

1)  $5x - 3y - 15 = 0$

3)  $x + 2y + 6 = 0$

5)  $5x - 7y - 8 = 0$

7)  $7x - 4y - 1 = 0$

2)  $8x - y + 5 = 0$

4)  $9x + 4y + 20 = 0$

6)  $3x + 4y + 3 = 0$

8)  $3x - 8y + 7 = 0$

6)  $(3, -3)$   $(-5, 3)$

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

$$m = \frac{3 - (-3)}{-5 - 3}$$

$$m = \frac{6}{-8} = -\frac{3}{4}$$

$$-\frac{3}{4} = \frac{y - (-3)}{x - 3}$$

$$-\frac{3}{4} \rightarrow \frac{y + 3}{x - 3}$$

$$3(x - 3) = -4(y + 3)$$

$$3x - 9 = -4y - 12$$

$$3x + 4y + 3 = 0$$

General Form  $Ax + By + C = 0$

A must be positive  
- no fractions

General Form of the Equation of the Line  
(Standard Form)

$Ax + By + C = 0$      $x + 2y - 2 = 0$

Slope y-intercept form

Slope y-intercept form

$y = mx + b$

m = slope  
b = y-intercept

x + y → coordinates on the line

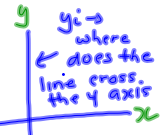
$Ax + By + C = 0$   
 $x + 2y - 2 = 0$

$\frac{By}{a} = -\frac{bx}{a} + \frac{a}{a}$

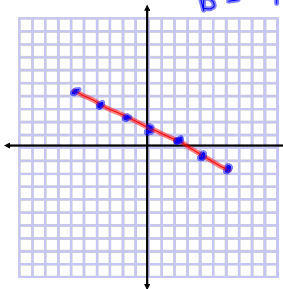
$y = -\frac{1}{2}x + 1$

$m = -\frac{1}{2}$

$b = 1$  ← y-intercept



$y = mx + b$   
 $y = -\frac{1}{2}x + 1$   
positive



$m = -\frac{1}{2}$  or  $\frac{1}{-2}$

$(-2, 2)$   $(2, 0)$

$m = \frac{0-2}{2-(-2)}$

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

$m = -\frac{1}{2}$

$m = -\frac{1}{2}$   $(2, 0)$

$Ax + By + C = 0$

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

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

$Ax + By + C = 0$

$4x - 2y + 10 = 0 \rightarrow y = mx + b$

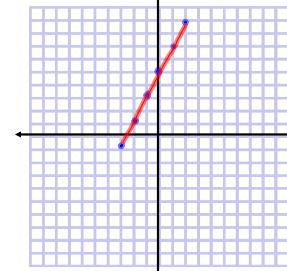
$\frac{4}{2}x + \frac{10}{2} = \frac{2}{2}y$  ← get y by itself

$2x + 5 = y$

$y = 2x + 5$

$m = \frac{2}{1}$  or  $\frac{-2}{-1}$

$b = 5$



$(-1, 3)$   $(1, 7)$

Find slope  
Find General Form