Creating a regression equation (Tutorial C3)

http://www.atomiclearning.com/k12/en/movie/28238/play_window?type=Tutorial&sid=1674

[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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clicking Insert and choosing Lists & Spreadsheet. Next, enter
your list of coordinates. To do this, I'll click on the white

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space just to the right of the letter A at the top of column A.
I'll type "x" "c" "o" "o" "r" "d" and then press Enter. This defines

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any values I enter into column A as a list linked directly to
the variable called "xcoord," which includes the x-coordinate

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values. Note that if you just watched the previous movie and
entered the data along with that tutorial, the data auto-populates in

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your new Lists & Spreadsheet column. Now, I'll name column B
"ycoord" using this same technique, first by clicking on the white space

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to the right of the letter B, and then typing "y" "c" "o" "o" "r"
"d," followed by the Enter key. I have a series of coordinates

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to enter. I'll enter the x coordinates in column A, and the y
coordinates in column B. Remember that you can pause this movie

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at any time while you enter your data. Let's start with the
xcoordinates, pressing "Enter" after you type each number. I'll

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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". Notice that the

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y-coordinates increase by 10 every time. To save myself from typing,
I'll express each coordinate as a function of the coordinate preceding

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it. To do this, in cell B2 I'll type "=" and then type "b1," followed
by "+10". The full cell formula now reads "=b1+10". Now, I'll

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click the Data button and select the Fill Down command. I'll just
use the down arrow key to highlight the cells through cell B8

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

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the filled 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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click on the Statistics button on the Application Tool bar. Now
I'll roll over the Stat Calculations submenu, and I'll choose

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"Quadratic Regression." For "X List", I'll click the "X List" drop
down menu, and I'll choose "xcoord", which is what I named column

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A. Next, I'll click the "Y List" drop down menu, and choose "ycoord"
which is what I named column B. Now, I'll click in the "1st Result

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Column" at the bottom of the dialog box; this is where the data
will be entered. The default location is the next column over,

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which in this case is column B. I'll click again in the field,
and place the insertion point just to the right of where it currently

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has the letter "b," and then I'll press Backspace on the keyboard.
Now, I'll type "c," so that the first column of my answer is column

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C instead, and then I'll click the OK button to show my regression
equation. Note that there is now new information in columns C

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and D. I'll resize the columns appropriately by clicking on the
divider between them and dragging so that I can read the information

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in both. Column C shows me the standard quadratic expression
variables in the expression ax^2+bx+c. Then, in column D, it shows me the

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values for a, b, and c in that quadratic expression that best
fit my data, as well as the coefficient of determination and other

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regression information.

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