

Graphing Review

1) Slope-Intercept ($y = mx + b$)

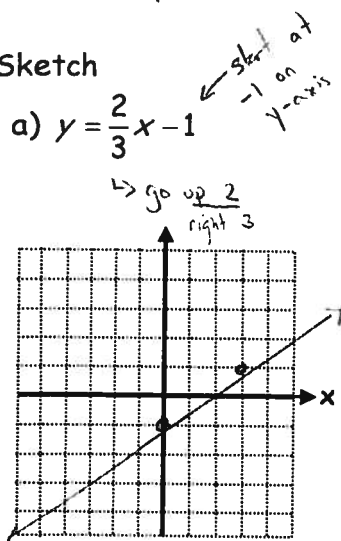
- Where m is the slope $\left(\frac{\text{Rise}}{\text{Run}}\right)$ and b is the y-intercept (where the line crosses the y-axis)

- Plot the y-intercept.

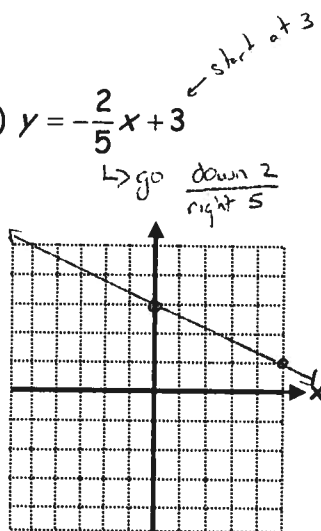
- From this point, count the rise (up if positive, down if negative) then the run (to the right) and plot a second point.

Ex/ Sketch

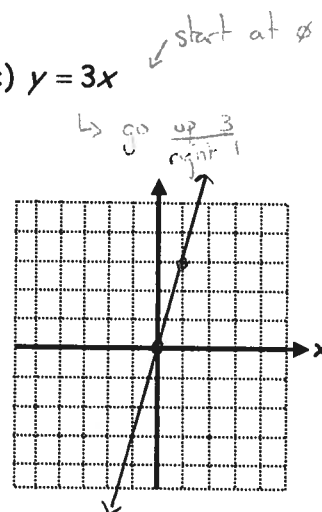
a) $y = \frac{2}{3}x - 1$



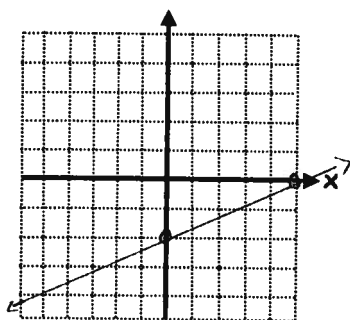
b) $y = -\frac{2}{5}x + 3$



c) $y = 3x$



d) $2x - 5y = 10$



* Need to arrange into $y = mx + b$

$-5y = -2x + 10$ → divide all by -5

$y = \frac{-2}{-5}x + \frac{10}{-5}$

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

OR $2x - 10 = 5y$ → divide by 5

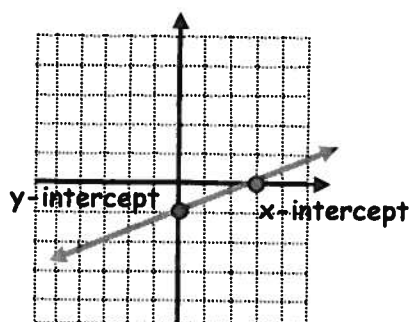
$\frac{2x}{5} - \frac{10}{5} = y$

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

2) X and Y intercepts $Ax + By = C$

- Where A , B and C are values.

- The points where the line meets each of the axes.



- At the x-intercept, the y-value is 0.

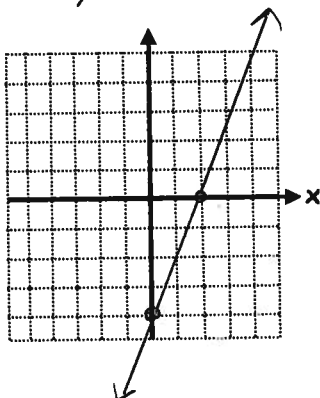
- At the y-intercept, the x-value is 0.

- Since we only need two points to graph a linear relation we can make a modified t-chart.

x	y
0	
	0

Ex/ Sketch

a) $2x - y = 4$



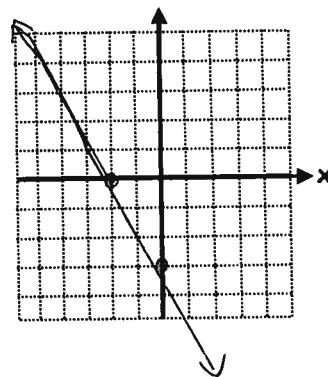
Fill in zeros in appropriate spots

x	y
0	
	0

$$\begin{aligned} 2(0) - y &= 4 \\ 0 - y &= 4 \\ -y &= 4 \\ y &= -4 \end{aligned}$$

$$\begin{aligned} 2x - 0 &= 4 \\ 2x &= 4 \\ x &= 2 \end{aligned}$$

b) $3x + 2y = -6$



x	y
0	
	0

$$\begin{aligned} 3(0) + 2y &= -6 \\ 2y &= -6 \\ y &= -3 \end{aligned}$$

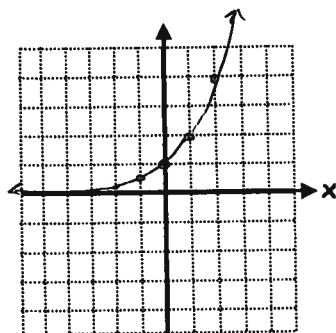
$$\begin{aligned} 3x + 2(0) &= -6 \\ 3x &= -6 \\ x &= -2 \end{aligned}$$

3) Full table of values (t-chart) - Used for unfamiliar functions

- choose 5 values of x (generally -2, -1, 0, 1, 2)
- substitute each x-value into the given equation and calculate the corresponding y-value.

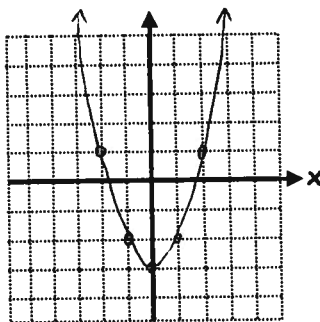
Ex/ Sketch

a) $y = 2^x$



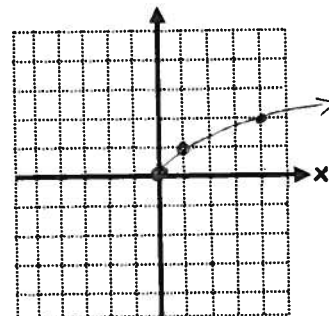
x	y
-2	0.25 $\leftarrow 2^{-2} =$
-1	0.5 $\leftarrow 2^{-1} =$
0	1 $\leftarrow 2^0 =$
1	2
2	4

b) $y = x^2 - 3$



x	y
-2	1 $\leftarrow (-2)^2 - 3$
-1	-2 $\leftarrow (-1)^2 - 3$
0	-3 $\leftarrow 0^2 - 3$
1	-2
2	1

c) $y = \sqrt{x}$



x	y
0	0
1	1
2	$\sqrt{2} = 1.41, \dots$
4	2
9	3

Homework: Handout - Graphing Review

* Can't use -2 since can't square root a negative
* Also makes sense to choose numbers that can be rooted