

Graphing Linear Equations With Microsoft Excel

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Algebra II

STEP 1 Define Your Coordinates

WHAT TO DO: Set up your Excel spreadsheet to make a chart of points for and a graph of a linear equation. The equation we'll be modeling in this lesson is $y = 2x - 5$

	A	B	C	D	E
1	Graph of $y = 2x - 5$				
2	x	y			
3	-5.00	-15.00			
4	-4.00	-13.00			
5	-3.00	-11.00			
6	-2.00	-9.00			
7	-1.00	-7.00			
8	0.00	-5.00			
9	1.00	-3.00			
10	2.00	-1.00			
11	3.00	1.00			
12	4.00	3.00			
13	5.00	5.00			
14					

1. Open Microsoft Excel. In cell A1, type this text: **Graph of $y = 2x - 5$. In cell D1 Type your First Name Last Name and ID number.**
2. In cell A2, type x. In cell B2, type y.
3. In cells A3:A13 (this notation means in cell A3 through cell A13), enter a sequential series of values from -5 through 5 (see above). (Type each value without using a formula.)
4. Select A2:A13 (click on cell A2 and drag through cell A13), press CTRL SHIFT F3, and name this column x (see above). You could use the Insert menu / Name / Define... and define a name instead, but Control Shift F3 is faster and easier.
5. In cell B3, enter the formula for y, which is $=2*x-5$. Copy this formula and paste it in cells B4:B13.

STEP 2 Graph the Equation

WHAT TO DO: Now you'll want to visualize the equation by making a graph.

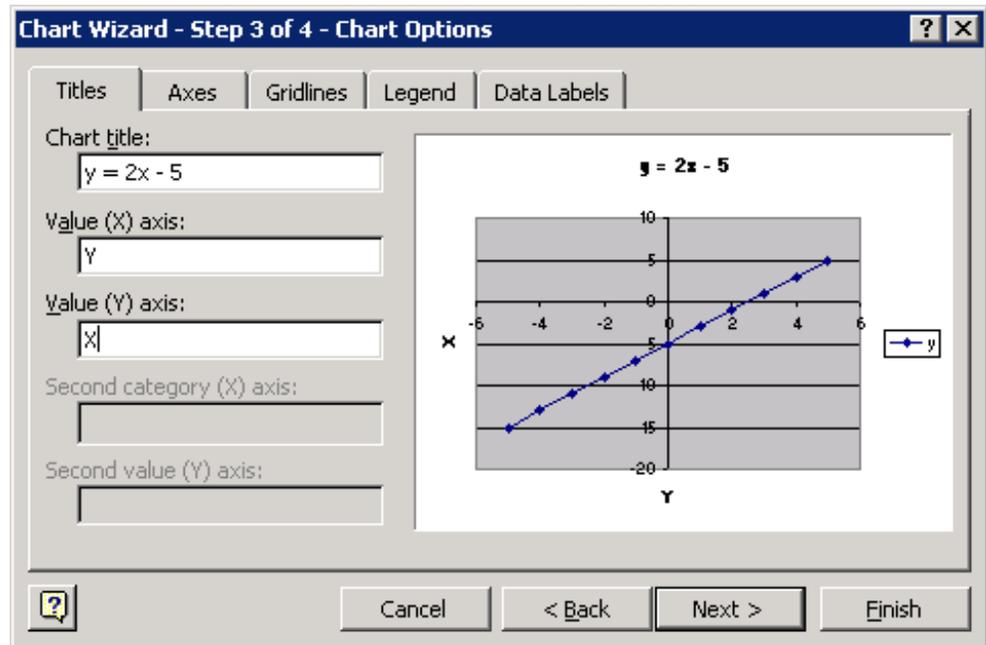
The screenshot shows an Excel spreadsheet with a data table and the Chart Wizard dialog box. The data table is as follows:

	A	B	C	D	E	F	G	H	I
1	Graph of $y = 2x - 5$								
2	x	y							
3	-5.00	-15.00							
4	-4.00	-13.00							
5	-3.00	-11.00							
6	-2.00	-9.00							
7	-1.00	-7.00							
8	0.00	-5.00							
9	1.00	-3.00							
10	2.00	-1.00							
11	3.00	1.00							
12	4.00	3.00							
13	5.00	5.00							

