

# Gerald's Column

## by Gerald Fitton

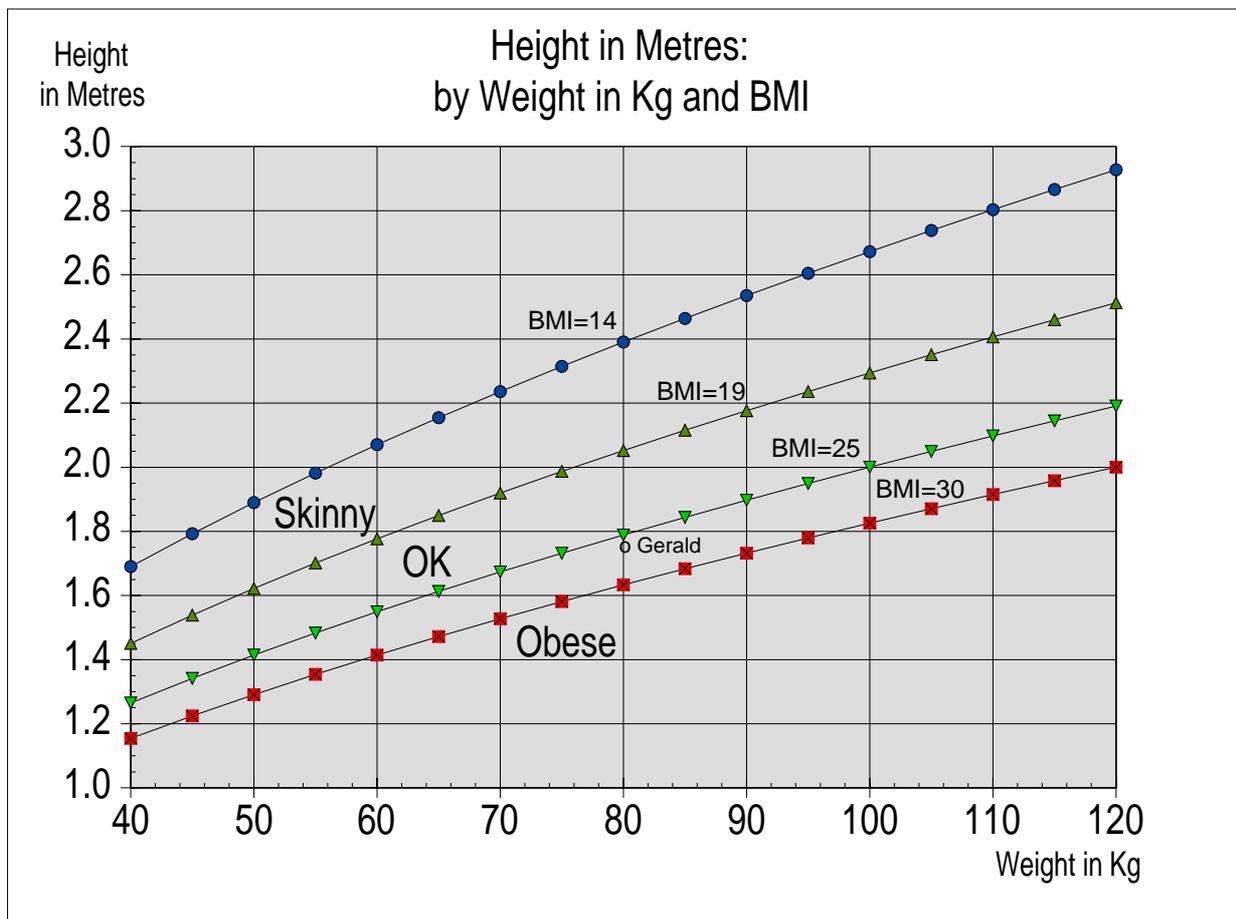
Let me have men about me that are fat;  
Sleek-headed men and such as sleep o' nights:  
Yond Cassius has a lean and hungry look;  
He thinks too much: such men are dangerous.

Julius Caesar, Act 1, Scene 2  
William Shakespeare 1564 - 1616

Indeed, it was Cassius, the schemer, who orchestrated the assassination of Julius Caesar. Much has been written by A Level students in favour of the figurative meaning of "a lean and hungry look" but I like to think of Cassius as a thin lipped, short, highly political, near anorexic villain with a BMI below 18! Perhaps that is because my BMI of 26.4 is classed as Overweight and, at a slightly rotund 80Kg, I like to think that I am not at all villainous!

