

Warm-Up: until 10:44

1) Find the slope $\frac{y_2 - y_1}{x_2 - x_1}$

a) (3, 6) (9, 4)

b) (-2, 5) (13, 7)

2) Write an equation in slope intercept form

a) $m = 4$ $b = 7$

b) $y\text{int} = -3$ slope = $\frac{1}{2}$

3) Graph equation in part b of #2.

3.2/33's

a)
$$\frac{-4}{3} \downarrow$$
$$\downarrow$$

b)
$$\downarrow -4 \text{ rise}$$
$$\rightarrow 3 \text{ run}$$

b) $(-8, 17)$ moving.



$$f(x) = 10$$
$$y = 10$$

D: \mathbb{R}
R: 10

$\frac{3}{2}$

$$20R + 50B = 650$$

 \uparrow
25

$$\begin{array}{r} 500 + 50B = 650 \\ - 500 \qquad \qquad - 500 \\ \hline \end{array}$$

$$\frac{50B}{50} = \frac{150}{50}$$

$$B = 3$$

3.4 Standard form

$$Ax + By = C$$

$$\frac{20x}{a} + \frac{50y}{b} = \frac{650}{c}$$

Slope: $-\frac{A}{B} = \frac{-20}{50} = \boxed{-\frac{2}{5} = m}$

Yint: $\frac{C}{B} = \frac{650}{50} = \boxed{13} \rightarrow D$

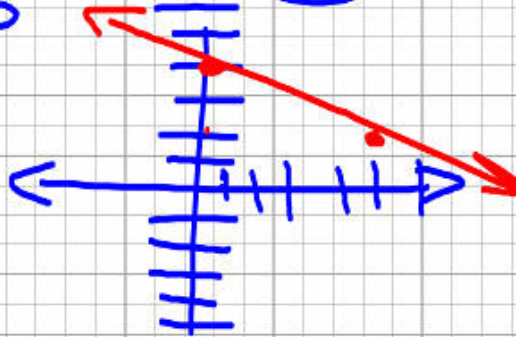
Xint: $\frac{C}{A} = \frac{650}{20} = \frac{65}{2} \text{ or } 32\frac{1}{2}$

ex $2x + 5y = 20$

slope: $-\frac{A}{B} = \boxed{-\frac{2}{5}}$

$\frac{A}{C}$ xint: $\frac{20}{2} = 10$

$\frac{B}{C}$ yint: $\frac{20}{5} = 4$



ex

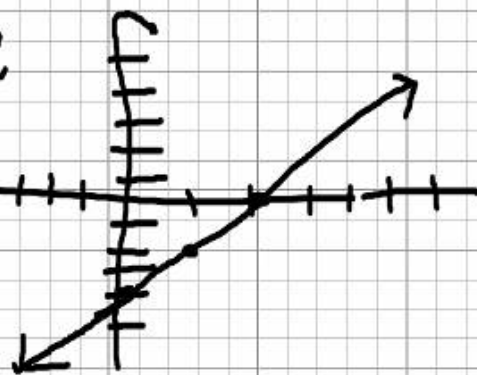
$$6x - 3y = 12$$

graph

$$\text{Slope} = 2$$

$$y\text{int} = -4$$

$$x\text{int} = 2$$



3.5 Point-Slope form

Slope intercept form:

$$y = mx + b$$

Standard form:

$$Ax + By = C$$

Point-Slope form:

$$y - y_1 = m(x - x_1)$$

Ex Write equation in standard form for $(x_1, y_1) (x_2, y_2)$

Step 1: Find slope

$$\frac{y_2 - y_1}{x_2 - x_1} = \frac{-1 - 5}{6 - 3} = \frac{-6}{3} = \boxed{m = -2}$$

Step 2: Plug slope + 1 pt into P.S. for m

$$y - y_1 = m(x - x_1)$$

$$\star y - 5 = -2(x - 3)$$

Step 3: Change into Standard form

$$y - 5 = -2(x - 3)$$

S.I. f.

$$\begin{array}{r} y - 5 = -2x + 6 \\ +5 \quad +5 \\ \hline \end{array}$$

$$y = -2x + 11$$

$$\begin{array}{r} y - 5 = -2x + 6 \\ +5 \quad +5 \\ \hline \end{array}$$

$$\begin{array}{r} y = -2x + 11 \\ +2x \quad +2x \\ \hline \end{array}$$

$$2x + y = 11$$

ex

$(4, 7)$ $(9, -8)$

★ Standard form

$$3x + y = 19$$

3.4
#1-12 (skip 2, 7, 10)
15-21 (skip 18)

3.5 1-13 all, 16, 17