The y-Intercept and the Slope

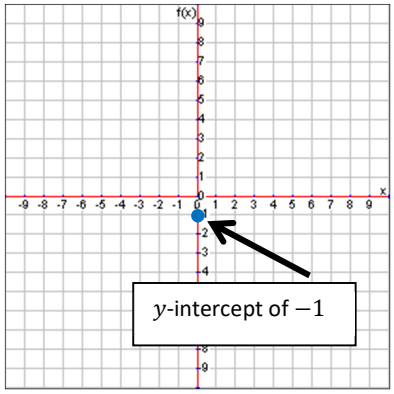
Once you have an equation in slope-intercept form, start by graphing the y-intercept on the coordinate plane. From the y-intercept, move the rise and run of the slope to plot another point. Finally, draw the line that connects the two points. Let's use our previous equations to graph step-by-step.

Example 1

$$y = 2x - 1$$

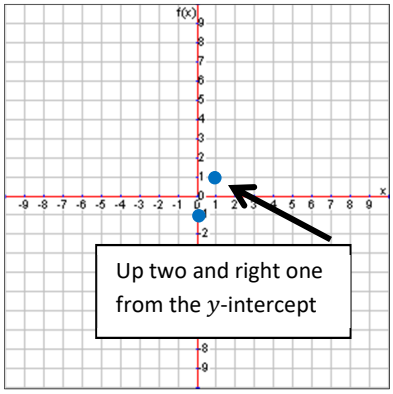
Step 1

The y-intercept is -1, so we plot a point at -1 on the y-axis to begin.



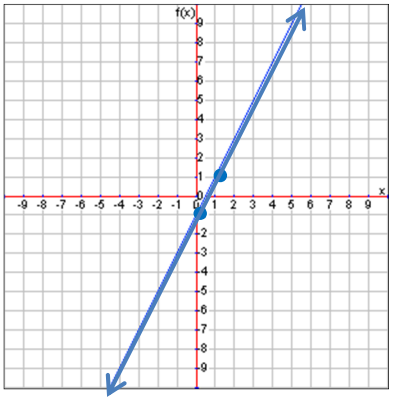
Step 2

Next, the slope is 2 which means a rise of 2 and a run of 1. So we'll move up two and right one to plot the next point.



Step 3

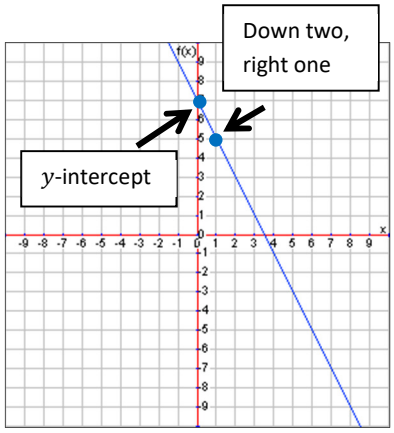
Finally, connect the dots with a line. This completes the graph of our linear function.



Here are the rest of the examples graphed.

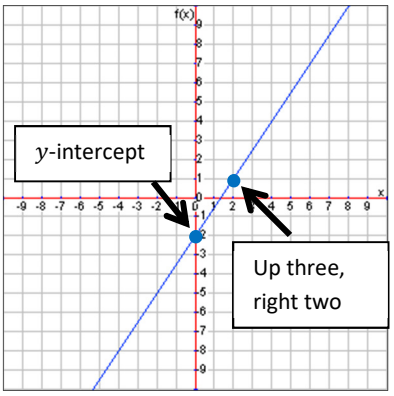
Example 2

$y = -2x + 7$



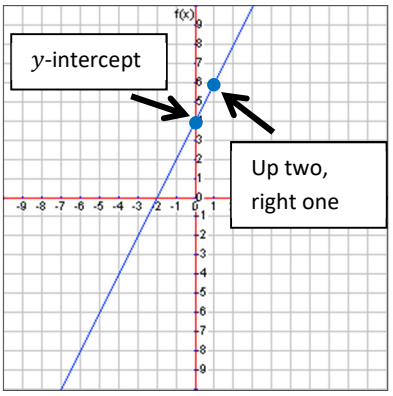
Example 3

$y = \frac{3}{2}x - 2$



Example 4

$y = 2x + 4$



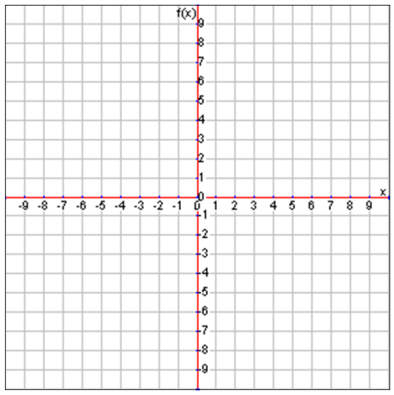
Lesson 6.1

Identify the slope as a fraction and the y-intercept of each equation. Then graph on the coordinate plane.

