

Algebra I Monday 12-3-12 CLASS NOTES

Ch. 4-6 Slope-Intercept Form

↓
m

↓
y-intercept

→ of a LE

Ex $2x + 5x - 4y - y + 8 = -2$

$Ax + By = C$ SF Form
↑ $A > 0$, A, B, or C are not fractions

$7x - 5y = -10$ SF ✓

$y = mx + b$

SF Form $m = \text{slope}$
 $b = (0, b)$
↑
y-int.

↑
"y by itself form"

function form $\Rightarrow y = f(x) = mx + b$

(ex)

$$7x - 5y = -10$$

$$-7x$$

$$-7x$$

Put in
 $y = mx + b$

$$\begin{array}{r} -5y = -7x - 10 \\ \hline -5 \end{array}$$

$$\frac{7x}{5} = \frac{7x}{5}$$

$$y = \frac{7}{5}x + 2$$

$$y = mx + b$$

$$m = \frac{7}{5} = \frac{\text{rise}}{\text{run}}$$

$$b = 2 \Rightarrow (0, \underset{y\text{-int}}{2})$$

"begin at b", "move by m"

Ex slope of $-\frac{2}{3}$, yint of 6

$$y = -\frac{2}{3}x + 6$$

$$y = mx + b$$

Ex $-4x + 2y = 6$

$+4x$ $+4x$

Put in
 $y = mx + b$
 form,
 then graph

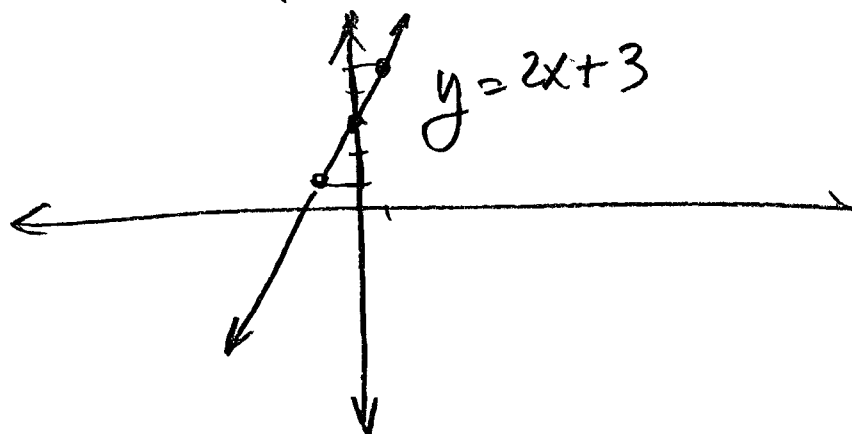
$$\frac{2y}{2} = \frac{4x}{2} + \frac{6}{2}$$

$$y = 2x + 3$$

$$y = mx + b$$

$\downarrow$ $\downarrow$

$\frac{2}{1}$ $(0, 3)$



x, y
 (1, 2), (3, 4) "y=mx+b twice"
 $y = \textcircled{m}x + \textcircled{b}$

$$\frac{4-2}{3-1} = \frac{2}{2} = \textcircled{1=m}$$

$$\checkmark y = \checkmark 1x + b$$

$$2 = 1 \cdot 1 + b$$

$$2 = 1 + b$$

$$\textcircled{1=b}$$

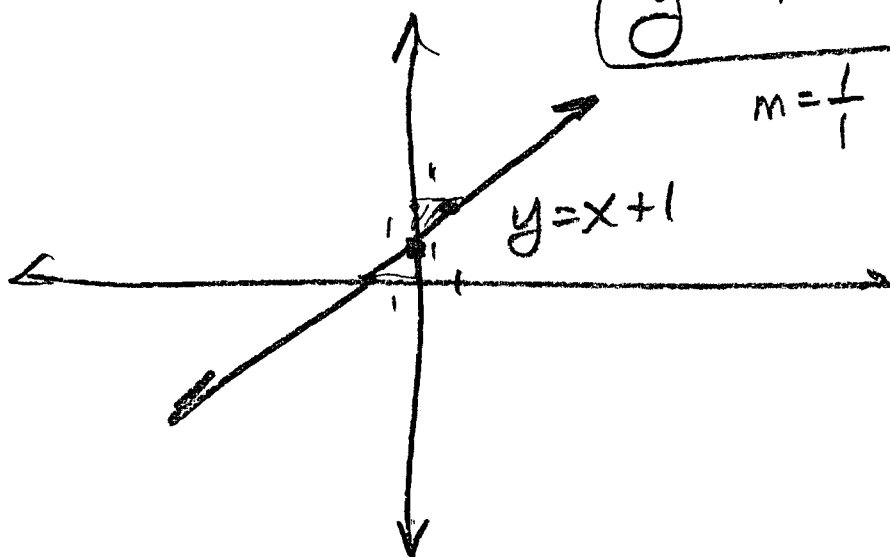
$$y = mx + b$$

$$\boxed{y = 1x + 1} \text{ NOOB}$$

or

$$\boxed{y = x + 1}$$

$$m = \frac{1}{1} \quad b = (0, 1)$$



(Ex) $\begin{array}{c} \text{---} \downarrow \\ -3x + 4y - 2 = 0 \\ +3x \qquad +3x \end{array}$

Put in $y = mx + b$ form, then graph

$\begin{array}{c} \downarrow \\ 4y - \cancel{2} = 3x \\ \qquad \quad +2 \end{array}$

$$\frac{4y}{4} = \frac{3x}{4} + \frac{2}{4}$$

$$y = \frac{3}{4}x + \frac{1}{2}$$

$m = \frac{3}{4}$ $(0, \frac{1}{2})$

$$y = mx + b$$

