

3-7 Graphing without the Calculator

How to Graph a Line

1. On graph paper: Draw, label, and number the x- and y-axis.

2. If necessary, solve the equation for y (want $y = mx + b$ form).

3. Determine the y-intercept (b); plot this point on the graph ($0, b$).

4. Determine the slope (m); if the slope is an integer, write it as a fraction. $(\frac{m}{1})$

5. On graph paper: Plot ^{at least} 2 more points, "following the slope"

RISE OVER RUN \rightarrow $\frac{\text{rise}}{\text{run}}$

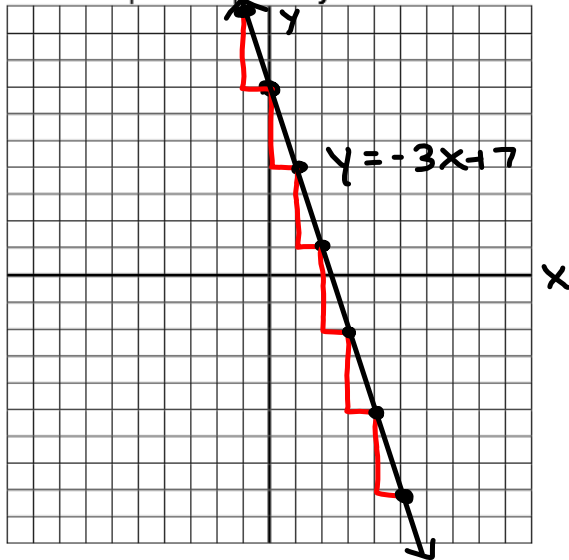
6. Make an x/y table. Fill in at least 3 ordered pairs from your graph.

7. Connect the points with a STRAIGHT EDGE (ruler), including arrows at the ends.

8. Label the line with its equation (its name-tag).

Graphing Lines Using the Slope/Intercept Method

1. Graph the equation $y = -3x + 7$.



Show work here:

$$y = -3x + 7$$

$$y = mx + b$$

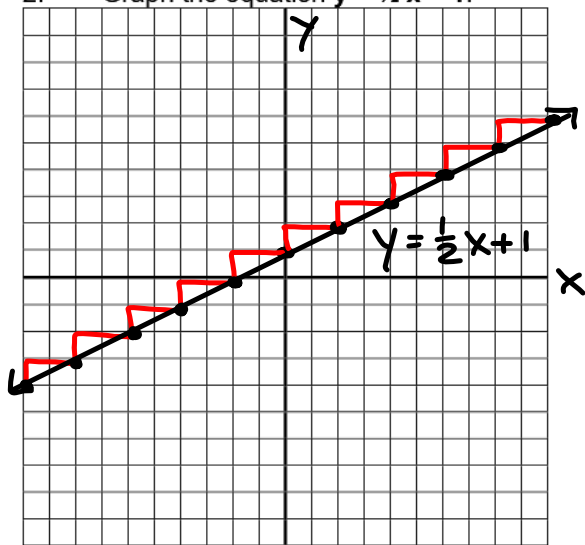
$$b = 7 \rightarrow (0, 7)$$

$$m = \frac{-3}{1} \text{ rise down 3 run right 1}$$

x	y
0	7
1	4
2	1

down 3
right 1

2. Graph the equation $y = \frac{1}{2}x + 1$.



Show work here:

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

$$y = mx + b$$

$$b = 1 \rightarrow (0, 1)$$

$$m = \frac{1}{2} \text{ rise } \uparrow 1 \text{ run } \rightarrow 2$$

x	y
0	1
2	2
-2	0