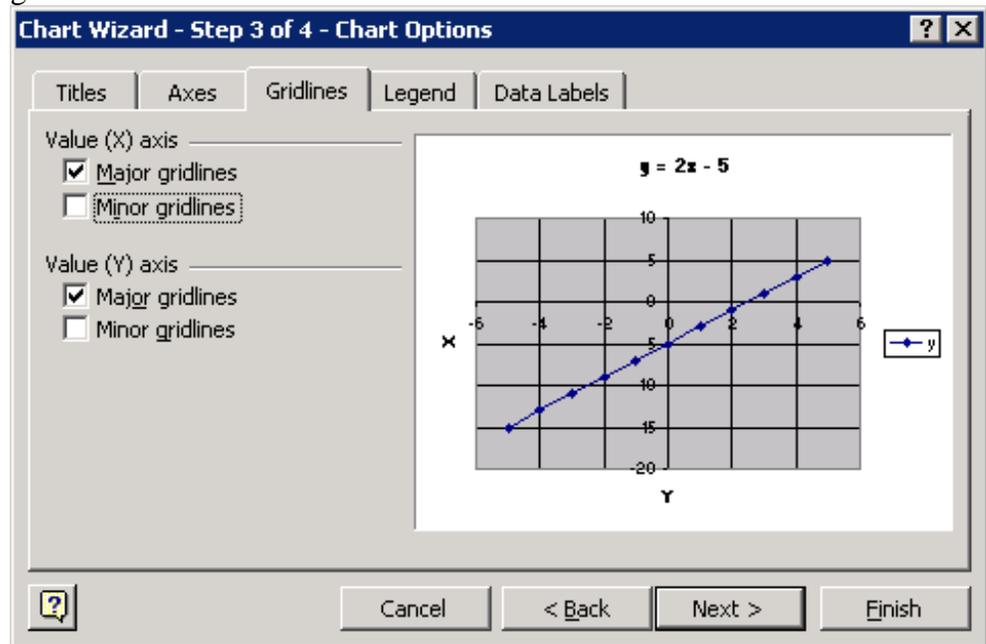
The Chart Wizard dialog box is open, showing the 'Standard Types' tab. The 'XY (Scatter)' chart type is selected. The 'Chart sub-type' section shows four options, with the one in the top-left position (Scatter with data points connected by smoothed Lines) selected and highlighted in black. The description for this sub-type is 'Scatter with data points connected by smoothed Lines.' The 'Next >' button is visible at the bottom of the dialog box.

1. Select cells A2:B13.
2. Select the Insert Menu, choose Chart, Select the XY (Scatter) Chart type and then select the Chart sub-type that I have selected in black above.
3. Click the Next button on the Chart Wizard twice.

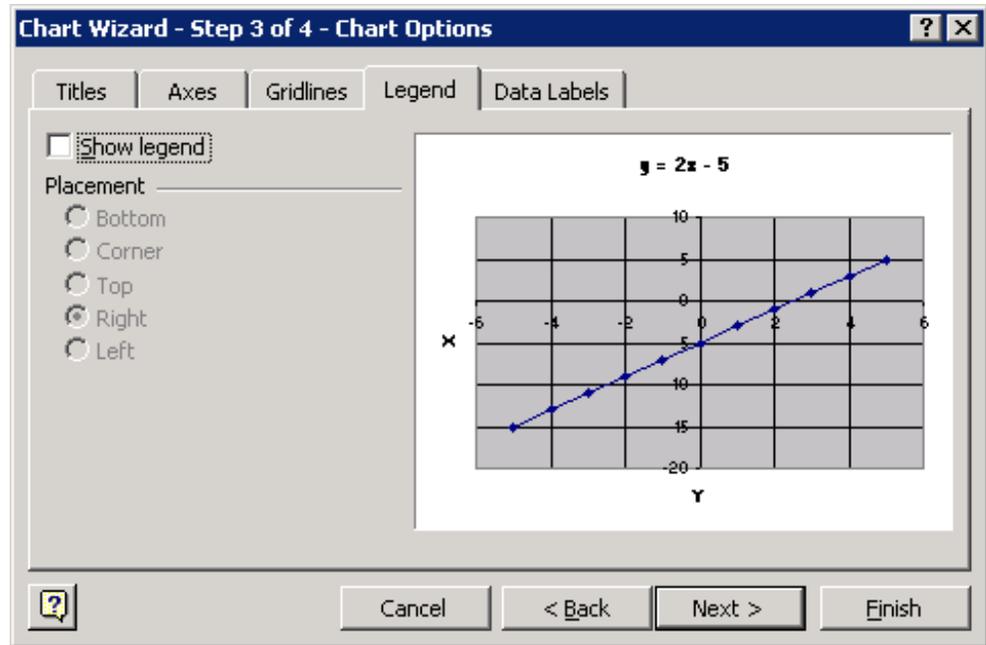
4. Click on the Titles Tab and enter the information below.



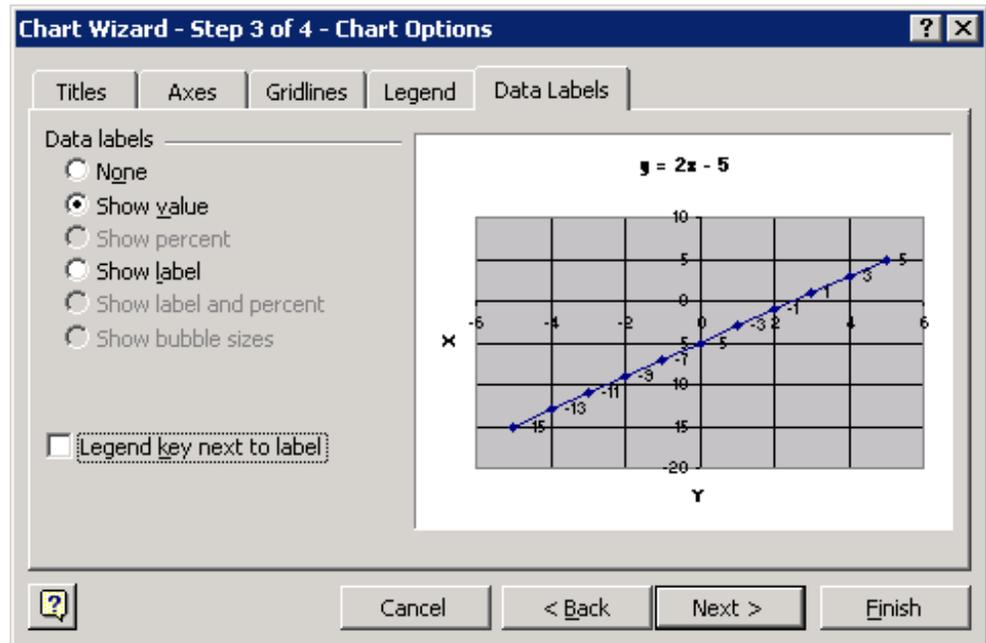
5. Click on the Gridlines Tab and check both boxes labeled Major gridlines as shown below.



6. Click on the Legend Tab and deselect the Show legend box.

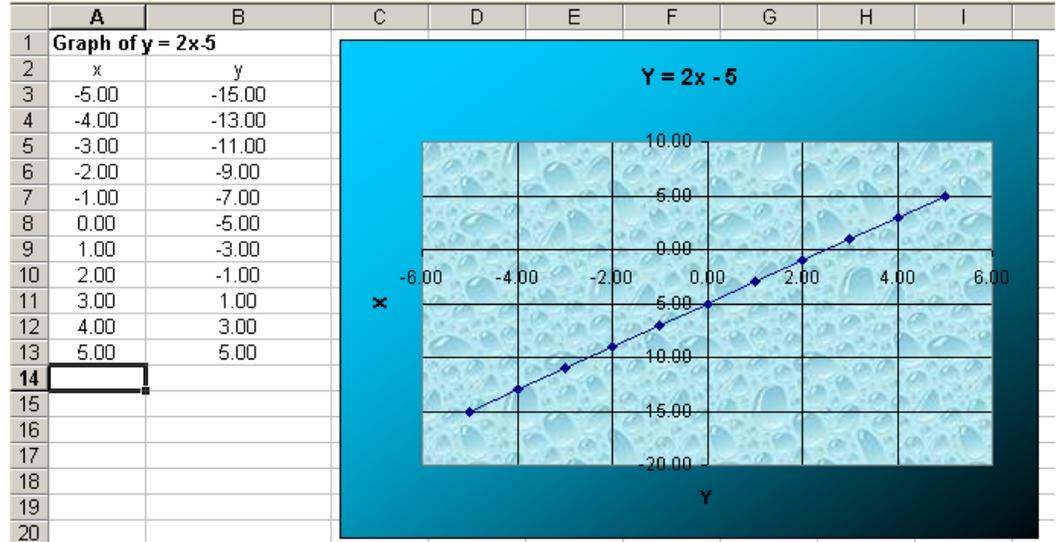


- Click on the Data Labels Tab and choose Show value as illustrated below.



- Click the Next button and then click the Finish button

9. Customize your graph as you wish.



STEP 3 Graph your next equation

1. To graph your next linear equation(s), repeat the preceding steps except that you must use different letters for x and y. Use a and b for the second equation, d and e for the third equation, etc. Excel won't let you define the same letters on the same spreadsheet and **for some reason doesn't like the letter "c" or the letter "r"** (I am guessing that "c" and "r" are probably internal variables in Excel for row and column).
2. Make sure that you save your work as LASTNAME FIRSTNAME LinearEquations, and save this in your "S:" network directory. Do not save your work on the local hard drive "C:"!
3. When you are sure that everything is correct and you have used formulas to generate all of the "y" values, then **copy and paste your Excel file into the "W" directory**. Don't use the File Menu and Save As... option, this will NOT save the entire file due to a conflict between Microsoft Excel and our Novell Server Software.