

.. X & y - intercepts

- To find your **X-int**,  
in your equation set  
 $y=0$

Ex.

$$y = 2x + 4$$

$$0 = 2x + 4 \quad \text{Solving for } x.$$

$$\begin{array}{r} -4 \\ \hline \end{array}$$

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

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

Now find

y-int. Set  $x=0$  to find **y-interc.**

$$y = 2x + \boxed{4}$$

$$y = 2(0) + 4$$

$$y = 0 + 4$$

$$y = \boxed{4}$$

Ex. Find x & y int

$$y = -2x - 8$$

y-int. (Set  $x=0$ )

$$y = -2x - 8$$

$$y = -8$$

$$y = -2(0) - 8$$

$$y = 0 - 8$$

$$y = -8$$

x-int- (Set  $y=0$ )

$$y = -2x - 8$$

$$0 = -2x - 8$$

$$+8 \quad +8$$

$$\frac{8}{-2} = -4$$

$$\frac{8}{-2} = \frac{-2x}{-2}$$

$$x = -4$$

Recap

•  $y = m x + b$   
 (m is labeled "Slope", b is labeled "y-int")

Ex.

$$y = 10x - 4$$

Slope = 10

y-int = -4

x-int-  
 Set  $y=0$   
 to find.

Ex.!

$$y = 2x + 4$$

x-intercept - (Set  $y=0$ )

$$\begin{array}{r} 0 = 2x + 4 \\ -4 \quad -4 \\ \hline -4 = 2x \\ \frac{-4}{2} = \frac{2x}{2} \end{array} \quad x = -2$$

y-int. - (Set  $x=0$ )

$$y = 2x + 4$$

$$y = 2(0) + 4$$

$$y = 0 + 4$$

$$y = 4$$

Ex.

Find the x-int, y-int, &  
Slope

$$y = 2x + 4$$

x-int. (Set  $y=0$ )

$$\begin{array}{r}
 0 = 2x + 4 \\
 -4 \quad \quad -4 \\
 \hline
 -4 = 2x \\
 \frac{-4}{2} = \frac{2x}{2}
 \end{array}$$

x-int  
↓  
 $x = -2$

y-int - (Set  $x=0$ )  $y=0$

$$\begin{aligned}
 y &= 2x + 4 \\
 y &= 2(0) + 4 \\
 y &= 0 + 4 \\
 \boxed{y} &= 4
 \end{aligned}$$

$$\begin{aligned}
 x &= 0 \\
 y &= 4
 \end{aligned}$$

Ex 2

$$y = \boxed{4}x - \boxed{4}$$

\* make  
 $x=0$   
 $\downarrow$

Slope - 4

y-int -4

x-int - (set  $y=0$ )

$$0 = 4x - 4$$

$$\begin{array}{r} +4 \qquad \qquad +4 \\ \hline \frac{4}{4} = \frac{4x}{4} \end{array}$$

$$\boxed{x=1}$$

.

## Recap

x-int - To find your x intercept, Set  $y=0$ ....  
meaning make y zero.

y-int: To find your y-int,  
Set  $x=0$ , meaning plug  
0 in for x.