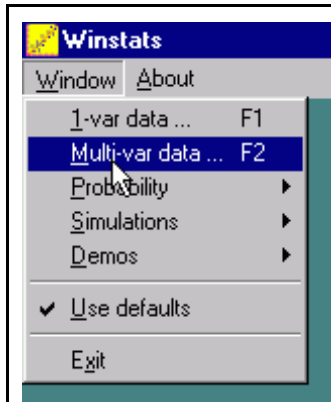
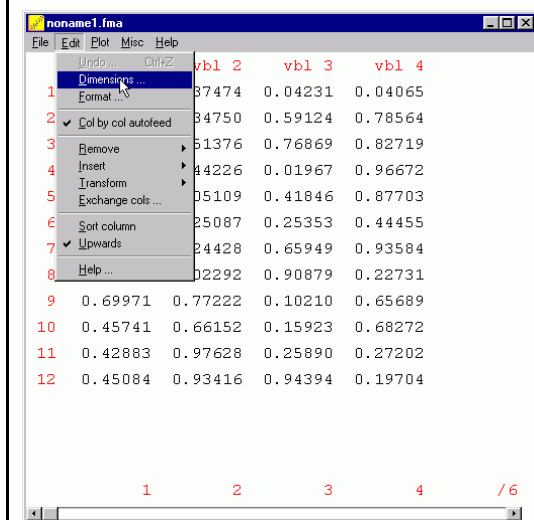


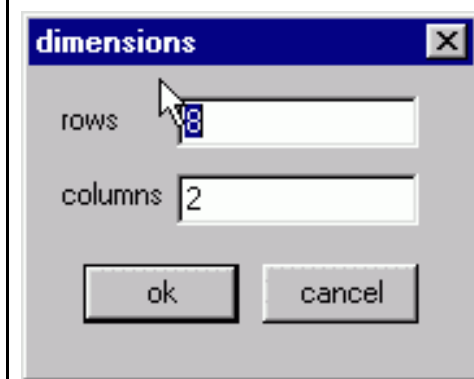
Creating Data Tables and Scatter Plots in Winstats



We will construct a scatter plot and line of best fit which requires a two-column data table. Hence we make the selection as shown.



More columns and rows are shown than are needed, so we will edit the dimensions.



For this activity, we will need 8 data values in each column.

noname1.fma

File Edit Plot Misc Help

vbl 1vbl 2

10.604450.11917

20.447670.89082

30.838960.79436

40.001310.27322

50.662920.85674

60.229570.98750

70.397130.30631

80.020150.14362

The table shows some default data and headings.

noname1.fma

File Edit Plot Misc Help

Fat (g)Calorie

131.00000570.00000

248.000000.89082

314.000000.79436

410.000000.27322

525.000000.85674

632.000000.98750

728.000000.30631

813.000000.14362

12

The data we will enter represents fat content and calories in various kinds of burgers from a certain fast food chain. Click the first heading and type in **Fat (g)**, press ENTER on your keyboard. Repeat this process to change the second heading to **Calories**.

noname1.fma

File Edit Plot Misc Help

Undo ...Ctrl+Z

Dimensions ...

Format ...

Col by col autofeed

Remove

Insert

Transform

Exchange cols ...

Sort column

Upwards

Help ...

