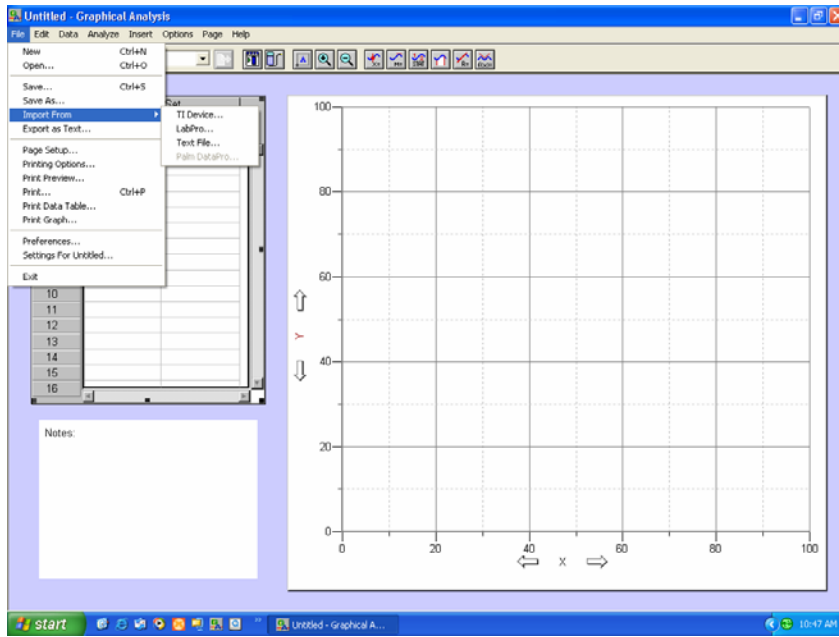
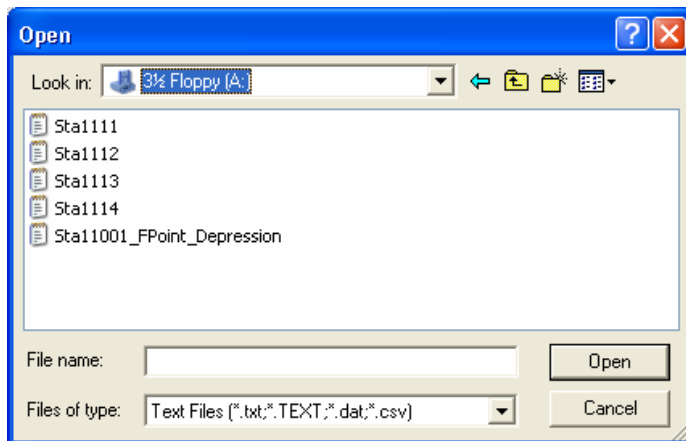


Using Graphical Analysis for Freezing Point Determinations

1. Start Graphical analysis by double clicking on the icon.
2. From within the software select **File** and **Import From**, and **Text File**