### The Chart

In this article I shall describe in a little more detail how to produce the chart below from a PipeDream spreadsheet. I didn't have enough space to write a neat "Overweight" between the BMI = 25 and BMI = 30 lines but, if you look carefully you'll see me there at 80Kg.



You may wonder what classification should be given to people whose BMI is less than 14. I suspect that the answer is "At Death's Door". Don't go there!

## The Spreadsheet

The screenshot below is the PipeDream spreadsheet which I have used to create this graph.

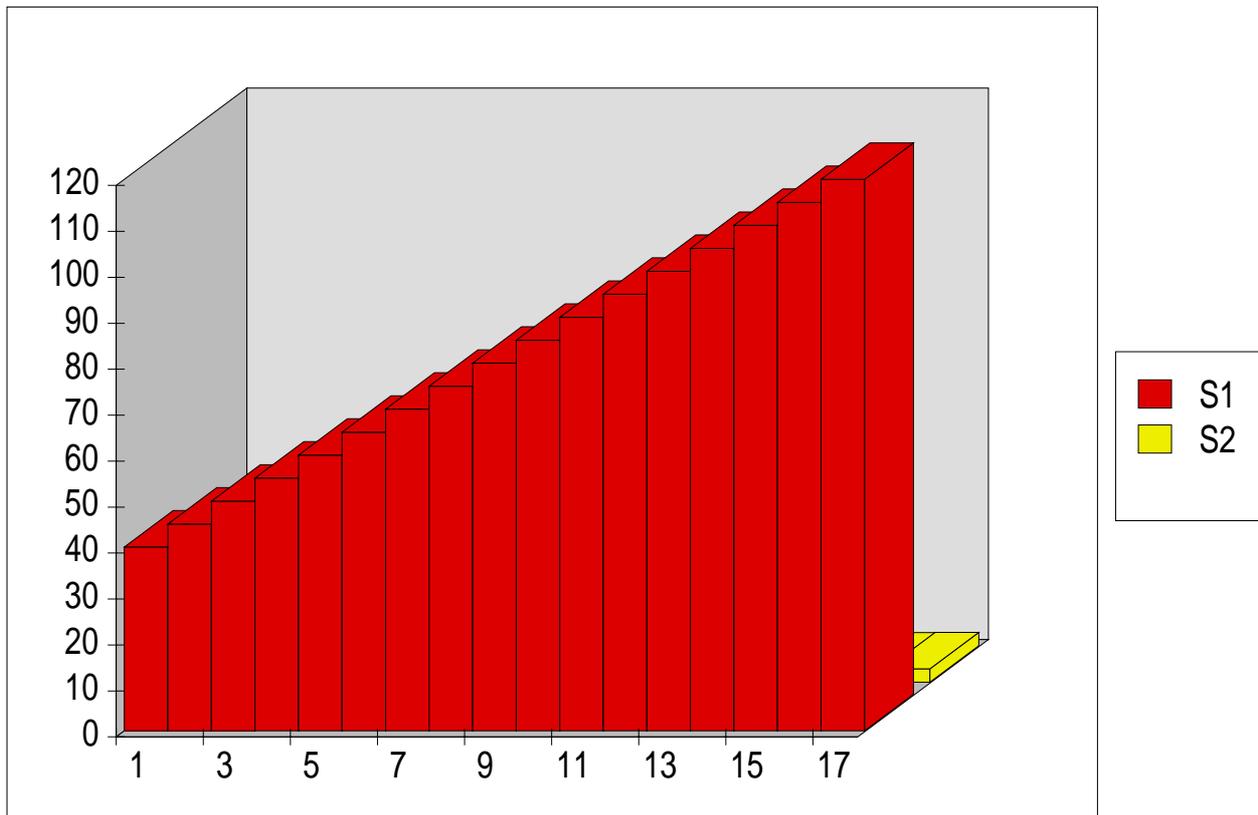
	A	B	C	D	E
1					
2	Height in metres: by Weight in Kg and BMI				
3					
4	BMI	14.00	19.00	25.00	30.00
5	Weight inKg				
6					
7	40.00	1.69	1.45	1.26	1.15
8	45.00	1.79	1.54	1.34	1.22
9	50.00	1.89	1.62	1.41	1.29
10	55.00	1.98	1.70	1.48	1.35
11	60.00	2.07	1.78	1.55	1.41
12	65.00	2.15	1.85	1.61	1.47
13	70.00	2.24	1.92	1.67	1.53
14	75.00	2.31	1.99	1.73	1.58
15	80.00	2.39	2.05	1.79	1.63
16	85.00	2.46	2.12	1.84	1.68
17	90.00	2.54	2.18	1.90	1.73
18	95.00	2.60	2.24	1.95	1.78
19	100.00	2.67	2.29	2.00	1.83
20	105.00	2.74	2.35	2.05	1.87
21	110.00	2.80	2.41	2.10	1.91
22	115.00	2.87	2.46	2.14	1.96
23	120.00	2.93	2.51	2.19	2.00
24					