10000

29082

39436

47322

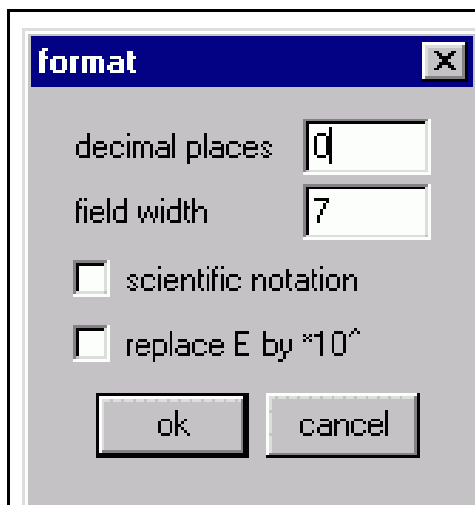
55674

68750

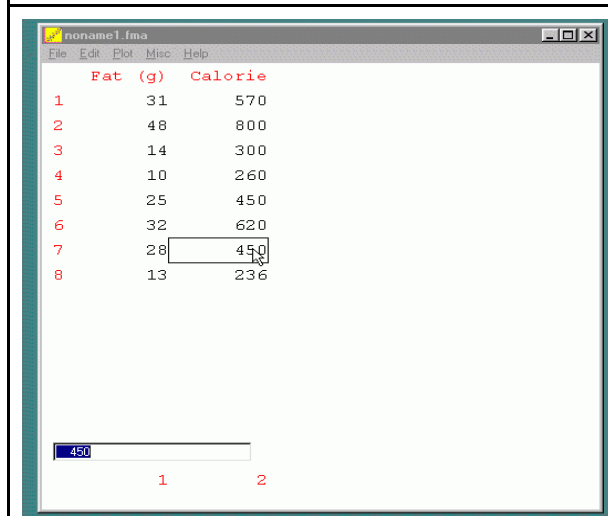
70631

84362

Right now, there are more decimal places than are needed in our data.

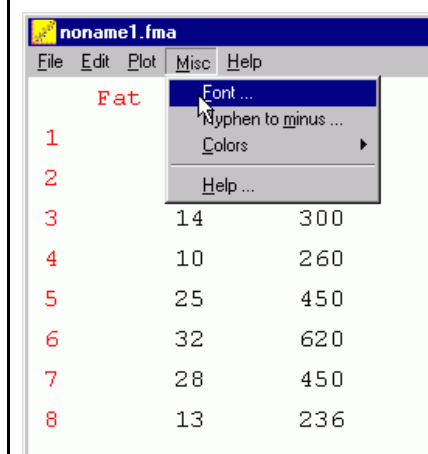


This will give us data without decimals. The field width is only the definition of the maximum number of characters an entry may contain.

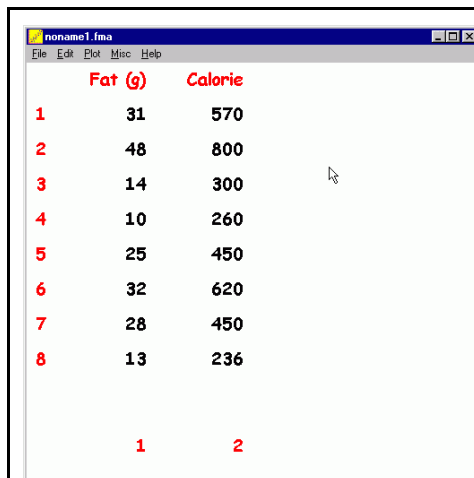


To enter the data, simply click the position of each entry and type in the appropriate data value, then press ENTER.

Hint: If you RIGHT CLICK the entry, then after you type in the data value and press ENTER the window for the next entry will open. This saves having to click each entry every time you wish to enter a new value.



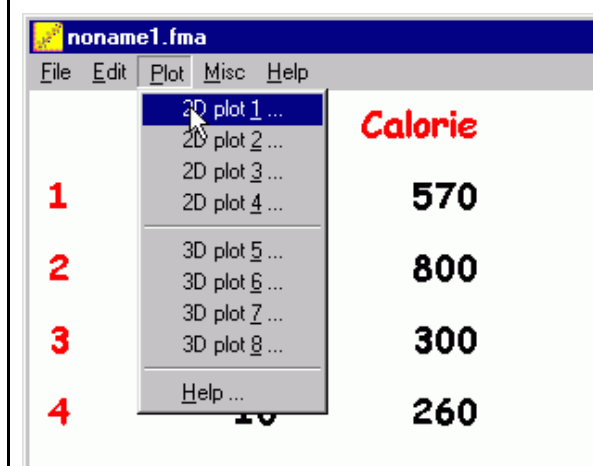
If you do not like the default font, you can change it to another. For example, **Comic Sans** is often used by special needs teachers because it is one of the only fonts that construct the letters “a” and “g” the way they are normally hand printed. You can also increase the font size with this option.



	Fat (g)	Calorie
1	31	570
2	48	800
3	14	300
4	10	260
5	25	450
6	32	620
7	28	450
8	13	236

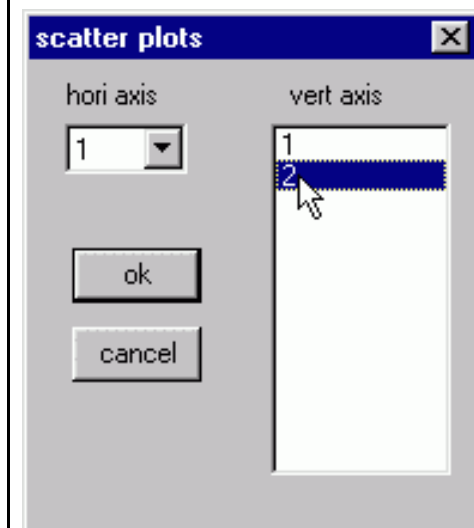
Shown is the same data in **Comic Sans Bold** in a 14 pt font.

If desired, at this point you can go to the **File** menu, choose one of the copy options and paste this data table into your word processor (more on copying and pasting later).



	Fat (g)	Calorie
1	31	570
2	48	800
3	14	300
4	10	260

Now, let's construct a scatter plot of the data.



scatter plots

hori axis: 1

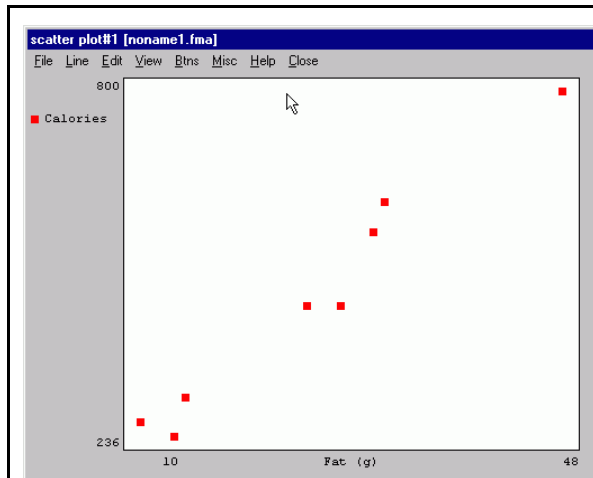
vert axis: 2

ok

cancel

In our case, the horizontal axis will be based on the data from column 1 (Fat), our independent variable, so this does not need to change.

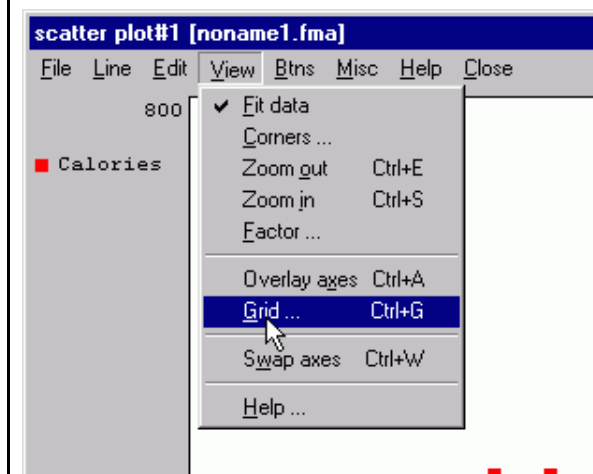
Click on the 2 to assign the data from column 2 to the vertical axis, our dependent variable. Click **OK**



