Microsoft Excel for Windows Vista

Chem1AL, General Chemistry I Lab

1.) Open Microsoft Excel (Start → All Programs → Microsoft Office → Microsoft Office Excel)

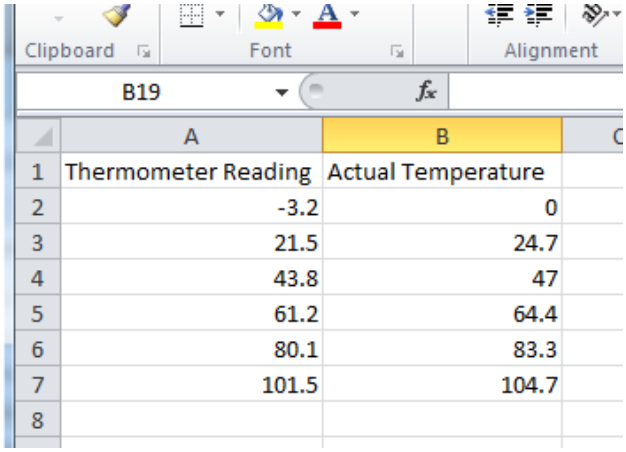
2.) Enter data in a tabulated form.

   a. Enter the data's title in the first box of every **column**.

   b. Enter each data point in its own box under the appropriate **column title**.

   c. Excel plots data from **columns**: keep all data meant to be graphed on the x-axis in one column, all data to be graphed on the y-axis in the second column.

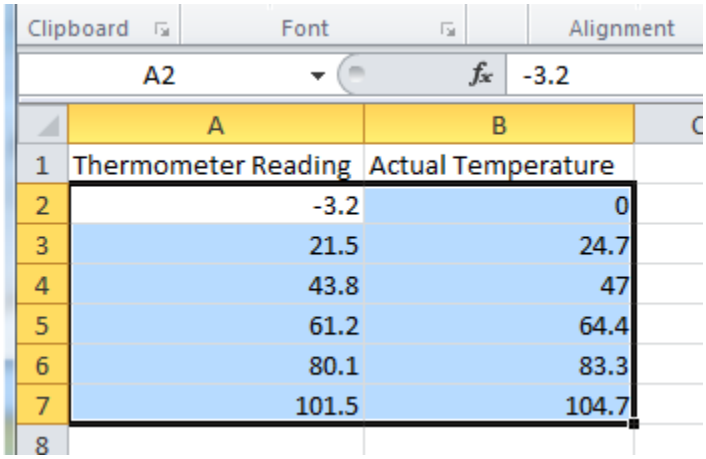
   d. Do not combine **letters** (units or words) and **numbers** (actual data) in the same boxes (exception: the original column title)



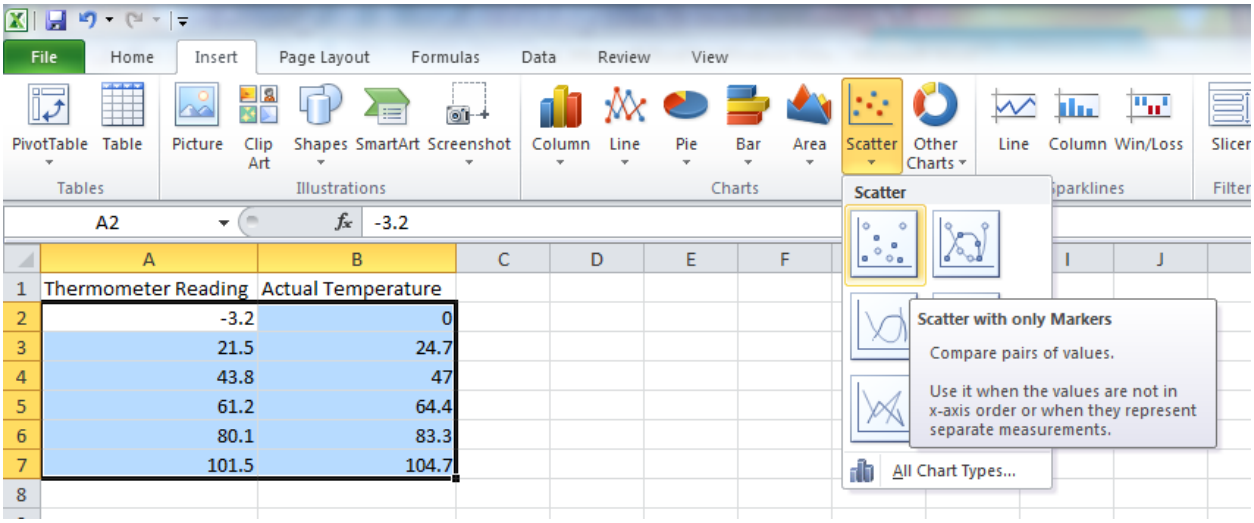
3.) Click and drag to select all data you wish to graph.

