

Quiz:

1. $3x - 4y + 12 = 0$

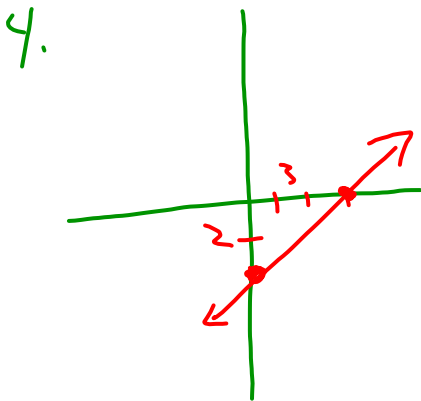
X-Int. (y=0)
 $3x - 4(0) + 12 = 0$
 $3x + 12 = 0$
 $\frac{3x}{3} = \frac{-12}{3}$
 $x = -4$

y-Int. (x=0)
 $-4y + 12 = 0$
 $\frac{-4y}{-4} = \frac{-12}{-4}$
 $y = 3$

2. $y = mx + b$
 ↑ slope ↑ y-Int.
 $m = \frac{\text{Down } 3}{\text{Rt. } 2} = -\frac{3}{2}$

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

3. $m = -1$



$y = \left(\frac{2}{3}\right)x - 2$
 $m = \frac{2}{3}$ (Rise) y-Int. = -2
 Run

x	y
0	-2
3	0
6	2

#5) $x - 2y + 4 = 0$ ($y = mx + b$)

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

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

$m = \frac{1}{2}$ $\perp m = -2$

#C a) $y = \frac{-3}{5}x - 6$ ($y = mx + b$)

$m = \frac{-3}{5}$ $b = -6$

(s) $0 = -\frac{3}{5}x - 6(s)$

$0 = -3x - 30$

$\frac{30}{-3} = \frac{-3x}{-3}$

$-10 = x$

$mx + b = y$

b) $5x - 2y + 10 = 0$

$\frac{5x + 10}{2} = \frac{2y}{2}$

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

$m = \frac{5}{2}$ $b = 5$

X-Int:

$5x + 10 = 0$

$\frac{5x}{5} = \frac{-10}{5}$

$x = -2$

7. $(3, -5)$ & $(0, 4)$ $y = mx + b$

(a) $b = 4$

$m = \frac{4 - (-5)}{0 - 3}$

$= \frac{9}{-3}$

$y = -3x + 4$

$m = -3$

(b) $(8, 0)$ & $(0, 2)$

$m = \frac{2}{-8} = -\frac{1}{4}$ $y = -\frac{1}{4}x + 2$

6.6 General Form of the Equation for a Linear Relation

General Form of the Equation of a Linear Relation

$Ax + By + C = 0$ is the general form of the equation of a line, where A is a whole number, and B and C are integers.

$$Ax + By + C = 0$$

$\Rightarrow A, B, \& C$ can NOT be Fractions

$\Rightarrow A$ can Not be negative $m (x_1, y_1)$

ex. $(y+7) = -3(x-4)$ $(y-y_1) = m(x-x_1)$
ex. $m = -3 (4, -7)$

$\checkmark y+7 = -3x+12$
 $\ominus 3x+y+7-12 = 0$ $\xrightarrow{(-1)} 0 = -3x - y + 5^{(-1)}$
 $3x+y-5 = 0$ $0 = 3x+y-5$

$(4) y = \frac{4}{4}x + 2^{(4)}$ Express in General Form

$$4y = -x + 8$$

$$x + 4y - 8 = 0$$

$$3x - 4y + 22 = 0$$

ex. $(4) y - 7 = \frac{3(4)}{4}(x - 2)$

$$4y - 28 = 3(x - 2)$$

$$4y - 28 = 3x - 6 + 28$$

$$\underline{0 = 3x - 4y + 22}$$