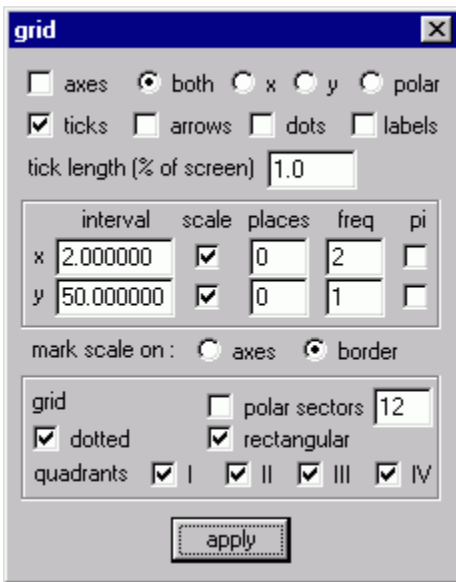
Winstats automatically fits a scale to the data. We will fix this up shortly to *display* a scale.

The headings from the columns are also displayed.

Note that the corners display the values of the lowest and highest data values.



Let's display a scale and set some other desired features.



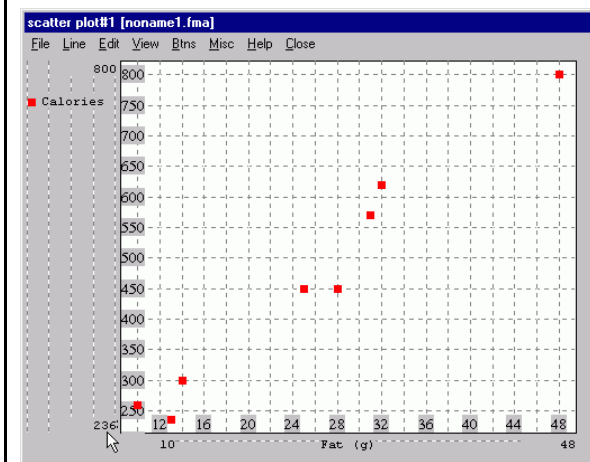
You can experiment with checking off or changing values of parameters shown, clicking **apply** each time.

Check **axes** if you wish to see x- and/or y-axes on your graph (for our graph you will not see them due to the scale).

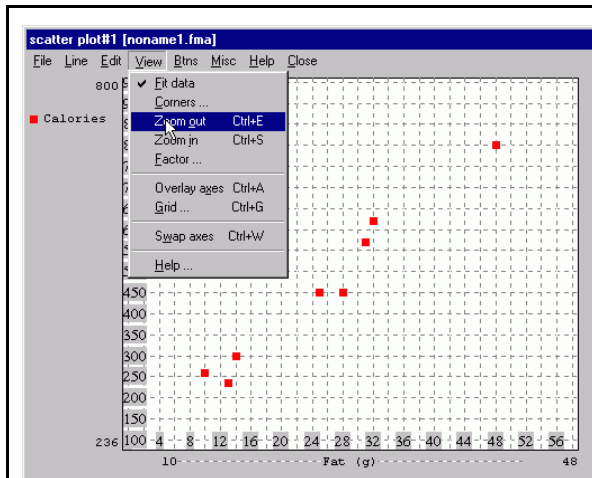
ticks would put tick marks on the axes if we could see them.

Interval is the value between each scale division. **Scale** is checked if we desire to show the scale on the particular axis. **Places** is the number of decimal places in the numbers (ordinates) on the scale. **Freq** is how often we wish to show the values on the tick marks (e.g. a setting of 2 will show the values on every 2nd tick mark). **Pi** is checked if you wish to have the scale labeled in terms of π (Note: you can change **interval** to $\pi/2$, for example, by simply typing in $\pi/2$).

You can experiment with the other settings until you get the desired effects. Close the window when you have finished.



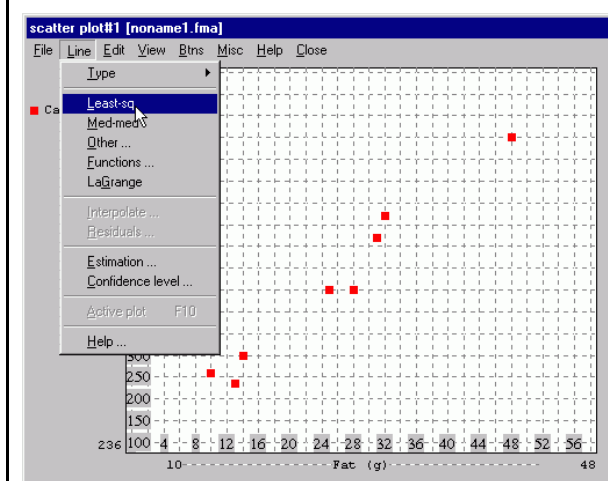
The scale appears on our border. Notice those pesky little corner values are still there. You can delete these later once the graphic has been pasted into Microsoft WordTM or WordPerfectTM.



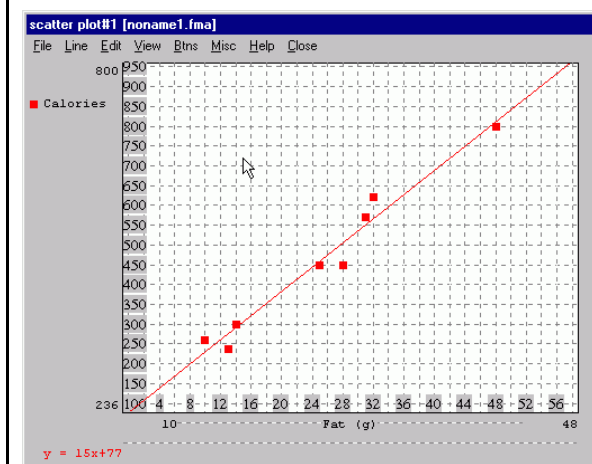
One way to adjust your view is to **Zoom Out** or **Zoom In** until you like what you see.

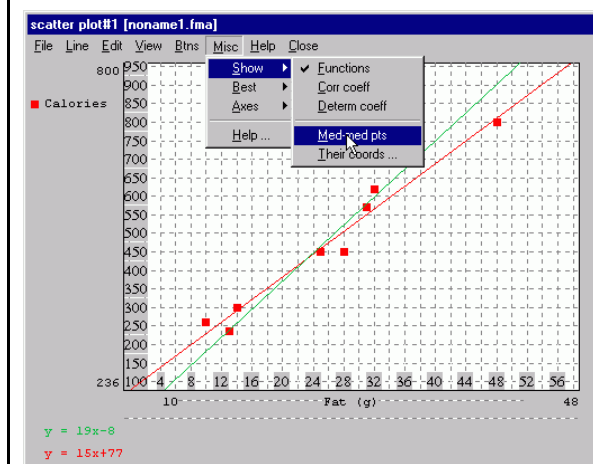
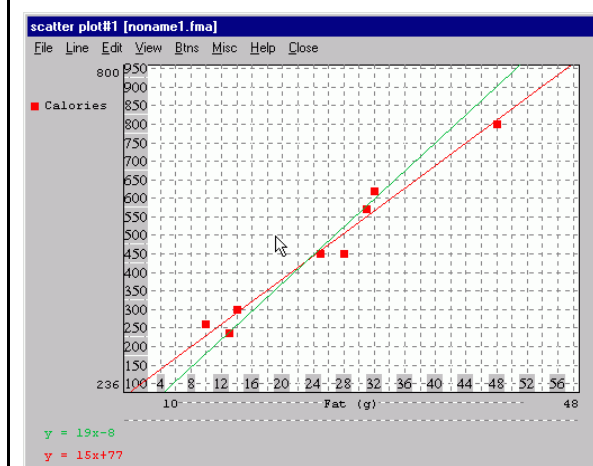
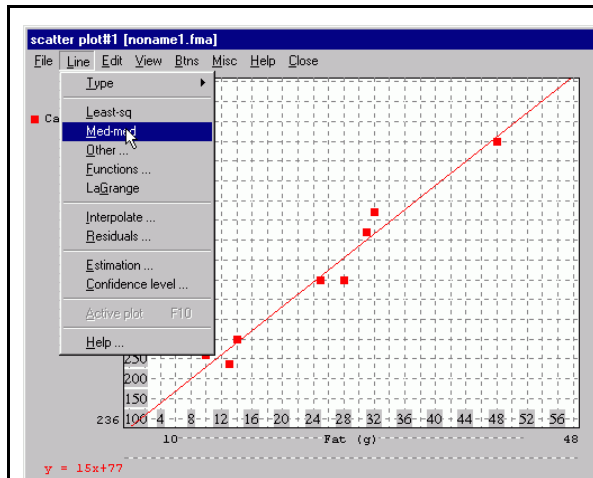
You can set the zoom factor yourself by selecting **Factor** on the menu shown.

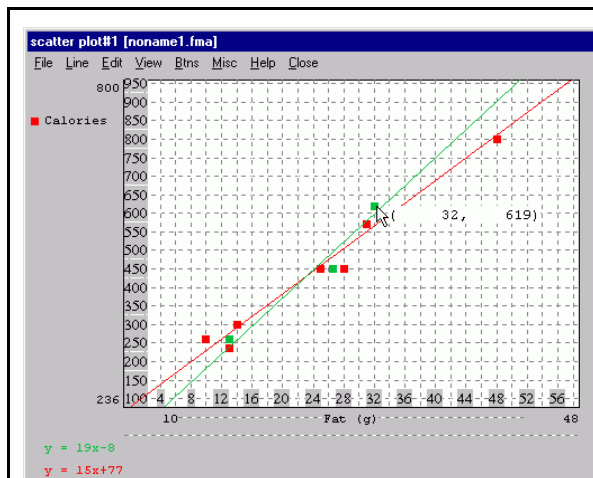
NOTE: You can position the mouse pointer over one corner of the frame until a double arrow appears, then click and drag to enlarge or reduce the frame size.



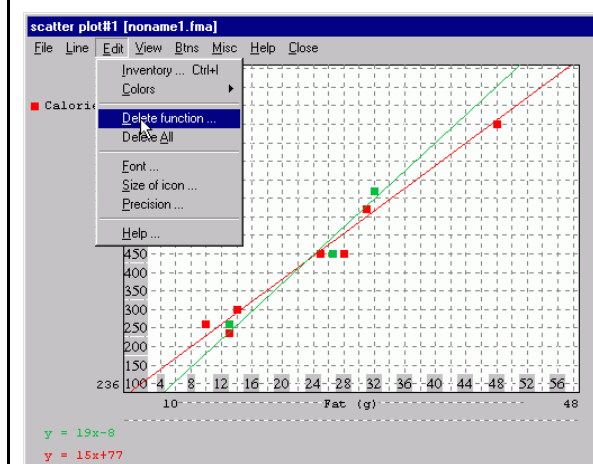
Construct a line of best fit. The Least Squares regression line is the most commonly used.



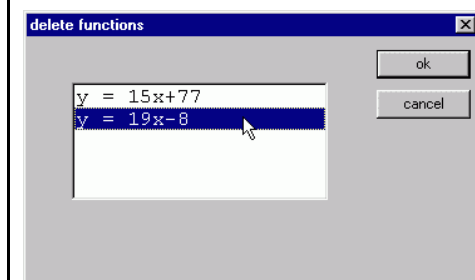




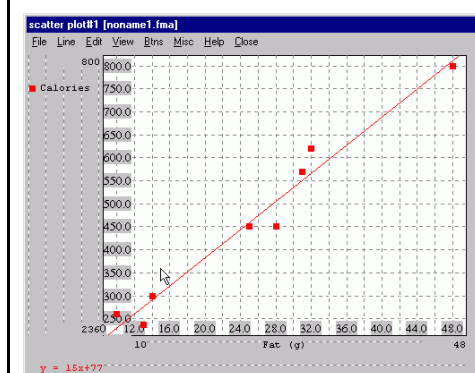
The summary points are in green. You can see the coordinates of these or any other point by left-clicking and holding the button.