## A New Chart

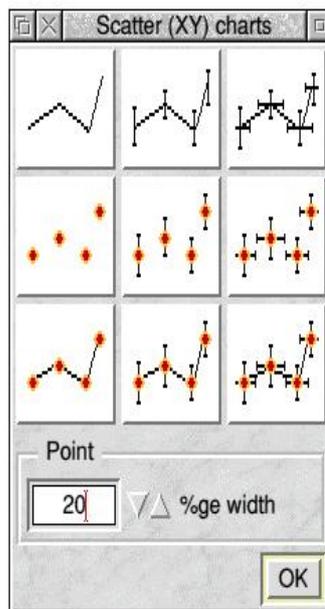
Let's start by creating just one line of the graph.

Mark the block A7B23 and then execute the command <Ctrl CHN> (CHart New).

By default you will get a nasty looking 3D bar chart - see the screenshot below. Don't worry about it; we'll soon get it looking a bit more like the sort of chart we want.

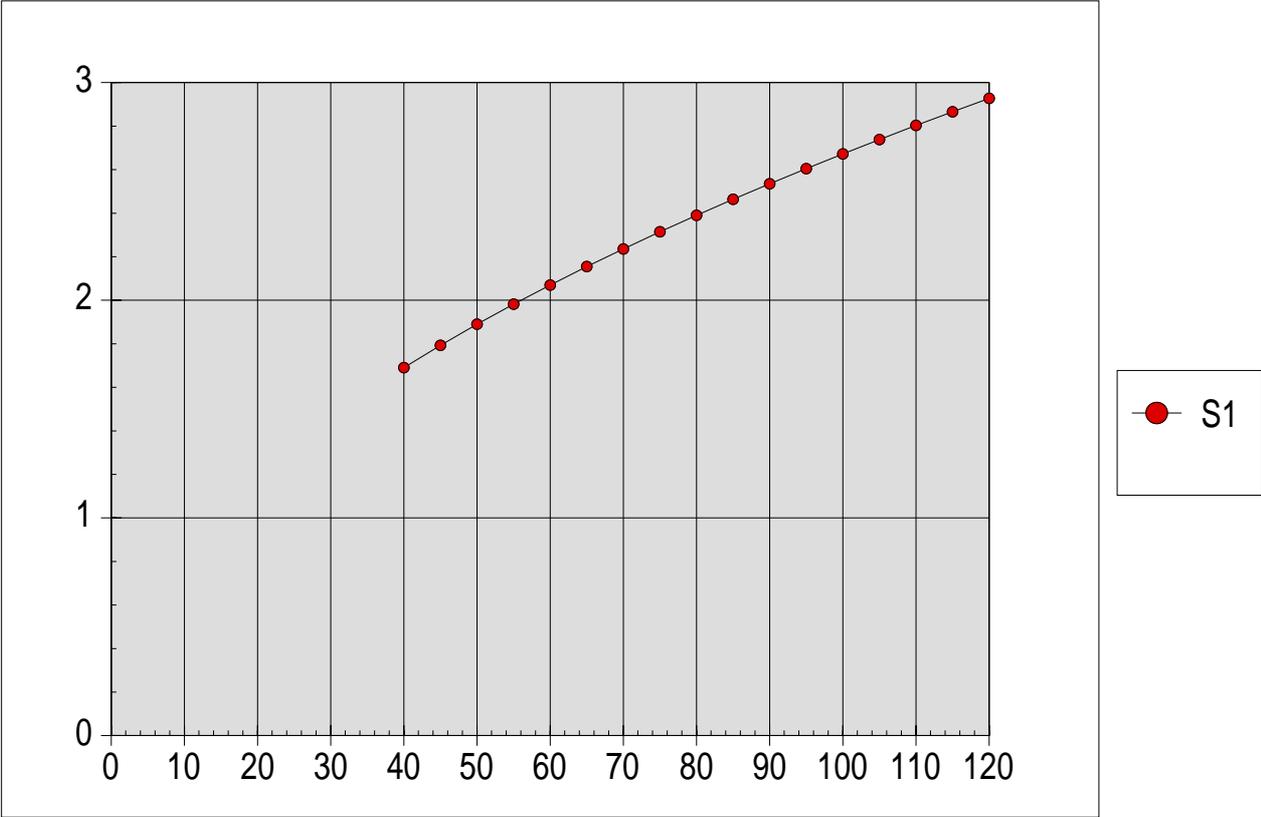


Click the mouse <menu> (middle) button on the chart and run the pointer through Gallery and then click on Scatter. Yes! Surprise, surprise! We are not going to choose to make a Line chart because, as many PipeDream users have discovered for themselves, that won't give us what we want! I suggest that you try it and you'll discover that isn't what we want.