1. $y = 2x + 1$

Slope:

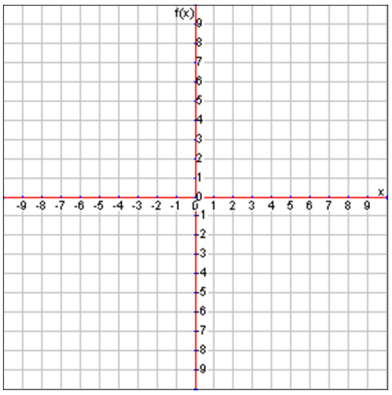
y-int:



2. $y = 3x - 4$

Slope:

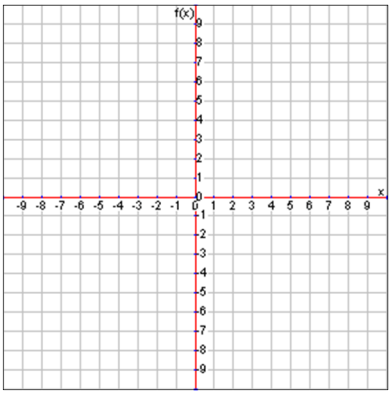
y-int:



3. $y = \frac{2}{3}x + 5$

Slope:

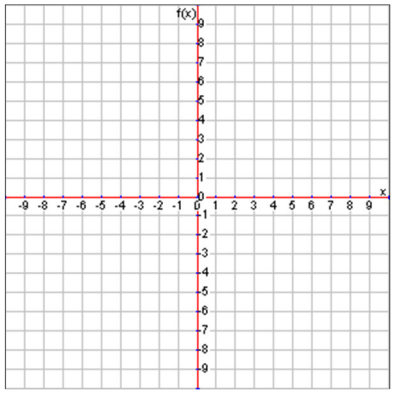
y-int:



4. $y = 7$

Slope:

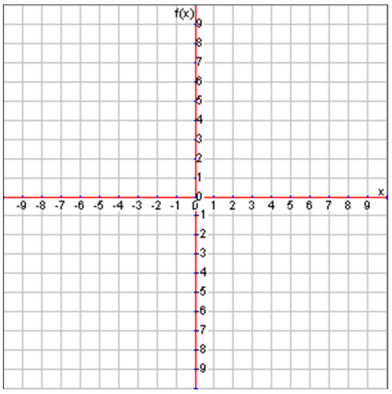
y-int:



5. $y = -3x - 2$

Slope:

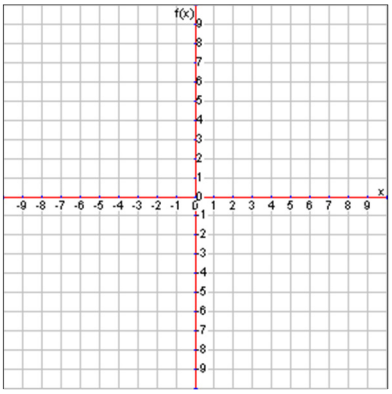
y-int:



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

Slope:

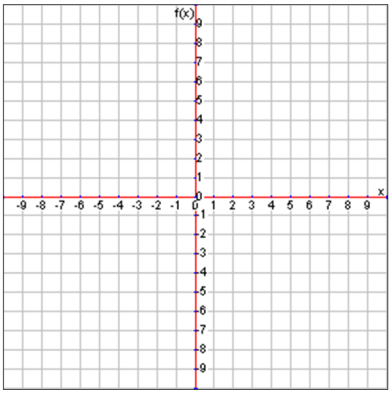
y-int:



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

Slope:

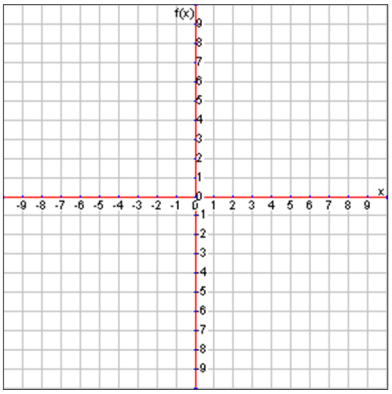
y-int:



8. $y = -\frac{3}{4}x - 1$

Slope:

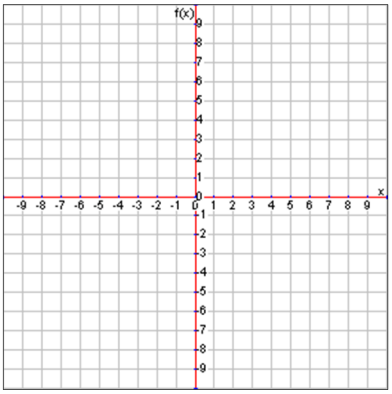
y-int:



9. $y = -4$

Slope:

y-int:

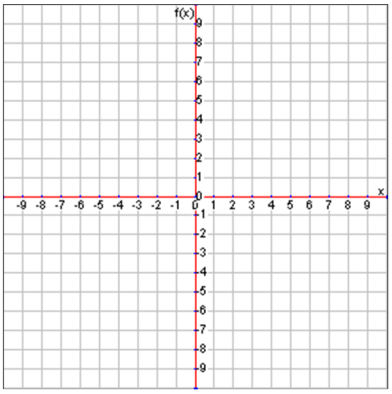


10. $x = 2$

Hint: This is not a function!

Slope:

y-int:

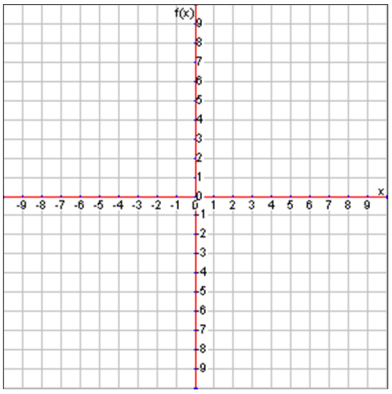


11. $x = -6$

Hint: This is not a function!

Slope:

y-int:



12. $y = 4x - 5$

Slope:

y-int: