

How to Do Page 208 Example 1 Using Microsoft® Excel

Use Microsoft® Excel software to determine the roots of the equation $-x^2 + 8x - 16 = 0$.

- Enter the titles of the columns.
 - Click on cell A1 and enter X.
 - Click on cell B1 and enter Y.
- In the first column, enter values of x from -2 to 10 .
 - Type -2 into cell A2.
 - Instead of typing the remaining numbers into the cells below, create a formula that you can copy into the boxes below: click on cell A3 and type $=A2 + 1$.
 - To copy this formula to the cells below: left click (and hold down) on cell A3 and then drag the cursor so cells A3 to A14 are highlighted. Then, hold down the Ctrl key while typing **d**. (This is equivalent to choosing Edit → Fill → Down.)
 - The X-column should now contain the numbers -2 to 10 .
- Complete the column for Y.
 - Click on cell B2 and enter the formula $= -1*A2^2 + 8*A2 - 16$
 - To copy this formula to the cells below, left click (and hold down) on cell B2 and then drag the cursor so cells B2 to B14 are highlighted. Then, hold down the Ctrl key while typing **d**. See Figure 1.

	A	B
1	X	Y
2	-2	-36
3	-1	-25
4	0	-16
5	1	-9
6	2	-4
7	3	-1
8	4	0
9	5	-1
10	6	-4
11	7	-9
12	8	-16
13	9	-25
14	10	-36

Figure 1

- Create a scatterplot.
 - Under the Insert menu, select Chart. This will open the chart wizard.
 - Select XY (Scatter) as the type of chart to insert.
 - Under Chart sub-type, select Scatter with data points connected by smoothed lines. (The icon is on the left in the middle row.)
 - Click on Next >. See Figure 2.

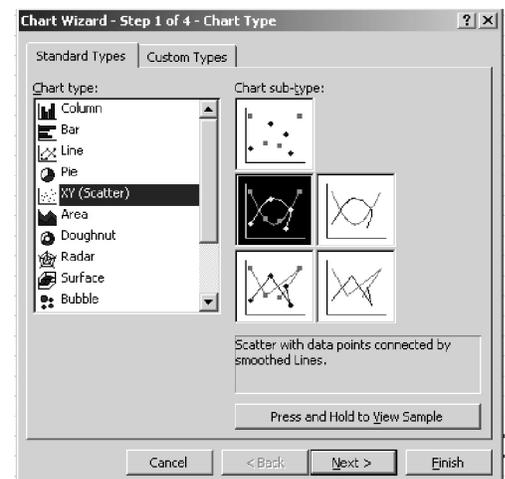


Figure 2



5. Enter the data range.
 - In the main body of the spreadsheet, click on cell A2. Then, hold down the mouse key, and drag the mouse to cell B14. This will create a flashing rectangle around all cells that have data in them.
 - Click Next >. See Figure 3.

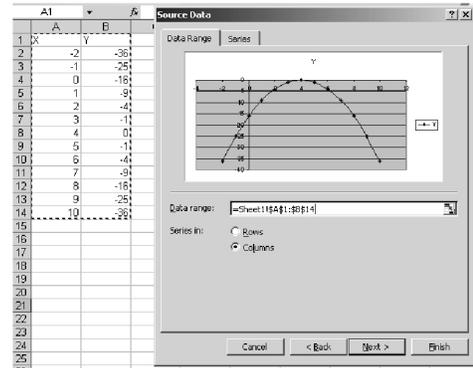


Figure 3

6. You may wish to name the chart and provide labels for the x-axis and y-axis. These may be left blank or you may wish to enter $y = -x^2 + 8x - 16$ for the chart title, x for Value (X) axis, and y for the Value (Y) axis.
 - Click Next >. See Figure 4.

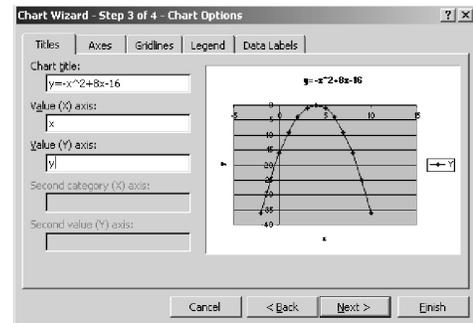


Figure 4

- Place the chart by selecting As object in: and Sheet 1. See Figure 5.

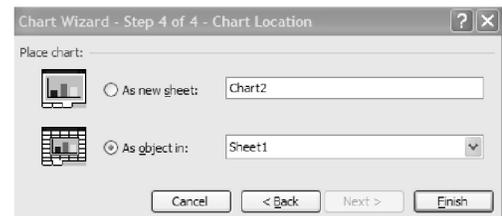


Figure 5

- Click Finish and your chart will be placed in the spreadsheet, as shown in Figure 6.
- You can then move the graph to a convenient location and change its size if you wish. Save your file before exiting.

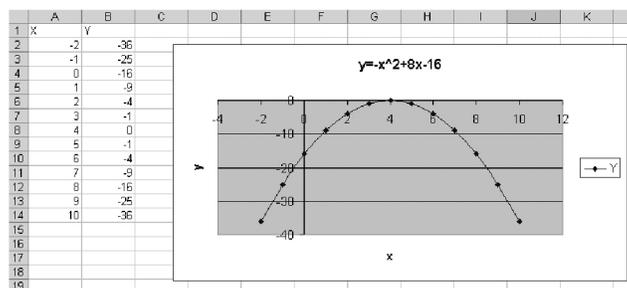


Figure 6