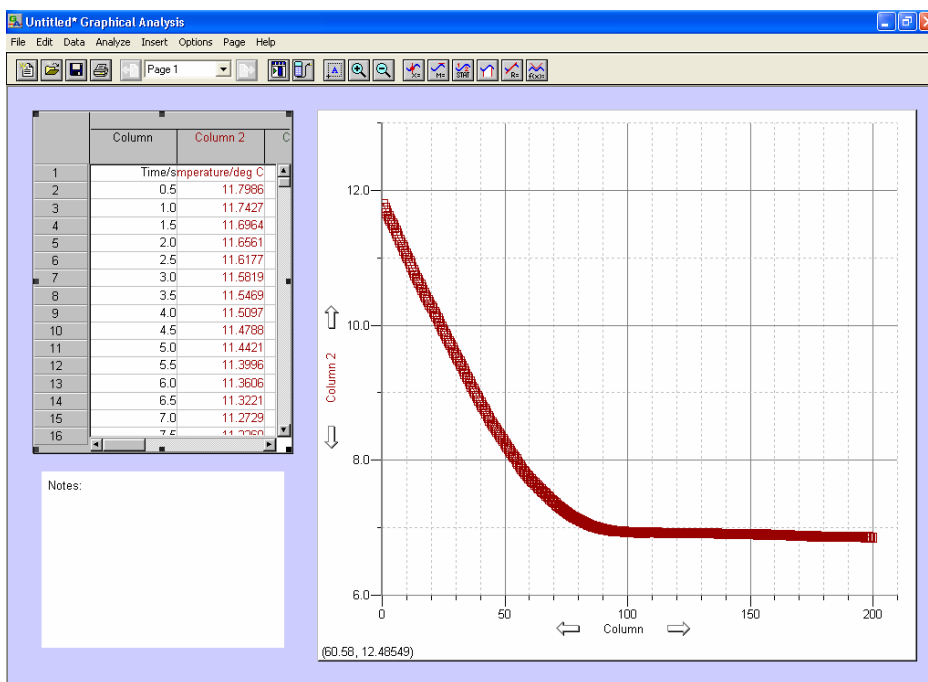


3. You will then import the files from your floppy disk as shown below.

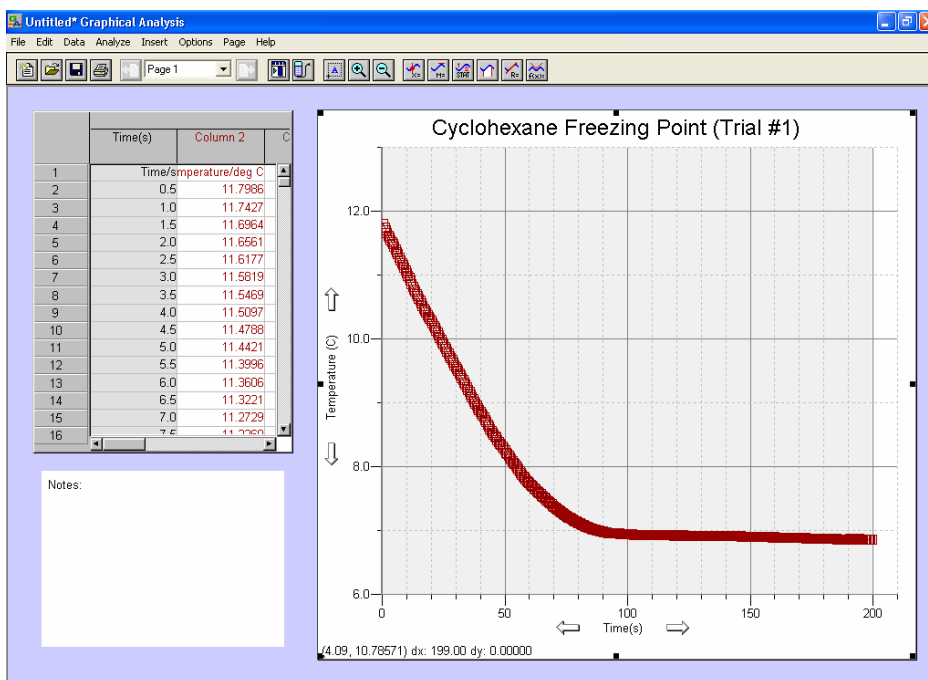


4. Select the appropriate file and click Open.

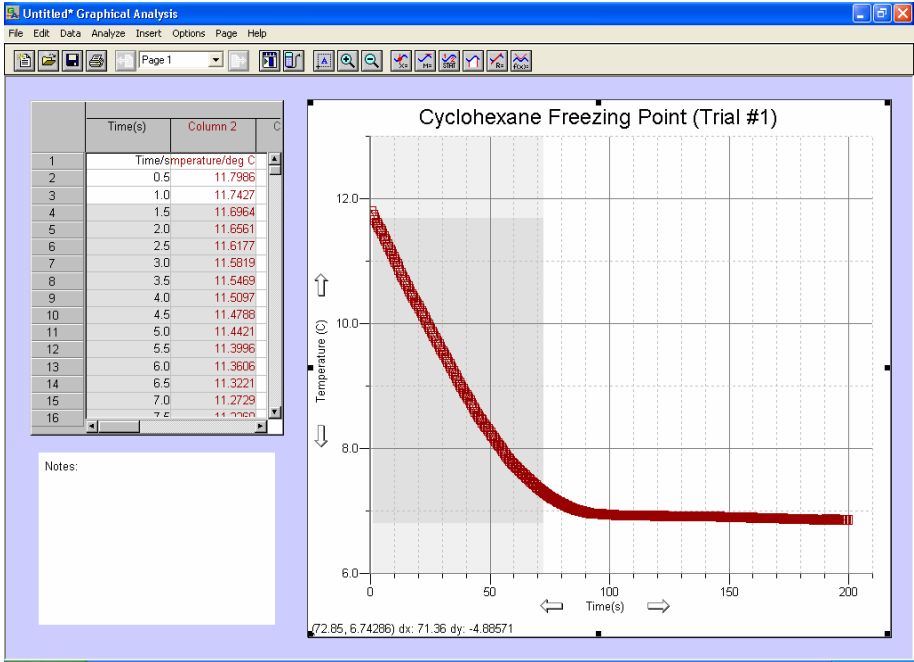
5. Your data should show up as shown below.



