

WRITE AN EQUATION FROM A GRAPH

To write an equation in slope-intercept form, given a graph of that equation, pick two points on the line and use them to find the slope. This is the value of m in the .

The slope is It doesn't really matter whether you subtract the values of point A from the values of point B, or the values of point B from the values of point A. A function may also have an x-intercept, which is the x-coordinate of the point where the graph of the function crosses the x-axis. The slope is 2 divided by 1, or 2. Equations Knowing how to find the slope and the y-intercept helps us to graph a line when we know its equation, and also helps us to find the equation of a line when we have its graph. Let's take C 0, -1 and D 2, This function also has a slope of 2, but a y-intercept of -3 . For this line, the y-intercept is "negative 1. To find the x-intercept, set a function $f(x)$ equal to zero and solve for the value of x . There are two important things that can help you graph an equation, slope and y-intercept. This is the only function listed with a negative slope, so it must be represented by line IV because it slants downward from left to right. We can use two points to find the slope, or we can compare it with the other functions listed. This function is represented by Line II. Provided by: OpenStax. Because this input value is mapped to more than one output value, a vertical line does not represent a function. The change in outputs between any two points, therefore, is 0. Slope is the ratio of the change in the y-value over the change in the x-value. Now we can re-label the lines as in Figure We can see that the x-intercept is 6, 0 as we expected. This function has a slope of 2 and a y-intercept of 3. To graph the equation of a line, we plot at least two points whose coordinates satisfy the equation, and then connect the points with a line. Figure 14 A vertical line indicates a constant input, or x-value. We can connect two points with a straight line. It's called the "y intercept" and it's the y value of the point where the line intersects the y- axis. We call these equations "linear" because the graph of these equations is a straight line. This point will always have an x coordinate of zero. In other words, the value of the function is a constant. In Figure 13, we see that the output has a value of 2 for every input value. Analysis of the Solution A graph of the function is shown in Figure