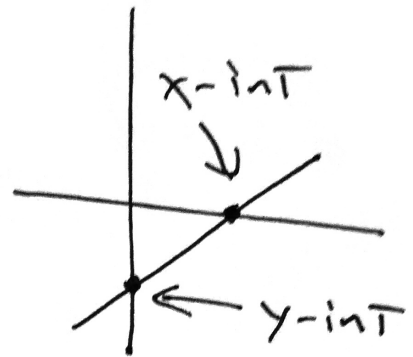


Finding Intercepts

Point where the line crosses
The x-axis and y-axis



X-intercept $(x, 0)$

fill 0 in for y and solve for x.

Always ~~write~~ write as a point!

Y-intercept $(0, y)$

fill 0 in for x, solve for y.

write answer as a point!

ex. $3x + 4y = -12$

x-int

$$3x + 4(0) = -12$$

$$\frac{3x}{3} = \frac{-12}{3}$$

$$x = -4$$

$(-4, 0)$

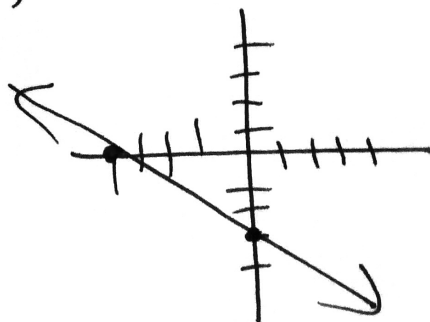
y-int

$$3(0) + 4y = -12$$

$$\frac{4y}{4} = \frac{-12}{4}$$

$$y = -3$$

$(0, -3)$



$$\text{Ex 2} \quad 12x - 5y = 30$$

x-int

$$\frac{12x}{12} = \frac{30}{12}$$

$$x = \frac{15}{6} = \frac{5}{2}$$

$$\left(\frac{5}{2}, 0\right)$$

y-int

$$\frac{-5y}{-5} = \frac{30}{-5}$$

$$y = -6$$

$$(0, -6)$$

$$\left\{ \begin{array}{l} Ax + By = C \end{array} \right. \quad \text{Standard form}$$

$$\left\{ \begin{array}{l} y = mx + b \end{array} \right. \quad \text{Slope intercept form}$$

$$\begin{array}{r} 12x - 5y = 30 \\ -12x \qquad -12x \end{array}$$

Convert from Standard
TO S.I. form

$$\frac{-5y}{-5} = \frac{-12x + 30}{-5}$$

$$y = \frac{12}{5}x - 6$$

$$Ax + By = C$$

$$-Ax$$

$$-Ax$$

$$\frac{B}{B}y = -\frac{A}{B}x + \frac{C}{B}$$

$$y = -\frac{A}{B}x + \frac{C}{B}$$

$$\text{Slope} = -\frac{A}{B}$$

$$\text{y-intercept } \left(0, \frac{C}{B}\right)$$