WRITE AN EQUATION IN POINT SLOPE FORM FOR EACH LINE

Point-slope is a specific form of linear equations in two variables: .. How do you write an equation of the line with the given slope that passes through the given point when the 5 = 1/2 (6) +b, 5 = 3 + b, subtract 3 on each side to get 2 = b.

But my experience has been that many students prefer to plug the slope and a point into the slope-intercept form of the line, and solve for b. Authored by: Jay Abramson, et al.. Next, we substitute the slope and the coordinates for one of the points into the general point-slope equation. You can purchase this book at Amazon. Please accept "preferences" cookies in order to enable this widget. Figure 7 Example 6: Writing Linear Equations Using Two Points Write the point-slope form of an equation of a line that passes through the points 5, 1 and 8, 7. Critical Point Variables with subscripts, like x1 and y1, will have completely different values than their non- subscripted look-alikes, x and y. If that works better for you, then use that method instead. We can move from one form to another using basic algebra. You can find the straight-line equation using the point-slope form if they just give you a couple points: Find the equation of the line that passes through the points â€"2, 4 and 1, 2. You can get the same answer either way, so use whichever method works more comfortably for you. Then rewrite it in the slope-intercept form. Are you wondering where that m came from? Let use 0, 1 for our point. Here, we will learn another way to write a linear function, the point-slope form. I could wax historical about this mathematical conundrum, but you'd get bored fast, so let me suffice to say that m is the variable used to represent slope in all of the formulas you'll see in this section. Clicking on "View Steps" on the widget's answer screen will take you to the Mathway site, where you can register for a free seven-day trial of the software. Solution Writing the Equation of a Line Using Two Points The point-slope form of an equation is also useful if we know any two points through which a line passes. Simplify the right side of the equation. We can convert it to the slope-intercept form as shown. We can use the coordinates of the two points to find the slope. All you'll need is the point-slope formula for a line. For some reason, math people have used the variable m to represent the slope of a line for a long time. Content Continues Below You can use the Mathway widget below to practice finding a line equation using the point-slope formula. I should get the same result; namely: Given two points, I can always find the slope: Then I can use either point as my x1, y1 , along with this slope I've just calculated, and plug these values into the point-slope form. Tricky Linear Equations If you are given the slope of a line and one of the points on the line, then creating the equation of that line is a very simple procedure. Search for: Write the point-slope form of an equation Up until now, we have been using the slope-intercept form of a linear equation to describe linear functions. By the way, that little subscript does not affect the value of the variable at all, like an exponent would. To rewrite the equation in slope-intercept form, we use algebra. We can substitute these values into the general point-slope equation. Now we can substitute these values into the general point-slope equation. This shows that it really doesn't matter which method you use unless the text or teacher specifies. This is the only line in the world that has slope -3 and passes through the point -1,5. Or skip the widget and continue with the lesson. Example 1: Write the equation of the line with slope -3 that passes through the point -1,5 and solve the equation for y. See Figure 6. I've already answered this one, but let's look at the process. Writing the Equation of a Line Using a Point and the Slope The point-slope form is particularly useful if we know one point and the slope of a line.