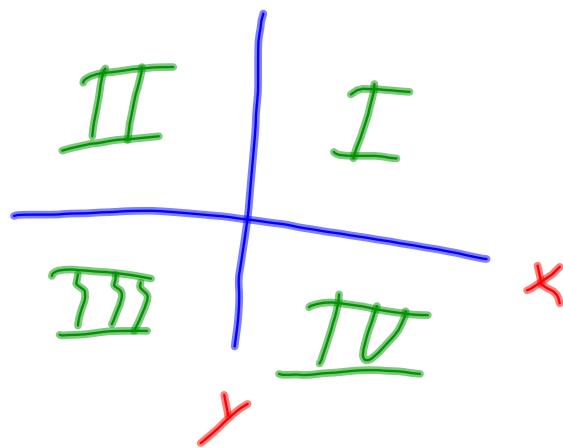


3-1 Coordinate plane



I = x, y are positive

II =

III =

IV =

(x, y) like $(4, 3)$
ordered pair or
coordinates

Ex 2

Are $(0, -12)$, $(1, 9)$, $(2, -6)$
solutions of:

$$3x - y = 12$$

Graphing linear functions

Choose 2 points. Always choose x .

$$f(x) = -2x - 4$$

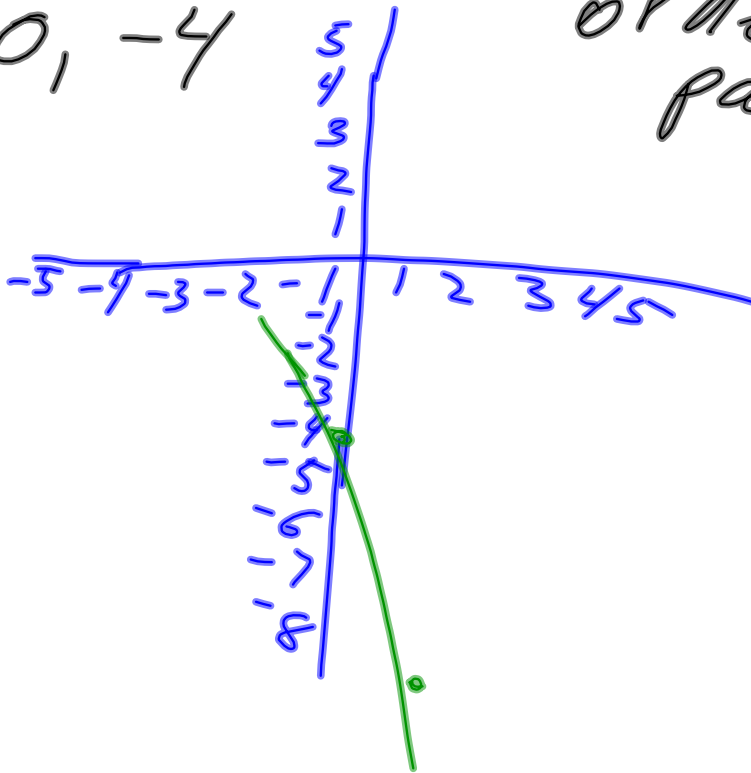
x	Calculation	y	ordered Pair (x,y)
2	$f(2) = -2(2) - 4$	-8	$(2, -8)$
0	$f(0) = -2(0) - 4$	-4	$(0, -4)$

plot the ordered pairs

$2, -8$

$0, -4$

plot the
ordered
pairs



slope intercept form of a linear equation

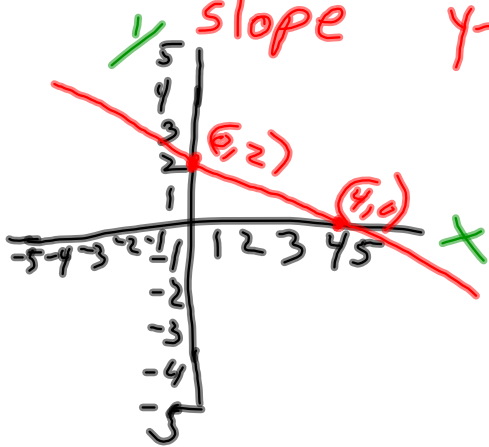
$$y = mx + b$$



slope



y-intercept



Pull 2 points and write the equation of the line in slope intercept form

$$y = \underline{4}x - \underline{6}$$

what is slope?
what is y-intercept?

