Lesson 5 : Standerd Form of a Line

1) STANDARD FORM

A equation of a line is in standard form if it looks like :

$$Ax + By + C = 0$$

* A, B, C must be integers
* A is positive

2) Examples

1. State if the equation is in standard form

a) $3x - 2y + 4 = 1$
No. Must be 0.

b) $\frac{1}{3}x + y - 10 = 0$
No. Must be integer

c) $-4x + 2y + 2 = 0$
No. Must be positive

d) $2x - 3y + 5 = 0$
Yes.

2. Write in standard form.

a) $y = \frac{1}{2}x + 3$

$2(y) = 2\left(\frac{1}{2}x\right) + (3)2$

$2y = x + 6$

$0 = x - 2y + 6$

b) $y = -2(x + 1) - 3$

$y = -2x - 2 - 3$

$y = -2x - 5$

$-1(0) = -1(-2x) - (y) - 1 - (5) - 1$

$0 = 2x + y + 5$

3. Write $2x+5y-8=0$ in slope y-intercept form

a) $\frac{2x}{-5} - \frac{8}{-5} = \frac{-5y}{-5}$

$\frac{-2}{5}x + \frac{8}{5} = y$

$y = \frac{-2}{5}x + \frac{8}{5}$

3) Graph Using Intercepts

Ex. Graph $2x-3y+6=0$

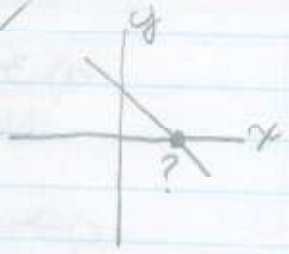
Find x-int: set $y=0$

$2x-3(0)+6=0$

$2x+6=0$

$2x=-6$

$x=-3$



Find y-int: set $x=0$

$2(0)-3y+6=0$

$-3y+6=0$

$-3y=-6$

$y=2$

(0,2)