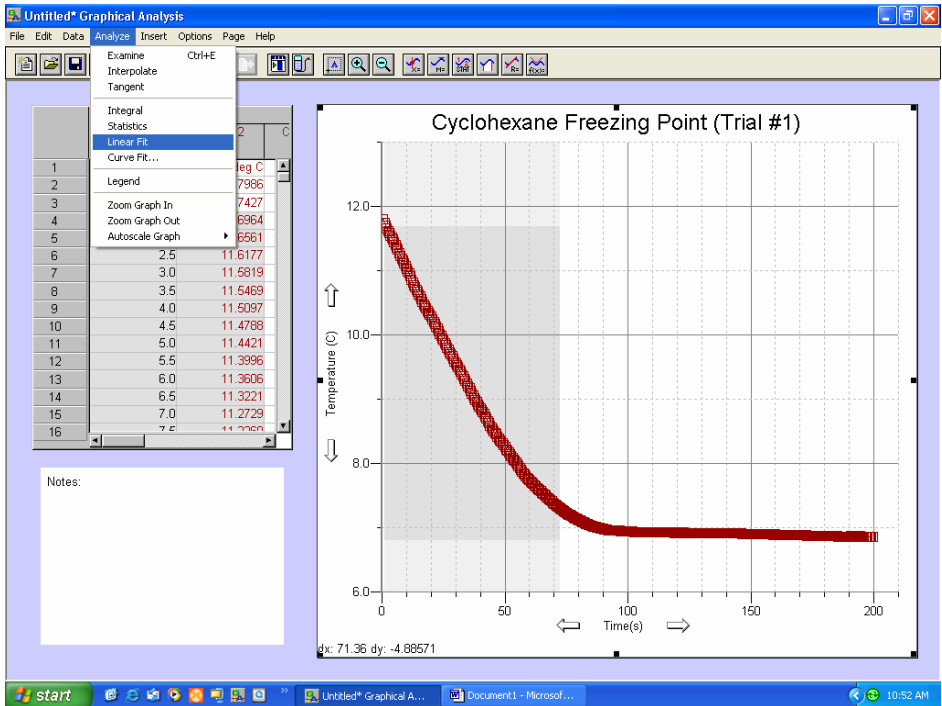
6. Next label the appropriate axis with what they are, including units, as well as the columns in the data box on the left. Also be sure to title the graph.



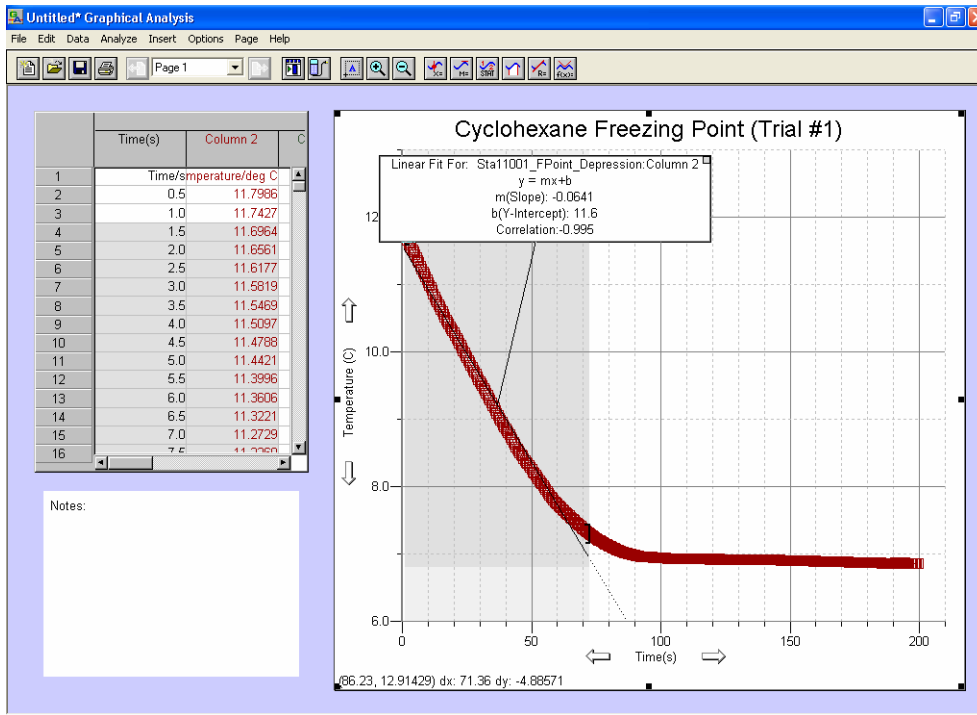
7. Next you will need to draw a linear fit line for the data to determine the freezing point. To do this take your mouse and click in the graph on the upper left portion of the data you want to draw a line, than drag the mouse down and highlight the area you want to draw a linear line as shown below.