   a. Do **not** include your column titles; only include numerical data values.

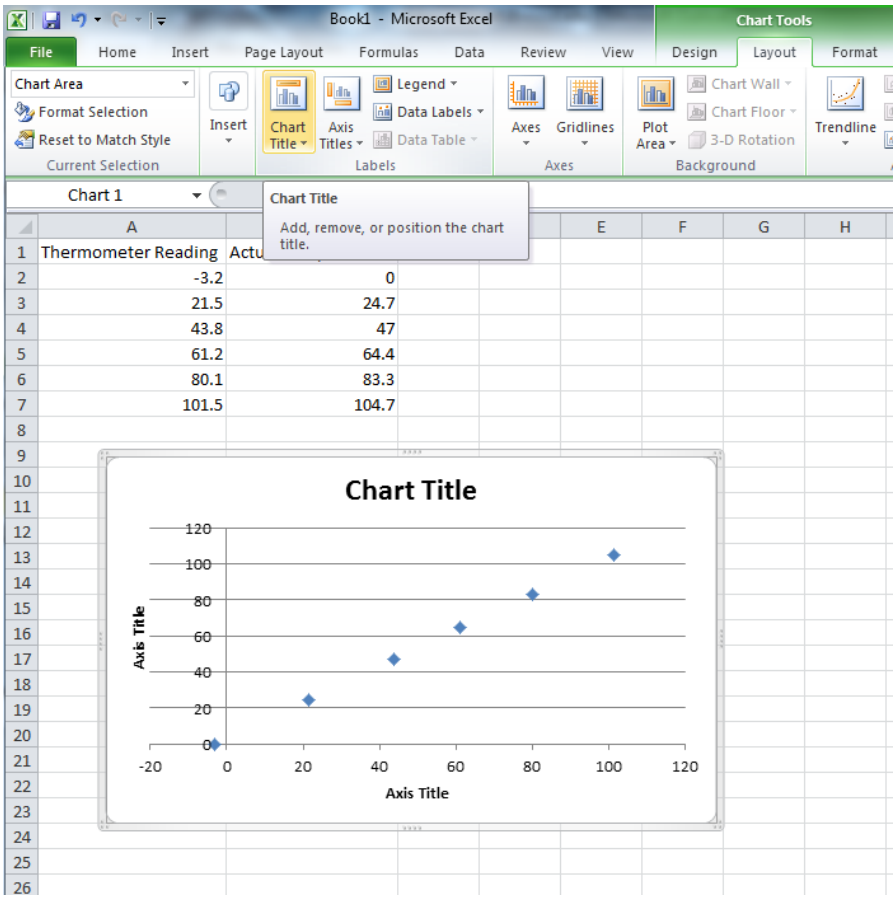
   b. A thick black line should box the selected data and all but the very first box will be grayed out.



4.) Click the **Insert** tab at the top of the screen.
    a. The **Charts** area of the menu bar will show numerous graphing options.
5.) Click **Scatter**.
    a. A drop-down menu should appear.
6.) Select the top left option (only **dots**, no lines).
    a. Excel will plot the data you originally selected with the farthest left column on the x-axis and the column immediately to its right on the y-axis.

