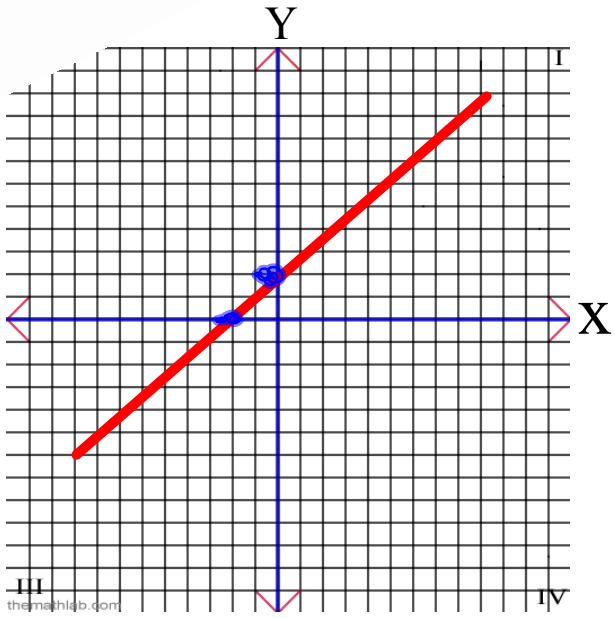

Reminder !!!
Whenever you see the words Parallel & Perpendicular think
Slope


y-intercept
x=0
Reminder !
x-intercept
y=0

Intercepts



y-int = 2

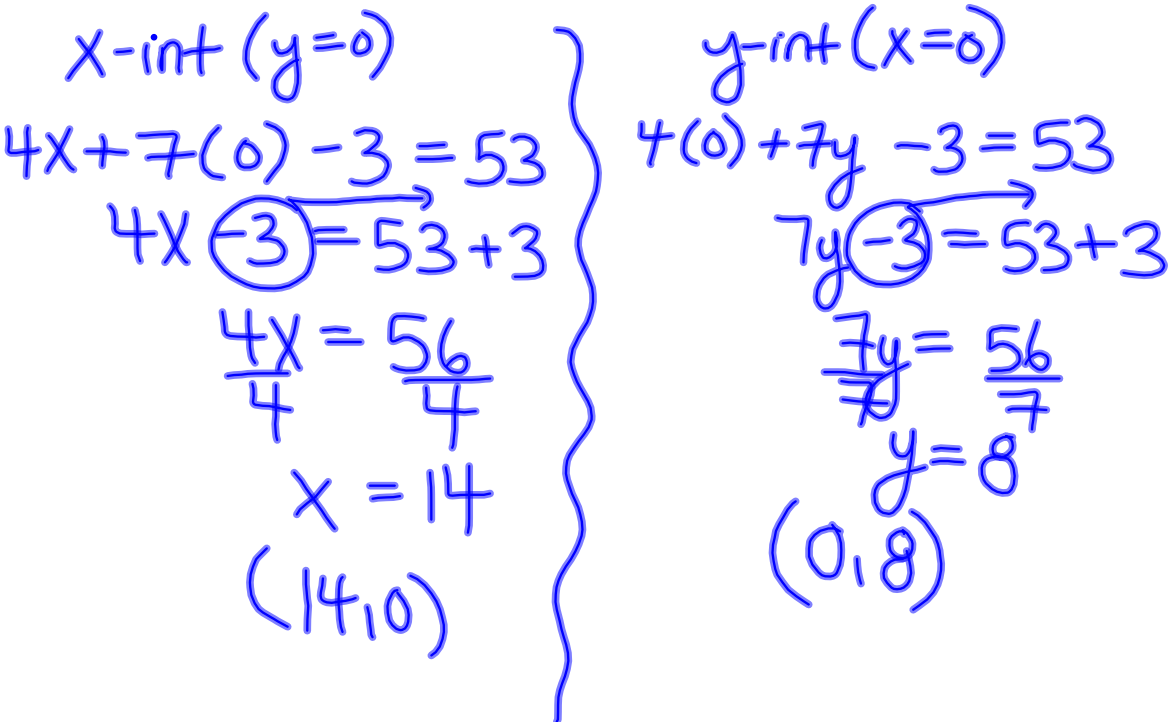
(0, 2)

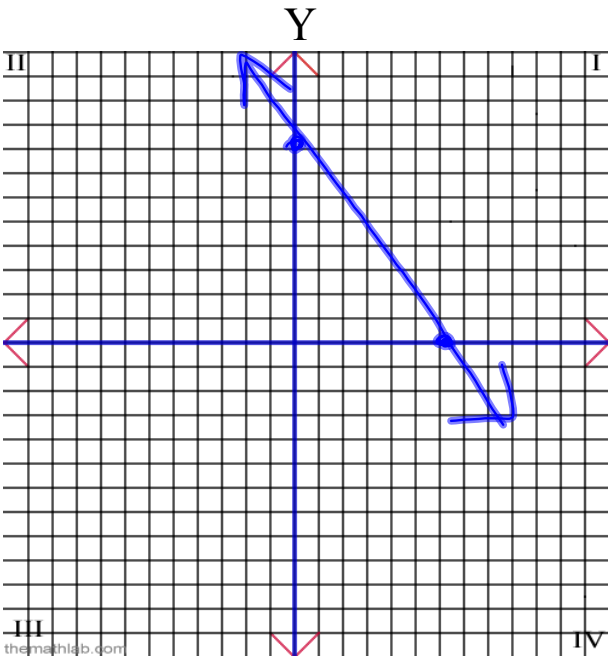
x-int = -2

(-2, 0)

