Write the Equation of a Line from a Graph/Table Notes

Important Information

- To write an equation of a line from a graph, determine the slope (m) of the line and the y-intercept (b). Then substitute those values into y=mx+b.

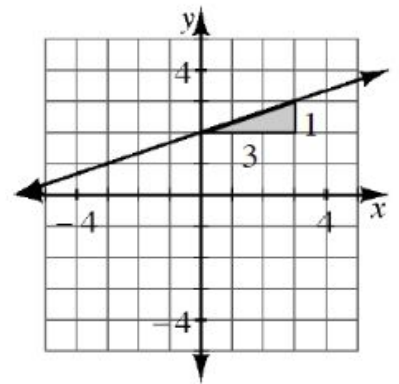- Remember that slope is $\dfrac{rise}{run} = \dfrac{\Delta y}{\Delta x}$.

- In the graph below, the slope is rising 1 and running 3, so $m = \dfrac{1}{3}$.

- Thy y-intercept is (0, 2)...where the line crosses the y-axis.

- Substitute $m = \dfrac{1}{3}$ and b=2 into y=mx+b.

- The equation is $y = \dfrac{1}{3}x + 2$

- You can sketch a graph from on equation (such as   ) by placing a point at the y-intercept of (0,4). $y = \dfrac{-3}{2}x + 4$
- Then move down 3 units and to the right 2 units because $m = \dfrac{\Delta y}{\Delta x} = \dfrac{-3}{2}$, then place another point.

- Make a line that extends in both directions through the points.
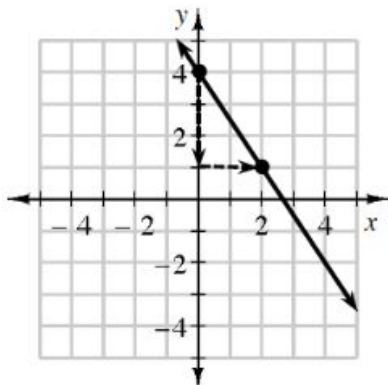
- To write the equation of a line from a table, find the change in y over the change in x.

- The y-intercept is in the table where the x-value is 0.

- Looking at the table the change in y is +3 and the change in x is 1.

- The y-intercept is (0,7) or 7.

- The equation is

$y = 3x + 7$

x	y
-1	4
0	7
1	10
2	13