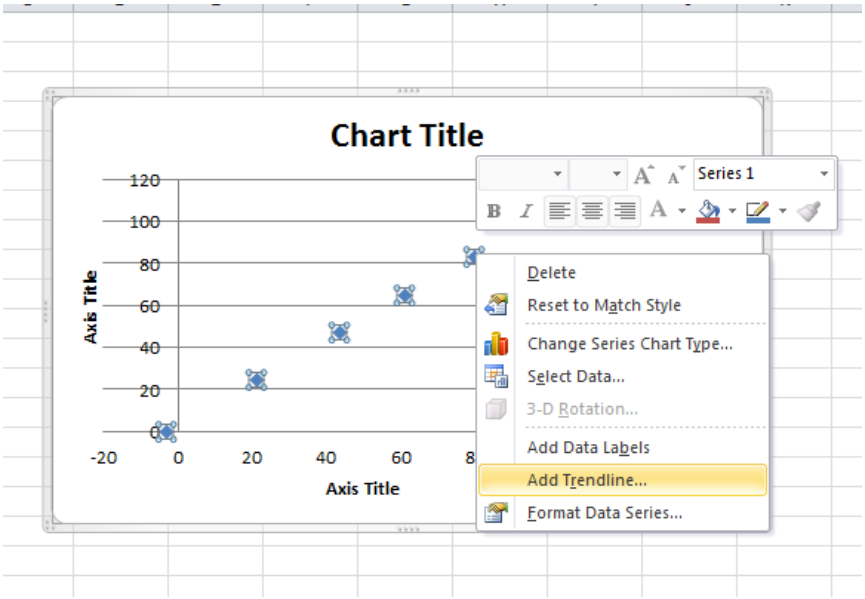


7.) On the new menu bar that automatically appears, go to the **Chart Layout** section. Select the option to the far left.
    a. Generic "**Chart Title**" and "**Axis Title**" will be automatically added. Double-click on the words to change them appropriately.
        i. **Chart Titles** should always be descriptive of what is being plotted (i.e., Temperature versus Pressure)
        ii. **Axis Titles** should always name the data plotted on that axis and include relevant units in parentheses (i.e., Temperature (K))
    b. Remove the legend on the far right of your graph by clicking then pressing the "**Delete**" button on the keyboard.

