Dec 13th

6-3 Standard Form

(linear equation)

$$Ax + By = C$$

(x, y)

* Standard form is used for graphing x + y-intercepts *

$$3x + 4y = 8$$

y-intercept

$3(0) + 4y = 8$

$\frac{4y}{4} = \frac{8}{4}$

$y = 2$

$(0, 2)$

x-intercept

$3x + 4(0) = 8$

$\frac{3x}{3} = \frac{8}{3}$

$x = 2\frac{2}{3}$

$(2\frac{2}{3}, 0)$

$4x - 9y = -12$

y-intercept

$4(0) - 9y = -12$

$\frac{-9y}{-9} = \frac{-12}{-9}$

$y = 1\frac{3}{9}$

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

$(0, 1\frac{1}{3})$

x-intercept

$4x - 9(0) = -12$

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

$x = -3$

$(-3, 0)$

$y = -5$ ★ If you have an equation where $y = a$ ("a" is a constant) it will ALWAYS be a horizontal line ★

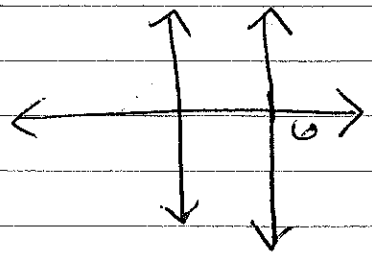
x-intercept

none

y-intercept

$(0, -5)$

$x = 6$ * If you have an equation where $x = a$ ("a" is a constant) it will ALWAYS be a vertical line *



x-intercept
(6, 0)
y-intercept
none

$4\left(y = \frac{3}{4}x + 2\right)$ cleared fractions

$4y = 3x + 8$
$-3x \quad -3x$

$-3x + 4y = 8$ standard form

VS

★ to transform any equation into standard form you can only have integers ★

NO FRACTIONS

OR

DECIMALS

$5\left(y = -\frac{2}{5}x - 4\right)$ $3\left(y = \frac{2}{3}x + 10\right)$

$5y = -2x - 20$ $3y = 2x + 30$

$+2x \quad +2x$ $-2x \quad -2x$

$2x + 5y = -20$ $-2x + 3y = 30$