M8 - 9.0 - Graphing Review

Slope- Intercept $+1y =$

$$y = mx + b$$

slope: m — y-intercept: $(0, b)$

Graph Steps
1) Plot y-int
2) Use Slope

Find Equation
1) Find y-int
2) Find Slope

$y = f(x)$

$(2,4)$
(x, y)

x	y
-2	
-1	
0	
1	
2	

x	y
-3	
0	
3	

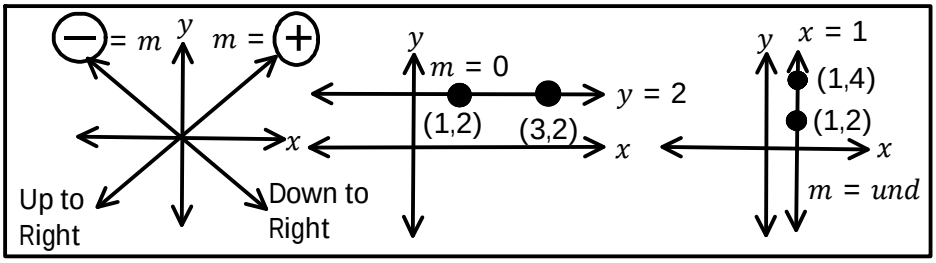
$$y = \frac{2}{3}x + 1$$

Increments of x by denominator of slope away from zero. Or y-coefficient.

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

(x_1, y_1) (x_2, y_2)
(5,4) (−2,3)

Draw a Graph and Count!



Parallel
Same slope
$m = m$

Perpendicular 90^o
Negative Reciprocal Slope
$m = -\frac{1}{m}$

$$y = mx + b$$

$$y = \frac{\Delta y}{\Delta x}x + b$$

x	y
0	b
1	3
2	5

Δx Δx — Δy Δy

$\frac{\Delta x}{\Delta y}$ $Consistent^*$

$y = b; x = 0$!

Slope-Point (x_1, y_1)
(3,5)

$$y - y_1 = m(x - x_1)$$

y coordinate — slope — x coordinate

Graph Steps
1) Plot Point
2) Use Slope

Find Equation
1) Find Point
2) Find Slope

$General/Standard$

$$Ax + By = C$$

x	y
0	
	0

$$Ax + By + C = 0$$

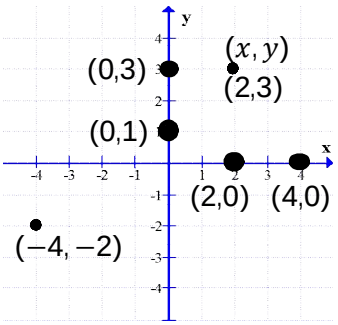
Step 1: Find Intercepts
$y - int: x = 0\ (0, y), put\ zero\ in\ for\ x\ and\ solve$
$x - int: y = 0\ (x, 0), put\ zero\ in\ for\ y\ and\ solve$

$No\ Fractions$
$X\ term\ positive$
$+x, y, \# = 0^*$

$$m = -\frac{A}{B} \qquad y - int = \pm\frac{C}{B}$$

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

$y\ (Output)$



$x\ (Input)$

$y\ depends\ on\ x$!