Graph it:

Ⓐ Create a table

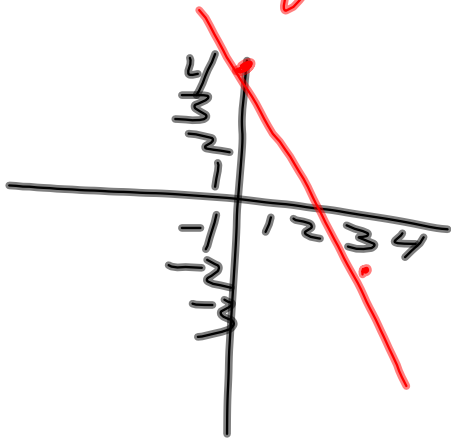
or:

Ⓑ Plot the y-intercept
and then visually count
using the slope.



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

graph it



x	y
0	4
3	-1

Standard Form of a Linear Equation

$$Ax + By = C$$

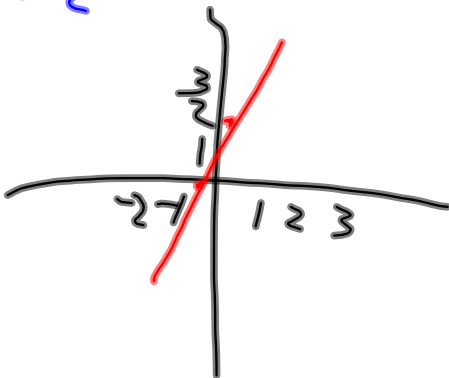
*A is always positive
A and B are coefficients

- Ⓐ Put 0 in for x and find the y-intercept
- Ⓑ Put 0 in for y and find the x-intercept
- Ⓒ Graph the x and y intercepts

$$5x - 2y = -4$$

$$5(0) - 2y = -4$$

$$y = 2$$



$$5x - 2(0) = -4$$

$$5x = -4$$

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

x	y
0	2
$-\frac{4}{5}$	0

$$5x - 2y = -4$$

$-5x$ $-5x$

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

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

Graph $x + y = -2$

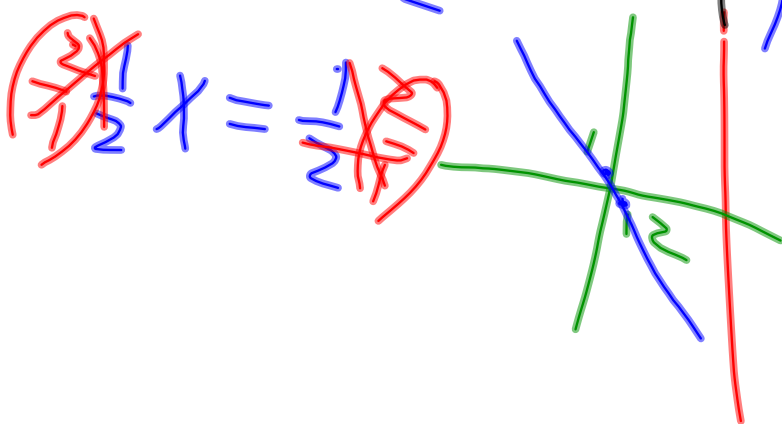


x	y
0	-2
-2	0

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

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

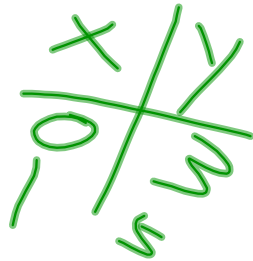
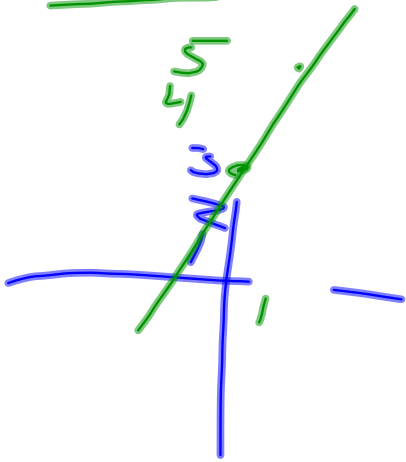
$$\frac{1}{2}x + 0 = \frac{1}{2}$$



$$\left(\frac{2}{1} \right) \frac{1}{2}x = \frac{1}{2}$$

$$y - 3 = -2x \quad \text{no form}$$

$$\boxed{2x + y = 3} \quad y = -2x + 3$$



graph $y = x^2$

Is it linear?

x	y
0	0

Let's do Ex 3 on p. 121