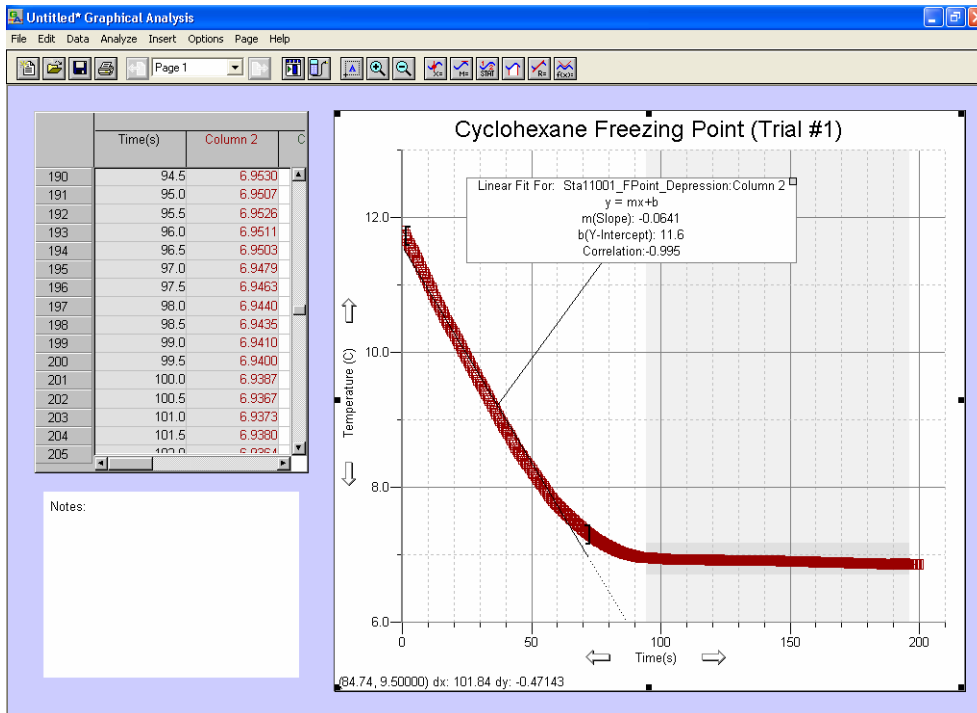
8. Next select **Analyze** and **Linear Fit**.



