properties of Lines

$$y = mx + b$$

$$y = ax + k$$

$$\# 3$$

$$y = 3 - x$$

$$y = -x + 3$$

x	y
0	3
-1	4

$$y = -x + 3$$

$$y = -0 + 3$$

$$y = 3$$

$$y = -x + 3$$

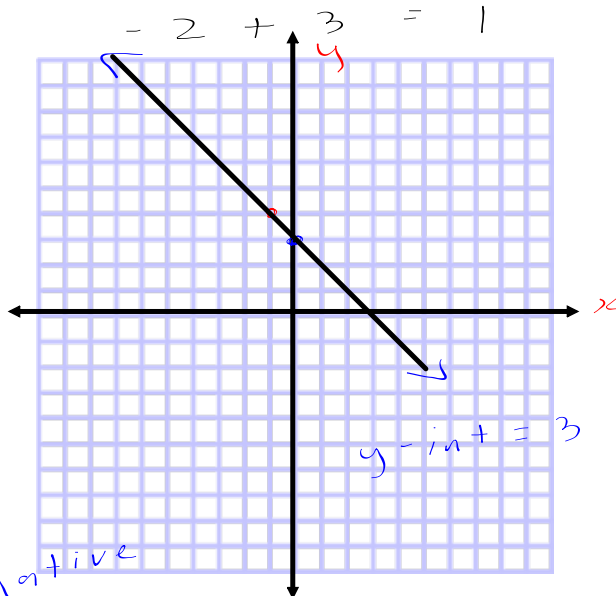
$$y = -(-1) + 3$$

$$y = 1 + 3$$

$$y = 4$$

$$3 - 2 = 1$$

$$-2 + 3 = 1$$



★ negative slope

From L to R, line going down

★ positive slope

From L to R, line going up

Determining the Equation of a Line (Find a's and k's value)

Line one has

x-intercept -2

and point y-intercept of -4. Find

$$y = ax + k$$

step i. do a sketch

step ii. find a slope formula

$$a = \frac{y_2 - y_1}{x_2 - x_1}$$

$$a = \frac{-4 - 0}{0 - (-2)}$$

$$a = \frac{-4}{2}$$

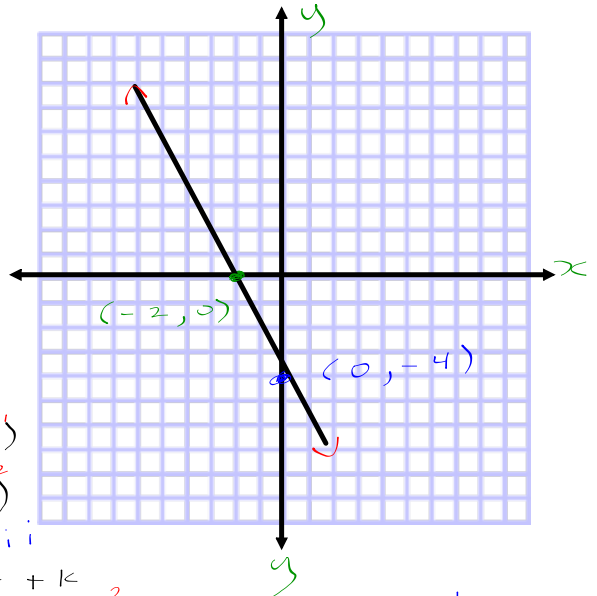
$$a = -2$$

for final answer.

sub in $a = -2$
 $k = -4$

$$y = ax + k$$

$$y = -2x - 4$$



Label points

$P_1(-2, 0)$

$P_2(0, -4)$

step iii

$$y = ax + k$$

$$y = -2x + k$$

step iii find k by temporarily substituting a point on line

$P(-2, 0)$

$$y = -2x + k$$

$$0 = -2(-2) + k \quad \text{evaluate}$$

$$0 = 4 + k$$

$$k = -4$$

solve for k
isolate k
opposite operation

H mwk

p 139 # 4 P 137

p 144 # 1 # 2

p 140 # 7 a) P 139 # 5