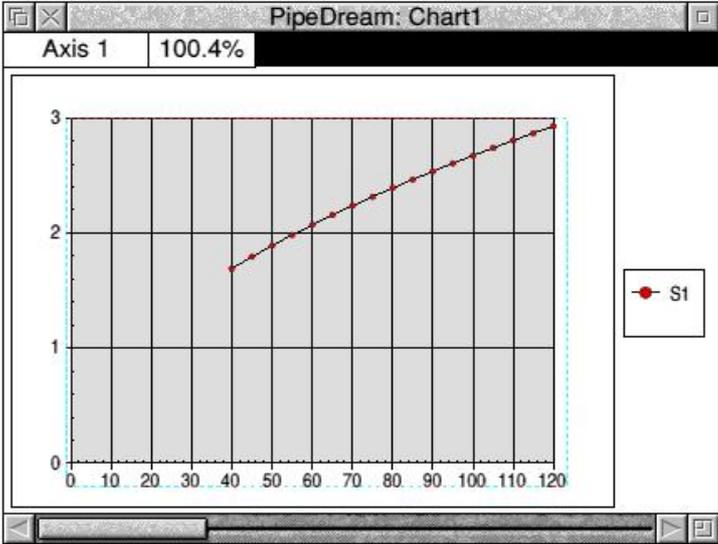
When you <select> Scatter, the menu shown here pops up. Click <select> on the chart at the bottom left with both points and lines. Whilst you're using this menu, reduce the "%ge width" from 20 points to 10 points otherwise the points will look rather large and lumpy. If you want to leave the points out completely use the option at the top left.

Different spreadsheet programs have different names for this sort of graph. PipeDream was one of the earliest spreadsheets and the word "Scattergraph" seemed most appropriate at the time perhaps because this sort of graph was usually used that way. More recent spreadsheets, including Fireworkz, call this sort of graph an "X-Y" graph.