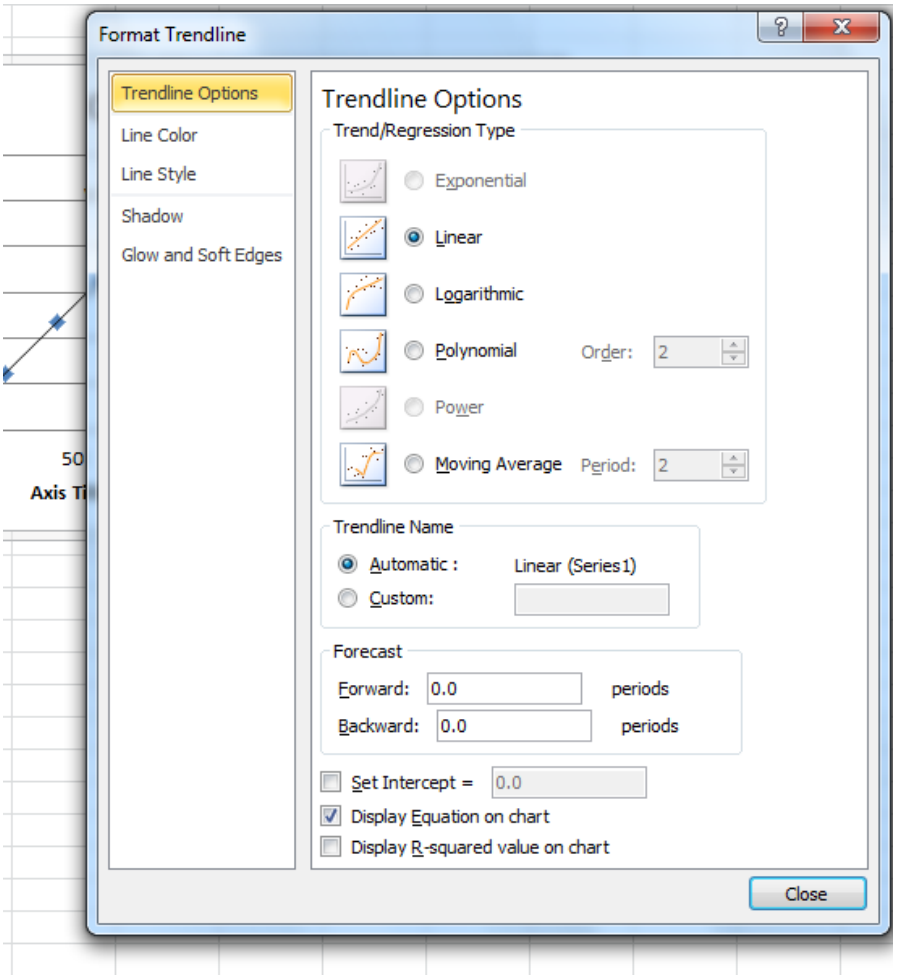


TO ADD A TRENDLINE:

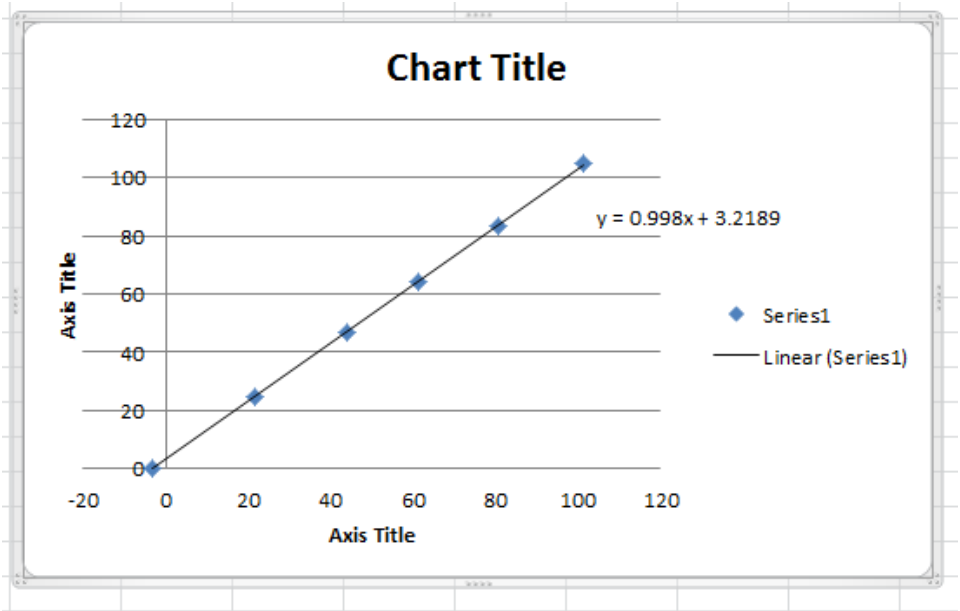
1.) Right click on any data point on the graph. Select “Add Trendline” from the drop-down menu.



2.) Select the type of trendline (usually “linear”) and check the box for “Display Equation on chart”. Click “close”.



3.) Click and drag the equation so that it is not hiding data on the chart.



