

Graph $y = 3x + 2$ Using The Tactile Graph

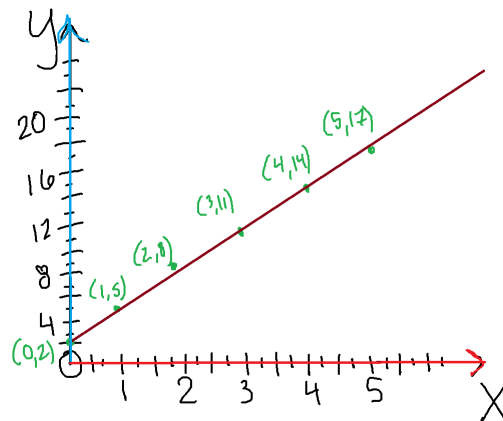
Steps to complete this problem:

1. Construct Graph
2. Find intercepts
3. Find and label coordinates
4. Draw the line

Now to begin the problem, start with Step 1:

Construct graph:

Figure 1: Graphing $y = 3x + 2$



Step 2: Find intercepts

Intercepts occur when our variables equal 0: when $y = 0$ and $x = 0$

When $y = 0$ then:

$$0 = 3x + 2 \Rightarrow 3x = -2 \Rightarrow x = -\frac{2}{3}.$$

When $x = 0$ then:

$$x = 0 \Rightarrow y = 3(0) + 2 \Rightarrow y = 2.$$

Since the x -intercept is out of the range of our graph (currently working in Q1) then we won't worry about that one today.

Step 3: Find and label coordinates

1. Starting with the intercept we already found:

$$x = 0, y = 2 \Rightarrow (0, 2).$$

2. Then we increment x by 1 unit:

$$x = 1, y = 3(1) + 2 = 5 \Rightarrow (1, 5).$$

3. And keep going:

$$x = 2, y = 3(2) + 2 = 8 \Rightarrow (2, 8).$$

4. And again:

$$x = 3, y = 3(3) + 2 = 11 \Rightarrow (3, 11).$$

5. And again:

$$x = 4, y = 3(4) + 2 = 14 \Rightarrow (4, 14).$$

6. This can be our last one since the x -axis scale goes to 5:

$$x = 5, y = 3(5) + 2 = 17 \Rightarrow (5, 17).$$

Now we need to head back to our graph to label coordinates and draw our line.