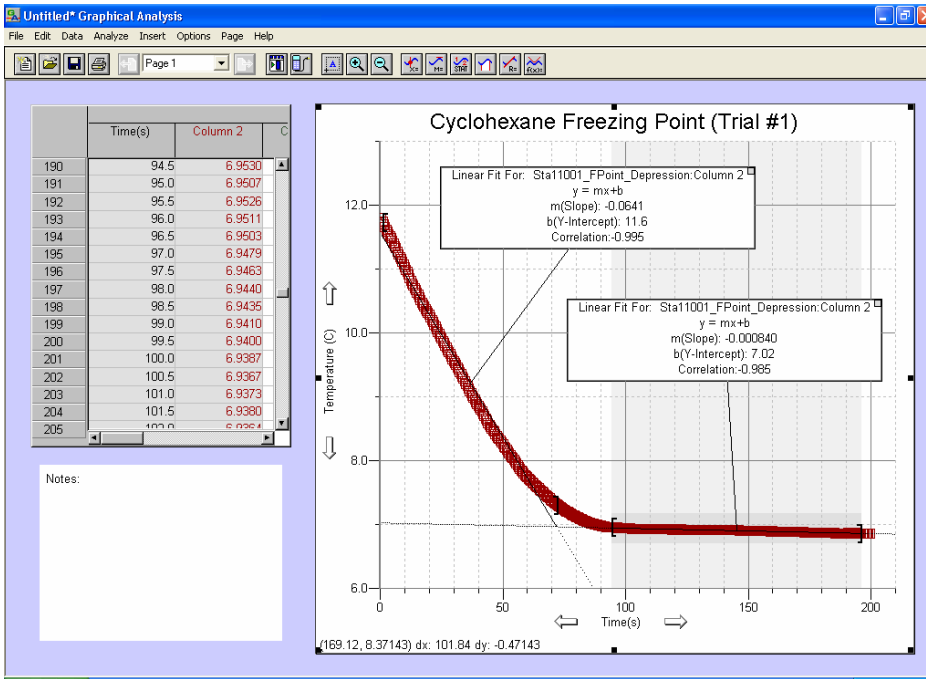
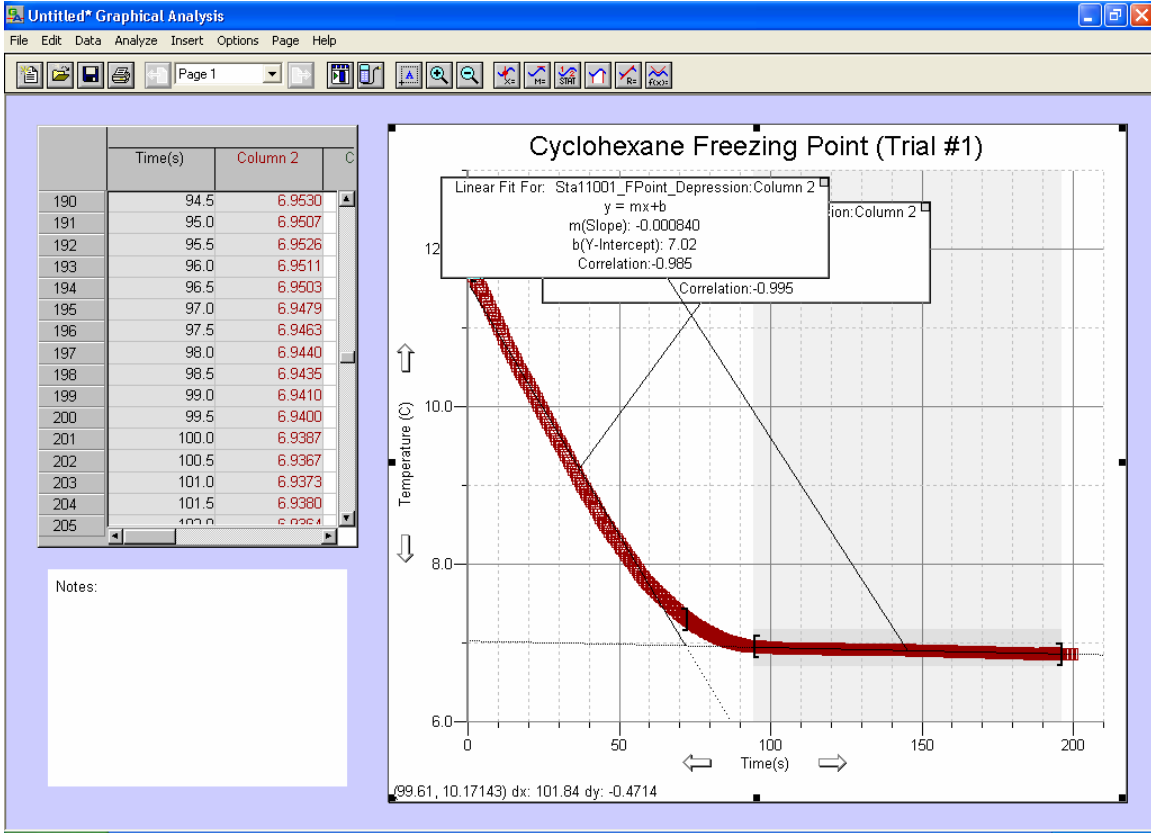
9. You will then get the following, shown below. If you want to move the box with the analysis of the line in it, simply click on the box and move it. If you want to delete it simply click on the small box in the upper right corner of the box.



