TI-Nspire™ Handheld Script

Creating a regression equation (Tutorial C3)

http://www.atomiclearning.com/k12/en/movie/27959/play_window?type=Tutorial&sid=1670

[00:00:00.00]
To create a regression equation based on lists of data, first
insert the Lists & Spreadsheet application into a new page by

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pressing the Home key, and then choosing Lists & Spreadsheet. Next,
enter your list of coordinates. To do this, I'll navigate to

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the white space just to the right of the letter A at the top of
column A using the NavPad. I'll type "x" "c" "o" "o" "r" "d" and

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then press Enter. This defines any values I enter into column
A as a list linked directly to the variable called "xcoord," which

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includes the x-coordinate values. Note that if you just watched
the previous movie and entered the data along with that tutorial,

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the data auto-populates in your new Lists & Spreadsheet column.
Now, I'll name column B "ycoord" using this same technique, first

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by highlighting the white space just to the right of the letter
B, and then typing "y" "c" "o" "o" "r" "d," followed by the Enter

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key. I have a series of coordinates to enter. I'll enter the
x coordinates in column A, and the y coordinates in column B. Remember

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that you can pause this movie at any time while you enter the
data. Let's start with the x-coordinates, pressing Enter after

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you type each number. 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

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enter “0”. Notice that the y-coordinates increase by 10 every
time. To save myself from typing, I’ll express each coordinate

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as a function of the coordinate preceding it. To do this, in cell
B2 I’ll type “=” and then type “b1” followed by “+10”. The full

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cell formula now reads “=b1+10”. Now, I’ll press the Menu key
and choose Data. Then I’ll select the Fill Down command. Now, I’ll

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just use the NavPad to highlight the cells through cell B8 and
press Enter. Notice that the values have been populated all the

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way through 70. I’ll press the left arrow to deselect the filled
down data. Now that I’ve entered my data, I’m going to calculate

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the quadratic regression for it. To do this, I’ll press the Menu
key, then choose Statistics. Now I’ll select Stat Calculation,

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and then Quadratic Regression. For “X List”, I’ll press the down
arrow key to open the X List drop down menu, and I’ll highlight

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“xcoord”, which is what I named column A, and then press Enter
to select it. Next, I’ll press the Tab key to move to the Y List

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drop down menu, and then I’ll press the down arrow key to highlight
“ycoord”, which is what I named column B, and then press Enter

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to select it. Now, I’ll press the Tab key until I’ve highlighted
the “1st Result Column” field. This is where the regression information

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will be entered in the Lists & Spreadsheet application. The default
is the column to the right of the one that’s currently selected,

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so right now, the column entered is B. I don't want to overwrite my data in column B, though, so I'll press the left arrow key

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twice to move the insertion point just to the right of the letter "b" and I'll press the backspace key and then enter "c" instead.

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Now, my data will be entered beginning in column C. Next, I'll use the Tab key to highlight the OK button, and press the Enter

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

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

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

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To resize column D appropriately so that I can read the information, I'll use the NavPad to highlight a cell in column D, and then

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press Menu, then choose Actions, and then Resize, Resize Column Width. Now, I can use my right arrow key to make the column wider,

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and I can more easily read the regression information.

[00:05:18.00]