

Unit 3 Objective 2 Remediation

Graphing an Equation in Slope-Intercept Form

Slope-Intercept Form of an equation: $y = mx + b$

It is called slope-intercept form because m is the slope and b is the y-intercept.

- We need to use both the slope and y-intercept to graph the equation so you need to identify these values before graphing.
- When graphing:
 - o Always plot the y-intercept first; once you plot this point you will not use the y-intercept again
 - o From your point that you plotted, you use the slope to plot more points
 - o Finally, you use a ruler to connect all of your points; remember to put arrow at the ends of the line since it continues in both directions

Examples:

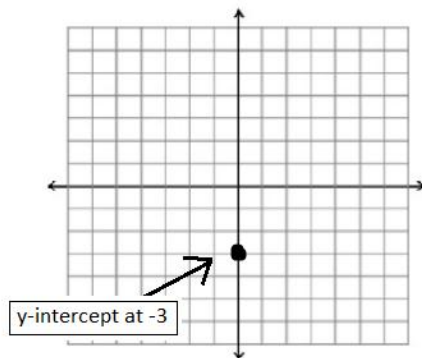
A.) Graph the line $y = 2x - 3$

Step 1: Identify slope and y-intercept –

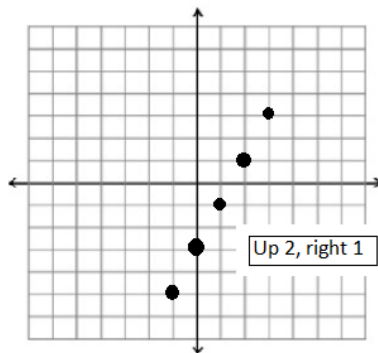
$$y = 2x - 3$$

Slope = 2 y-intercept = -3

Step 2: Graph the y-intercept (it will be on the y-axis)

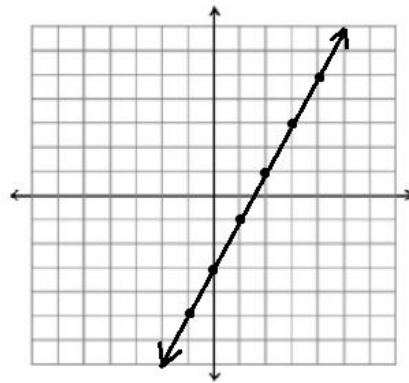


Step 3: Starting at the point you already plotted (the y-intercept), use the slope to plot more points. Since the slope is 2, we go up 2 right 1.



Remember: $Slope = \frac{rise}{run}$

Step 4: Use a ruler to connect your points. Put arrow at each end since the line continues.

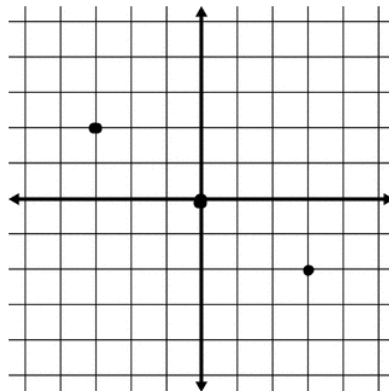


This graph is the final solution.

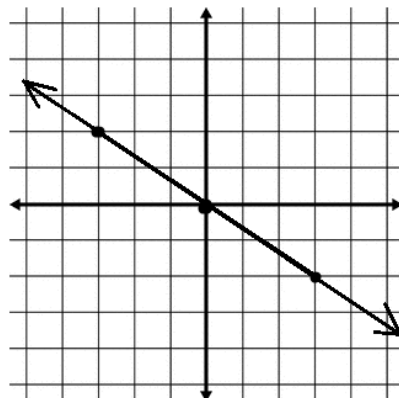
B.) Graph the line $y = -\frac{2}{3}x$

Step 1: Slope = $-\frac{2}{3}$; y-intercept = 0 since there is no b value.