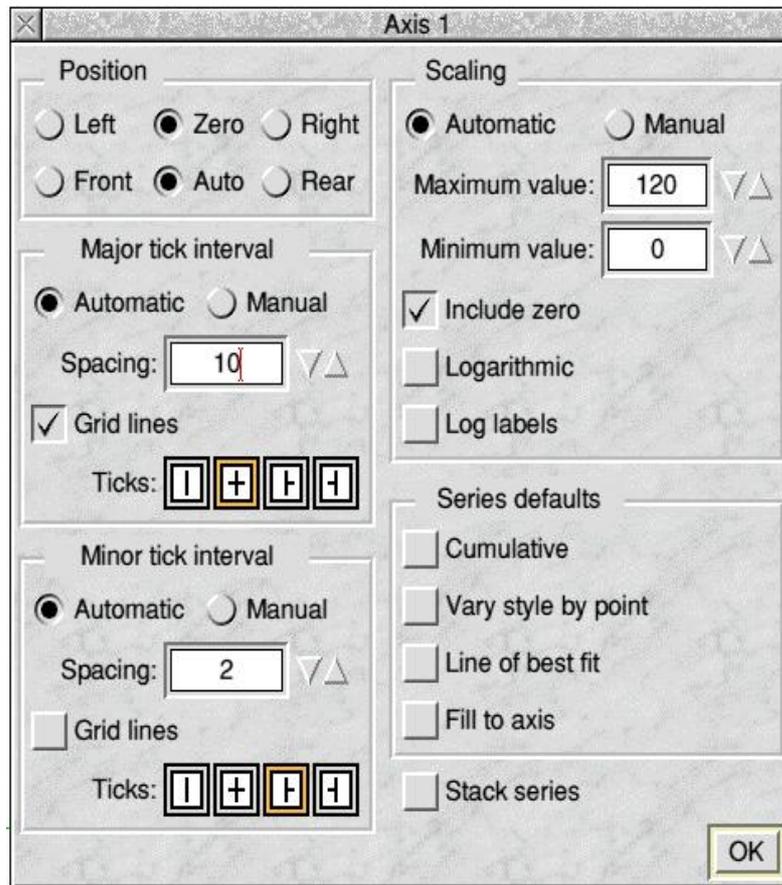


### A False Origin

The single line will appear on the "X - Y" graph as shown in the picture above. We can improve its appearance if we fix it so that the axes don't start at zero. For example, we can start the X-axis at 40 rather than zero. This feature of a graph is called "a false origin". We need to arrange for both axes to have a false origin. PipeDream supports this feature.



Look at the screenshot of "Chart1" above. Near the top left corner you'll see the words "Axis 1". If you click in this box then you will cycle through all the elements of the chart. Keep clicking in this box until "Axis 1" appears. When you have "Axis 1" in the box then, anywhere in the body of the chart, click the sequence <menu> - Selection - Axis to arrive at the "Axis 1" menu shown below.



In the right half of this Axis menu you will see that "Include zero" is ticked. Untick this, click on "OK" and, as if by magic, PipeDream will provide you with a false origin for the X-axis starting at 40.

Click in the box where you see "Axis 1" and it will change to "Axis 2". Repeat the procedure above and you'll find that the Y-Axis starts at 1.6 instead of zero.

## Laugh and Grow Fat

Easy, isn't it? Certainly it is easier to create this PipeDream graph than it is to reduce your BMI - but how important is it to have a low BMI?

I would ask you to consider whether a low BMI is correlated with unhappiness!

The picture below is of a Toby Jug. The front of Toby's hat is the spout of the jug. In spite of, or, perhaps because of, his enhanced BMI he looks very happy. I would use the word "jolly" to describe Toby with his huge mug of foaming beer and his long clay pipe between his feet. A similar design to this jug is used for beer mugs but I thought that, rather than a mug I'd use a picture of the jug because the Toby Jug was produced before the Toby Mug.



Before either the mug or the jug there were posters of Toby Fillpot, the man who is thought to be the inspiration for the jug. These posters were used as the design for specially made plates such as the one in my picture below advertised on eBay. Doesn't Toby look jolly?



Of course I am not suggesting that the only way to be cheerful is to drink foaming pints and smoke clay pipes, but I would suggest to you that a BMI between 25 and 30 does help!

There is a song about this Tom Fillpot, part of which goes:

Dear Tom, this brown jug, which now foams with mild ale,  
Out of which I now drink to sweet Nan of the Vale,  
Was once Toby Phillipot, a thirsty old soul,  
As e'er cracked a bottle, fathom'd a bowl;  
In bousing about 'twas his pride to excel,  
And amongst jolly toppers he bore off the bell.

I have no idea what was meant by "he bore off the bell."

## **Your BMI**

If you want to change your BMI then there is very little you can do about your height; the only method at your disposal is to change your weight.

Let me dispel a common fiction. There are many benefits to be gained by exercise but losing weight is not one of them. The only sure way of losing weight is to eat less and to eat more healthily.

All recent studies have shown that exercise will convert fat into muscle (protein) but, in many cases, the BMI remained almost the same! Protein is more dense than is fat and so, as you exercise, you will find that your waist measurement reduces and, depending on how you exercise, some other measurements may increase. Your overall density will increase and it is highly likely that your weight and BMI will not change - unless you eat less.

Whilst Shakespeare's Cassius was undoubtedly a 'nasty man' whom I like to believe had a BMI which was too low, another Cassius, Cassius Clay who became Mohammed Ali, the boxer, had a BMI somewhere between 25 and 30.

Many top class athletes have a BMI between 25 and 30. These athletes have little body fat but heaps of dense muscle. I can not stress strongly enough that BMI alone is neither a good indicator of fitness nor of general health. A much more reliable measurement is a measurement of body fat. There are 'gadgets' which can do this by measuring the electrical resistivity of the body, particularly from the sole of one foot to the other.

So, whilst BMI might be a good example for describing how to create a PipeDream spreadsheet there are better indicators of general health and fitness!

## **More Than One Line**

We don't want just one line on our graph. We have four.

So how do we add the other lines? Over the last couple of decades the question I have been asked most often about PipeDream charts is how to do this without introducing extra columns in the spreadsheet.