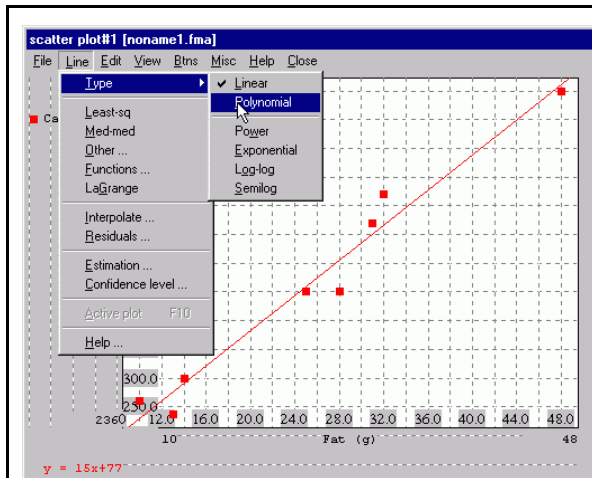


Let's delete the Median-Median line.



Select the appropriate equation and click OK.





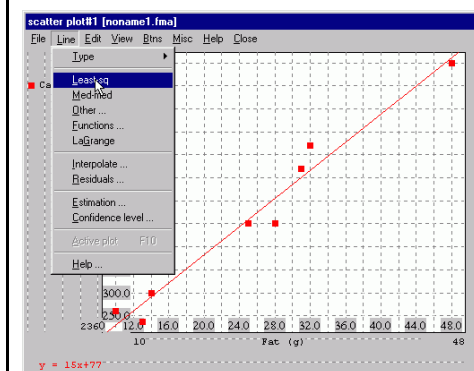
There are other types of regressions that can be performed. Although a line of best fit is the only one that truly makes sense for the data in this example, if you want to do some sort of polynomial regression, make the selection as shown, then enter the degree of the polynomial as shown in the next screenshot.

input

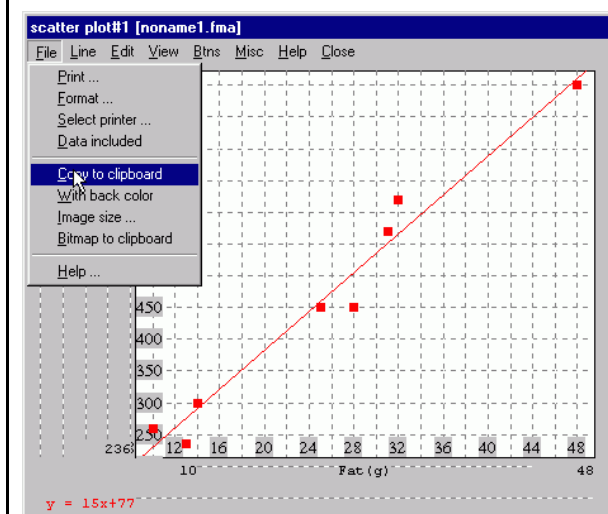
polynomial degree

2

ok cancel



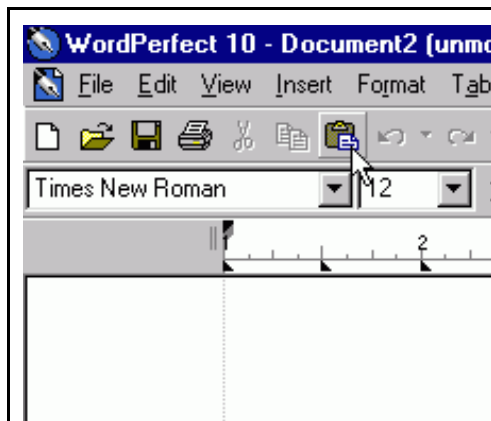
Choose the type of regression you want performed.