Steps 2 and 3: Graph the y-intercept and slope. Since the y-intercept is 0, we plot the intercept on the origin. From there use the slope. Since slope = $-\frac{2}{3}$, we go down 2, right 3.



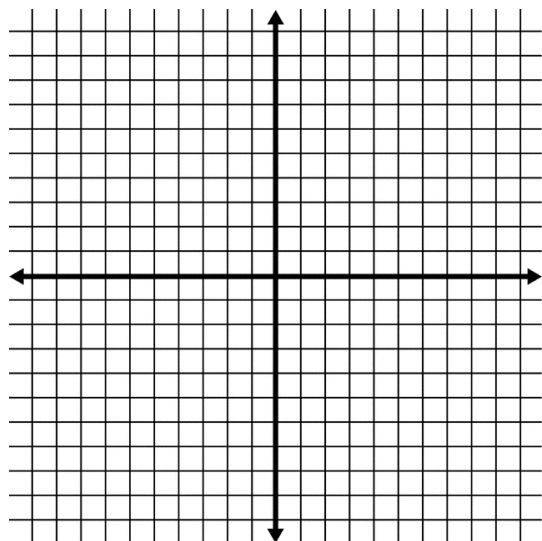
Step 4: Use your ruler to connect the points, and then put arrows at both ends.



Try Some! Graph each equation.