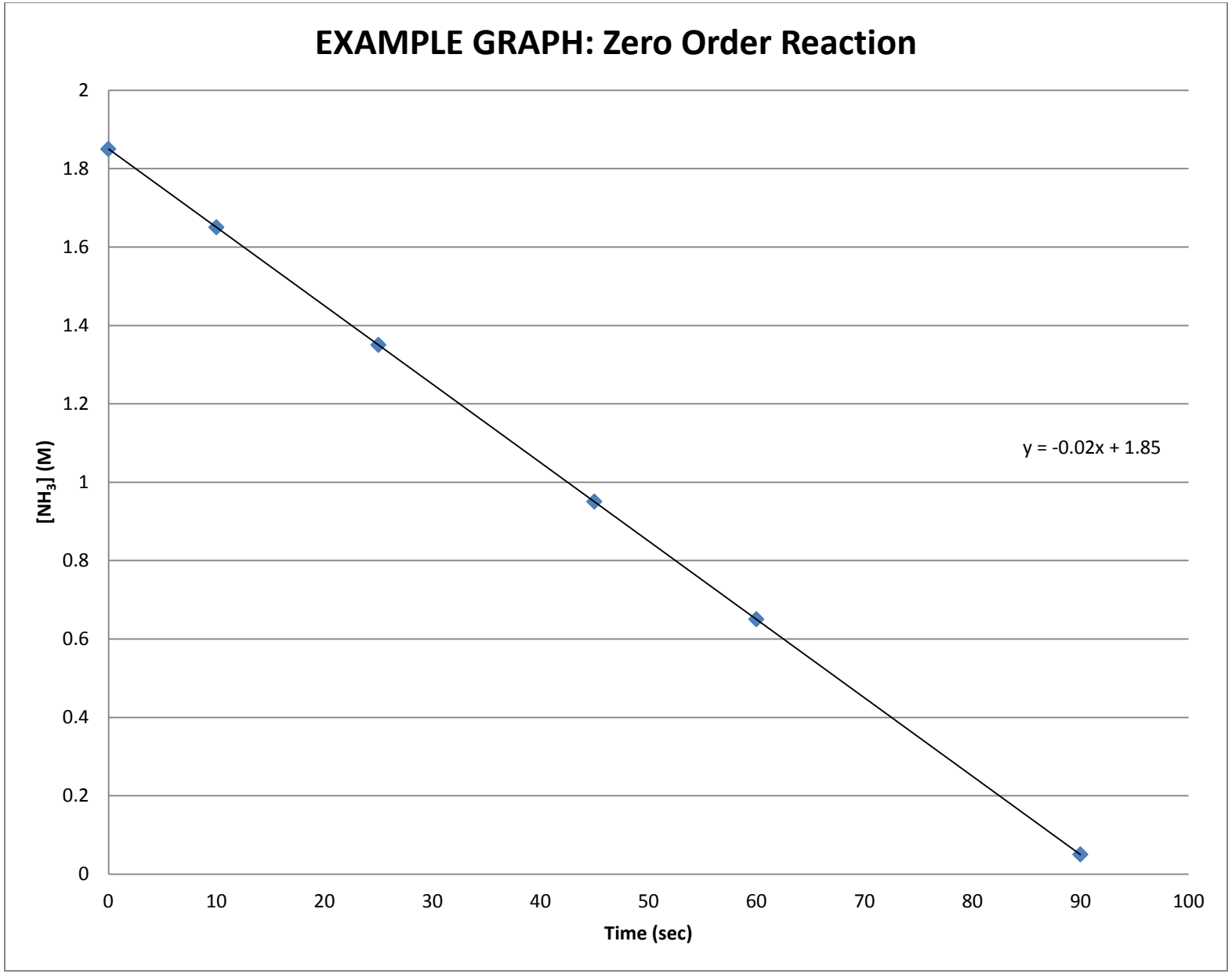
DO'S AND DON'TS OF GRAPH PLOTTING

DO:

1.) Make the graph the full size of the page.
2.) Include an appropriate chart title that tells the reader exactly what is being plotted.
3.) Include appropriate axes labels that tell the reader exactly what data is being plotted on the x-axis and y-axis, and always include units in parentheses where appropriate.
4.) Make your graph clear and the data readable
5.) Make sure that the chart and axes titles are clearly written in a noticeable font and style.

DON'T:

1.) Make the graph not fit the page, or print half-off the page.
2.) Forget to title the chart and all the axes, including units.
3.) Connect the data points with a line (this does not include trendlines).
4.) Plot more than one data set per graph, unless otherwise instructed.
5.) Make the graph unreadable due to coloring, text formatting, background pictures, etc.


EXAMPLE GRAPH: Zero Order Reaction
2
1.8
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
[NH3] (M)
y = -0.02x + 1.85
0
10
20
30
40
50
60
70
80
90
100
Time (sec)