To copy and paste the diagram into another application, there are several options.

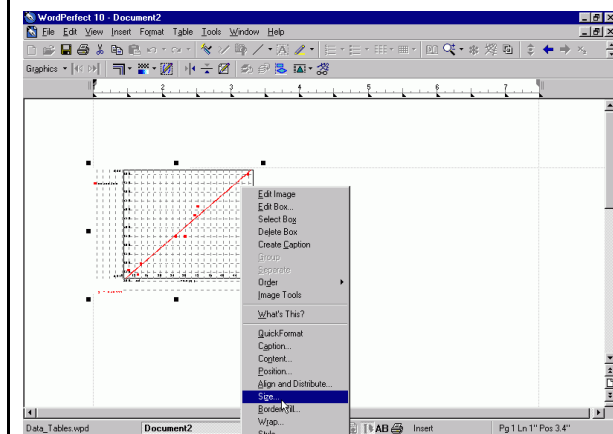
Bitmaps are convenient but will greatly increase the file size of any document.

Copy to Clipboard is usually the most convenient (you will probably want to ensure **With Back Color** is not checked, especially in documents that will be printed in black and white).

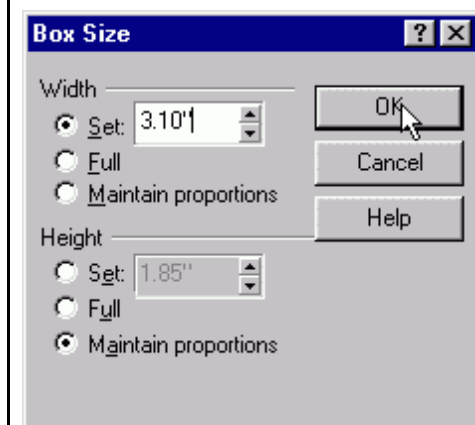


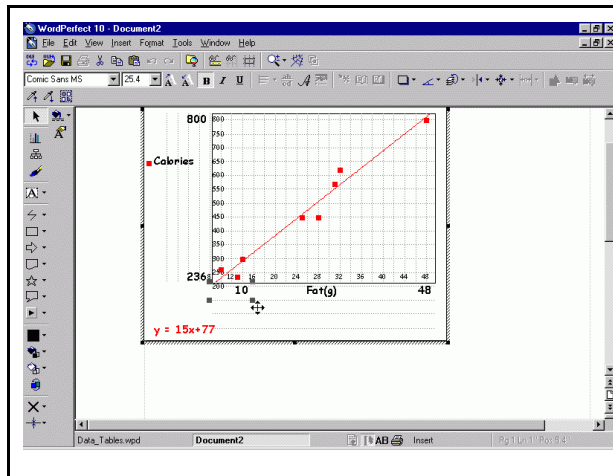
Click the **PASTE** button (or use **EDIT-PASTE**) in your word processor such as Word™ or WordPerfect™.

NOTE: In WordPerfect 9 or higher, you may have to select **EDIT-PASTE SPECIAL** when using the **Copy to Clipboard** feature from Winstats.



You may need to resize the diagram to the desired size. You can do this by clicking and dragging the corners. In WordPerfect, you can also right click the diagram, select **Size**, and enter the desired values.





By double clicking on the diagram, you will open the graphic in a drawing window. Here, you can add more features (such as more text) to the diagram or delete some features.

Remember those pesky corner values? Simply left click on each one and press your **delete** key. You can also do the same with other features such as the grid lines.

Click twice outside the drawing area when finished.

Happy Working with Winstats!!!!