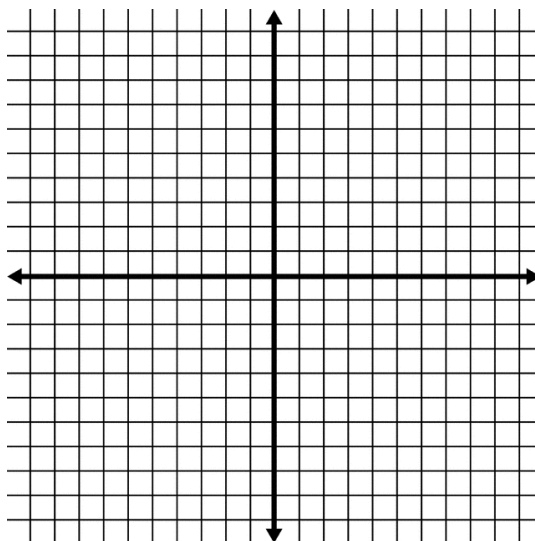
1.) $y = \frac{1}{2}x - 4$

y-int = slope =



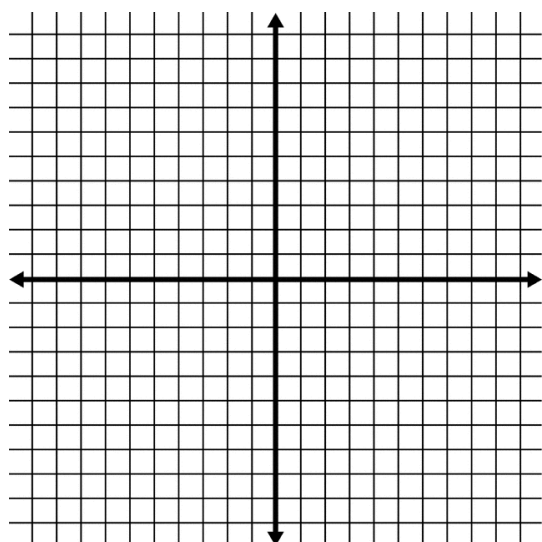
2.) $y = -x + 3$

y-int = slope =



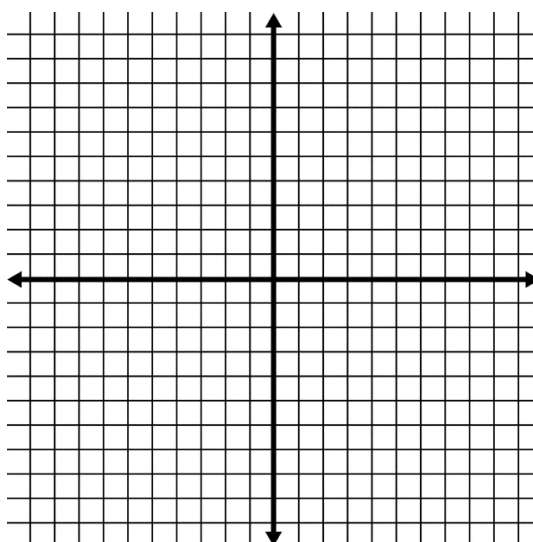
3.) $y = 3x - 1$

y-int = slope =



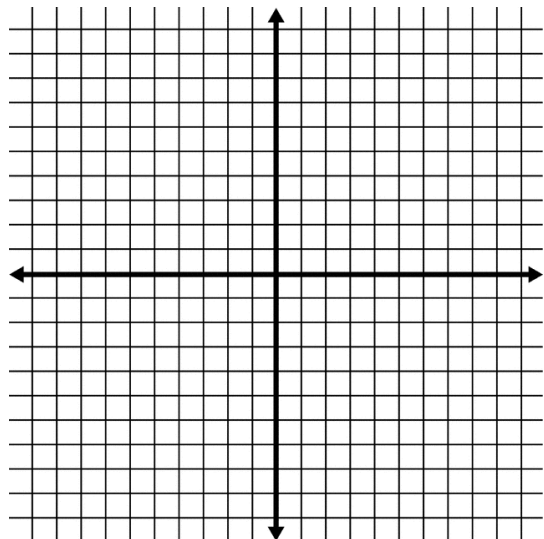
4.) $y = -\frac{3}{2}x + 1$

y-int = slope =



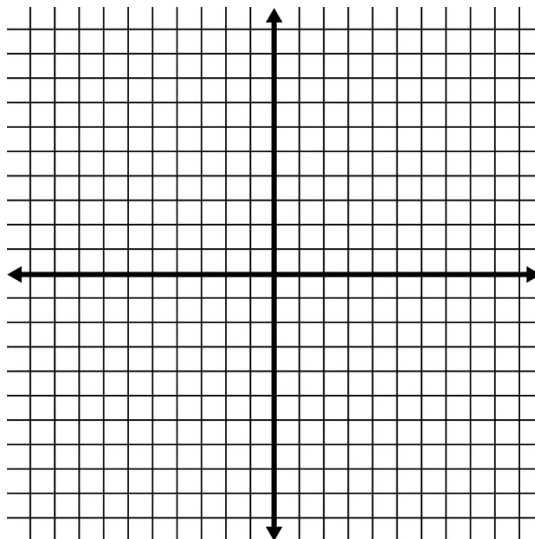
$$5.) y = -\frac{1}{3}x$$

y-int = slope =



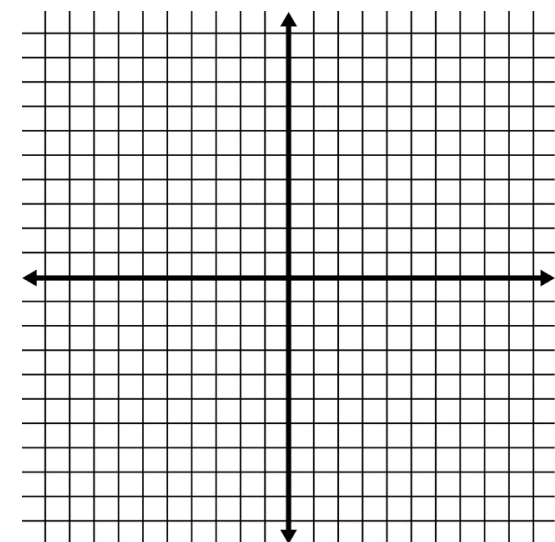
$$6.) y = -2x + 4$$

y-int = slope =



$$7.) y = x - 4$$

y-int = slope =



$$8.) y = \frac{4}{3}x - 5$$

y-int = slope =

