

Creating a regression equation (Tutorial C3)

http://www.atomiclearning.com/k12/en/movie/85855/play_window?type=Tutorial&sid=2410

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To manually enter a list of coordinates, I'll first insert the Lists and Spreadsheet application into a new page by

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pressing the Home key, and then choosing Lists and Spreadsheet. Next, I'll use the Touchpad to highlight the white space

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at the top of column A. I'll type "x" "c" "o" "o" "r" "d" and then press Enter. This defines any values I enter into

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column A as a list linked directly to the variable called "xcoord", which includes the x-coordinate values. Now, I'll

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name column B "ycoord" using this same technique, first by highlighting the white space at the top of column B,

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and then typing "y" "c" "o" "o" "r" "d," followed by the Enter key. I have a series of coordinates to enter. I'll

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enter the x coordinates in column A, and the y coordinates in column B. Remember that you can pause this movie at

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any time while you enter your data. Let's start with the x-coordinates, pressing Enter after you type each number.

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I'll manually enter in 0.5, 1.5, 2, 6, 8, 15, 19, and 45 into column A. Next, I'll go up to cell B1 and enter "0.

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You may have noticed that the y-coordinates increase by 10 every time. To save myself from typing, I'll express

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each coordinate as a function of the coordinate preceding it. To do this, in cell B2, I'll type "=" and then "b1"

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and then "+10." The full cell formula now reads "=b1 +10. Now, I'll press the Menu key and choose Data. Then I'll

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select the Fill command. Now, I'll just use the Touchpad to highlight the cells through cell B8 and then press Enter.

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Notice that the values have been populated all the way through 70. I'll press the left arrow to deselect the filled

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down data. Now that I've entered my data, I'm going to calculate the quadratic regression for it. To do this, I'll

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press the Menu key, then choose Statistics. Now I'll select Stat Calculation, and then Quadratic Regression. For "X

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List", I'll press the Click key to open the X List drop down menu, and I'll highlight "xcoord", which is what I

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named column A, and then press Enter to select it. Next, I'll press the Tab key to move to the Y List drop down

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menu, and then I'll press the Click key and the down arrow key to highlight "ycoord", which is what I named column

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B, and then press Enter to select it. Now, I'll press the Tab key until I've highlighted the "1st Result Column" field.

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This is where the regression information will be entered in the Lists & Spreadsheet application. The default is

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the column to the right of the one that's currently selected, so right now, the column entered is B. I don't want to

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overwrite my data in column B, though, so I'll press the left arrow key twice to move the insertion point just to

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the right of the letter "b" and then press the backspace key and then enter "c" instead. Now, my data will be entered

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beginning in column C. Next, I'll use the Tab key to highlight the OK button, and press the Enter key on the keypad to

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show my regression equation. Note that there is now new information in columns C and D. Column C shows me the standard

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quadratic expression variables in the expression ax^2+bx+c . Then, in column D, it shows me the values for a, b, and

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c in that quadratic expression that best fit my data, as well as the coefficient of determination and other regression

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information. To resize column D appropriately so that I can read the information, I'll use the Touchpad to highlight

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a cell in column D, and then press Menu, then choose Actions, and then Resize, Resize Column Width. I can use my right

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arrow key to make the column wider, and then press the Enter key to accept the change. I can now more easily read

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the regression information.

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