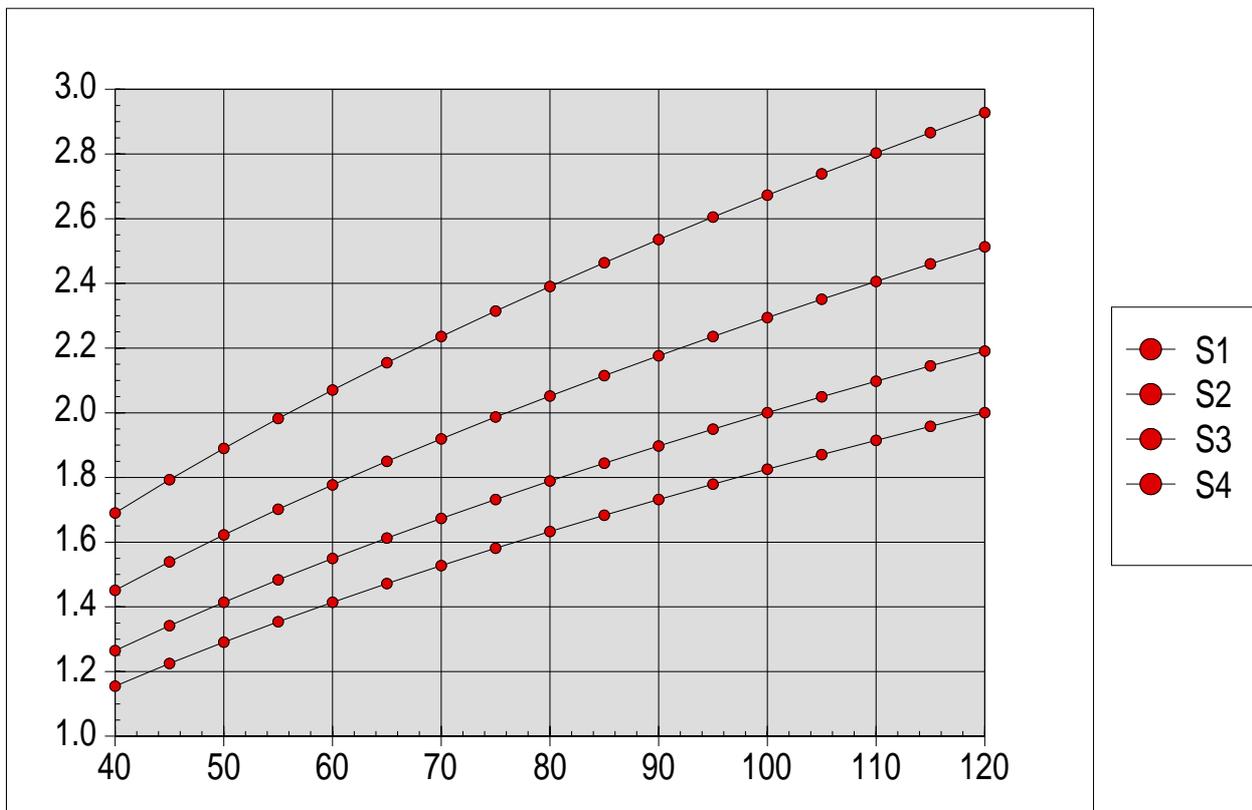
The temptation is to insert a copy of the X values from column A between the BMI = 14 and BMI = 19 values.

You don't need to do this.

Mark the block A7A23, the X values, and then execute <Ctrl CHA> (CHart Add). It will appear that nothing has happened! Don't worry! Now mark the block C7C23, the Y values corresponding to those X values (for the second line), and, once again, execute <Ctrl CHA>. The second line will be added and, if necessary, the false origin will change; in our case the false origin of the Y axis will change from 1.6 to 1.4.

Repeat this process to draw the other two lines so that you have all four lines.

By now your graph will look like the one shown below. You will see that we have a false origin of 1.0 on the Y axis and, on the right of the chart, we have an unwanted 'Legend'.



### For Another Day

We still have some way to go if we are to produce the graph I have shown at the beginning of this article. Amongst other things we have to remove the Legend block on the right. Nevertheless, I think this is a good place to stop, reflect on what we have achieved and consider what we need to do to complete the graph. We shall continue another day.

### In the Meantime

I would ask you ladies not to starve yourselves in an attempt to look like a gaunt and haggard skinny model. I would suggest to all you men that it is body fat (too much beer?) which is both unhealthy and unattractive. For both men and women a BMI of around or even above 25 can be a good thing if the weight is muscle rather than fat.