

HOMEWORK 2-4

1) a) $m = -3$ $(1, -4)$ slope int. form $y = mx + b$
 $-4 = -3 \cdot 1 + b$
 $-4 = -3 + b$

$$-4 = -3 + b$$

$$\boxed{-1 = b}$$

$$\boxed{y = -3x - 1}$$

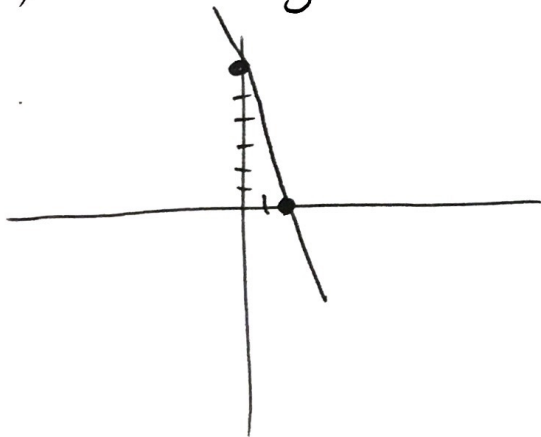
b) $m = \frac{1}{2}$ $(2, 3)$ slope int. form $y = mx + b$
 $3 = \frac{1}{2} \cdot 2 + b$

$$3 = \frac{1}{2} + b$$

$$\boxed{2 = b}$$

$$\boxed{y = \frac{1}{2}x + 2}$$

2) $3x + y = 6$



$$\begin{array}{l} \text{x-int} \\ 3x = 6 \\ \boxed{x = 2} \end{array}$$

$$\begin{array}{l} \text{y-int} \\ \boxed{y = 6} \end{array}$$

3) $(a, 0)$ $(0, b)$
 x-int y-int

$$\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{b - 0}{0 - a} = \boxed{-\frac{b}{a}}$$

4) point-slope $(1, 9)$ $(6, 2)$ $y - y_1 = m(x - x_1)$
 $y - 9 = -\frac{7}{5}(x - 1)$
 $\text{slope} = \frac{y_2 - y_1}{x_2 - x_1} = \frac{2 - 9}{6 - 1} = -\frac{7}{5}$

OR $y - 2 = -\frac{7}{5}(x - 6)$

5) a) $y = -7x - 9$
 $7x + y = -9$

b) $y = -\frac{3}{5}x + 3$
 $\frac{3}{5}x + y = 3$ multiply by 5
 $3x + 5y = 15$

6) $x\text{-int} = -5$ $y\text{-int} = 3$

$$Ax + By = C$$

$$C = x\text{int} \cdot y\text{int}$$

$$C = -15$$

$$3x - 5y = -15$$