Find the x and y-intercepts.

$$4x + 7y - 3 = 53$$





Graph the following equation using the x and y intercepts.

$$4x+3y=24$$

x-int (y=0)

$4x+3(0)=24$

$\frac{4x}{4}=\frac{24}{4}$ (6,0)

$x=6$

y-int (x=0)

$4(0)+3y=24$

$\frac{3y}{3}=\frac{24}{3}$ (0,8)

$y=8$

Find the x and y-intercepts.

$$4y-7-4x=7y+x+3$$

x-int $(y=0)$

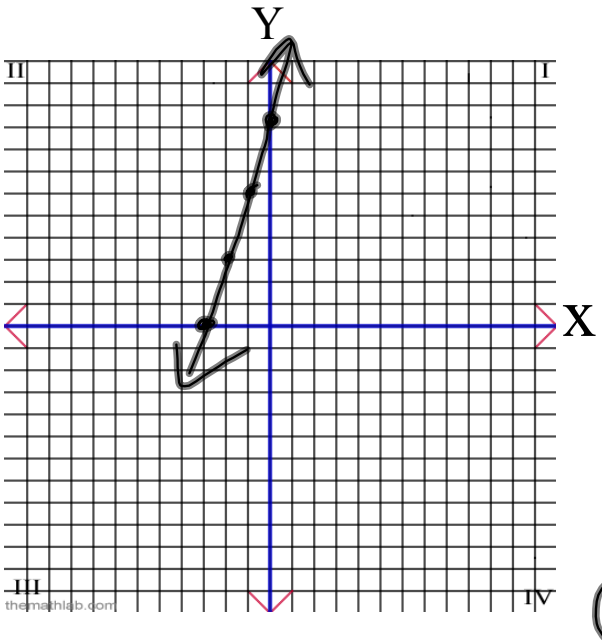
$$4(0)-7-4x=7(0)+x+3$$
$$-7-4x=+x+3$$
$$-4x-x=3+7$$
$$-5x=10$$
$$x=-2$$

$(-2,0)$

y-int $(x=0)$

$$4y-7-4(0)=7y+(0)+3$$
$$4y-7=7y+3$$
$$4y-7y=3+7$$
$$-3y=10$$
$$y=\frac{-10}{3}$$

$(0,-10/3)$



Graph the following equation with the same x-intercept as $7y - 8x - 3 = 21$ and parallel to the equation $y = 3x - 4$

$y = mx + b$.

$7y - 8x - 3 = 21$

$7(0) - 8x - 3 = 21$

$-8x - 3 = 21 + 3$

$\frac{-8x}{-8} = \frac{24}{-8}$

$x = -3$

$(-3, 0)$

$m = \frac{3}{1}$

Determine the equation of a line with an x-intercept of 4 and perpendicular to the slope of $\frac{-3}{2}$.

$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Slope: $+\frac{2}{3}$

Point: $(4, 0)$ (x_1, y_1)

(x, y) (x_2, y_2)

$$\frac{2}{3} = \frac{y-0}{x-4}$$

$$2(x-4) = 3(y-0)$$

$$2x - 8 = 3y$$

$$2x - 3y - 8 = 0$$

Determine the equation of a line that has the same x-intercept as 3x - 3y + 2 = 8 and perpendicular to -4.

Slope:
Point:
(x, y)

x-int ($y=0$)

$3x-3y+2=8$

$3x-3(0)+2=8$

$3x+2=8-2$

$\frac{3x}{3}=\frac{6}{3}$

$x=2$

$m=\frac{y_2-y_1}{x_2-x_1}$

$\frac{1}{4}=\frac{y-0}{x-2}$

$1(x-2)=4(y-0)$

$x-2=4y$

$x-4y-2=0$

Determine the equation of a line with the same x-intercept as $3y - 14 = 2x$ and parallel to $2y = 4x - 6$

Slope: $2/1$

Point: $(-7, 0)$

(x, y) (x_1, y_1) (x_2, y_2)

$3y - 14 = 2x$

$\frac{-14}{2} = \frac{2x}{2}$

$x = -7$

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

$y = 2x - 3$

$m = \frac{y_2 - y_1}{x_2 - x_1}$

$\frac{2}{1} = \frac{y - 0}{x + 7}$

$2(x+7) = 1(y-0)$

$2x + 14 = 1y$

$2x - 1y + 14 = 0$