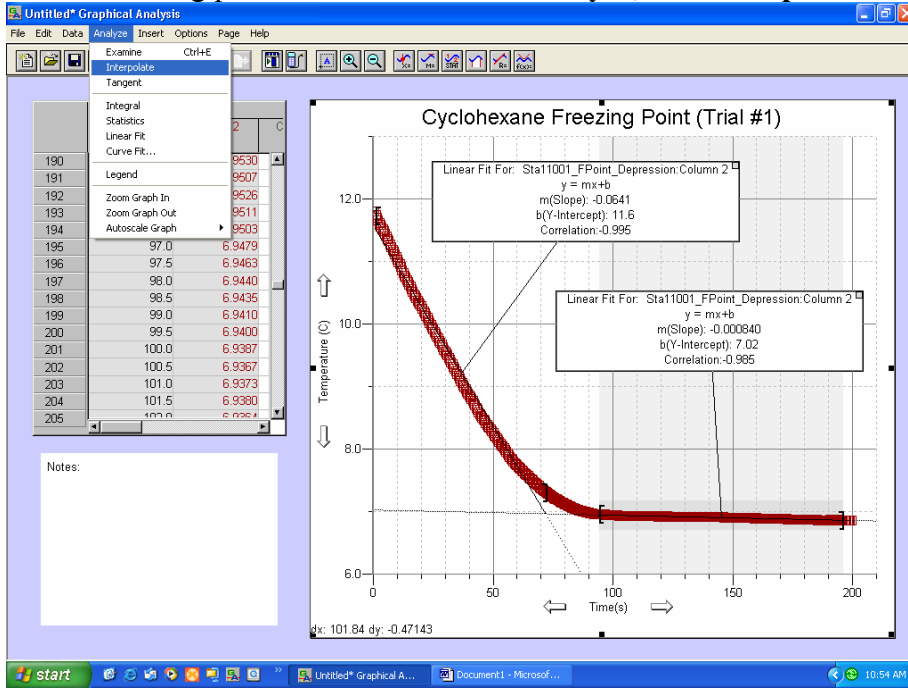
10. Repeat steps 7- 8 for the second line you want to draw as shown below.



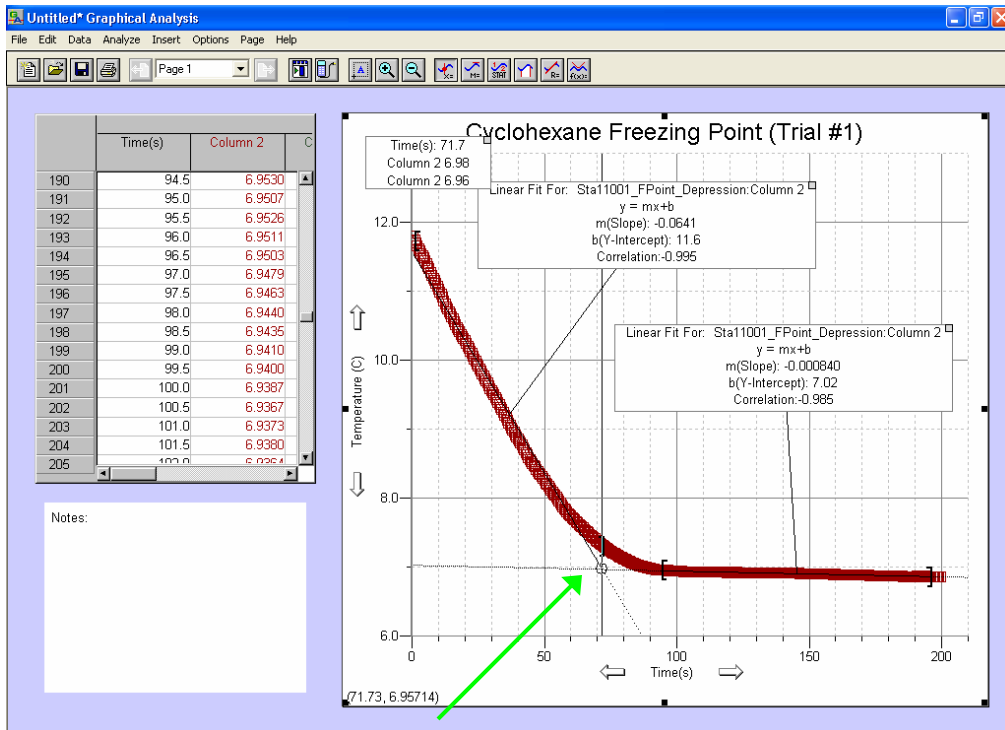
11. You will get a second line for that set of data as shown below. If you want, move the two boxes so they are legible.



12. Next you will need to interpolate the intersection of the two lines to obtain your freezing point. To do this select **Analyze**, than **Interpolate**.

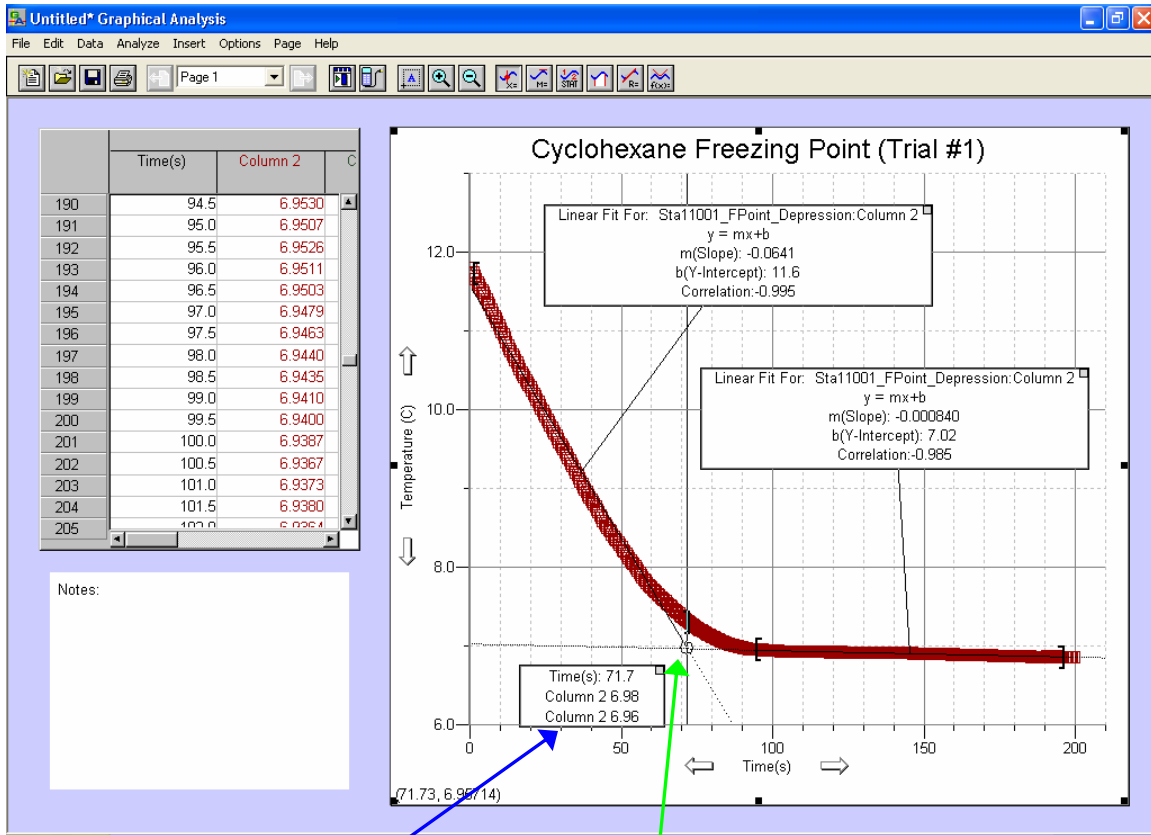


13. You will get a box that appears and has the line information on it. As you move your mouse you will see a small circle that moves along the lines. The values in the box will change depending upon where it is



Circle

14. As you move your cursor you will see the circle move up and down the line and the values in the box change. You will see three numbers in the box. One is the time and the other two are the temperatures (column 2 or Temperature if you labeled the column). You will want to move the cursor until the two numbers are the same and then click the mouse to lock the value. This is the freezing point for that set of data. Record this value. An example is shown below



circles combined here

Values given here. Top number is time. Next two are temperatures (6.98 degrees for this example)

15. Now you can print the graph and save it to your disk if you want. Repeat this procedure for all of the data. You should end up with four (4) graphs.

An Example Report is shown on the next page

Cyclohexane Freezing Point (Trial #1)

