

VBk Practical Mathematics and Microsoft Excel Course



Line graphs



Book1 - Microsoft Excel

Home Insert Page Layout Formulas Data Review View

Clipboard Font Alignment Number

K11

	A	B	C	D	E	F	G	H
1								
2			a	2		b	2	
3								
4			x	x² + a		x	x³ + n	
5			-2	6		-2	-6	
6			-2	4.25		-2	-1.375	
7			-1	3		-1	1	
8			-1	2.25		-1	1.875	
9			0	2		0	2	
10			1	2.25		1	2.125	
11			1	3		1	3	
12								
13								
14								

To plot a **line graph**, first create a table of values for the horizontal ('x') and vertical ('y') axes.

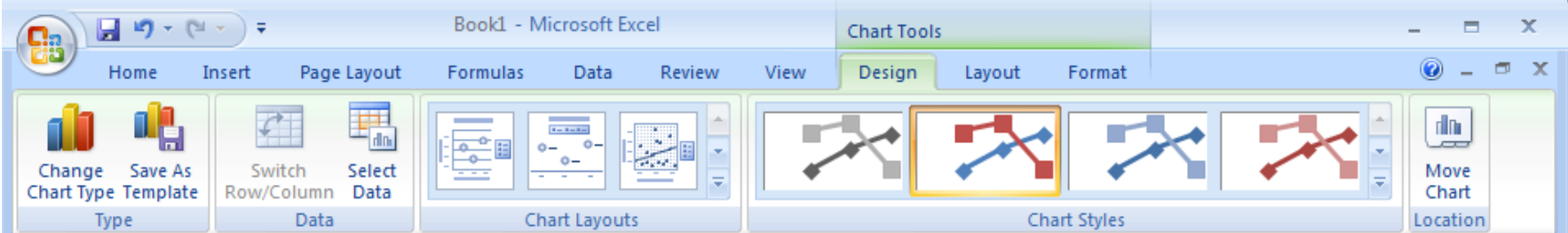
In the example on the left, **cell formulae** have been used to automatically compute the cells.

Replication (or copy and paste) of formula cells has been used to efficiently create the table.

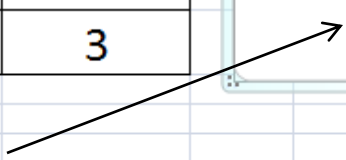
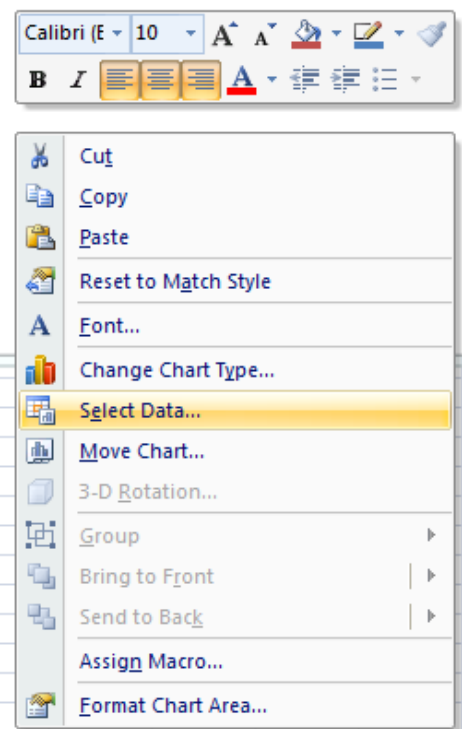
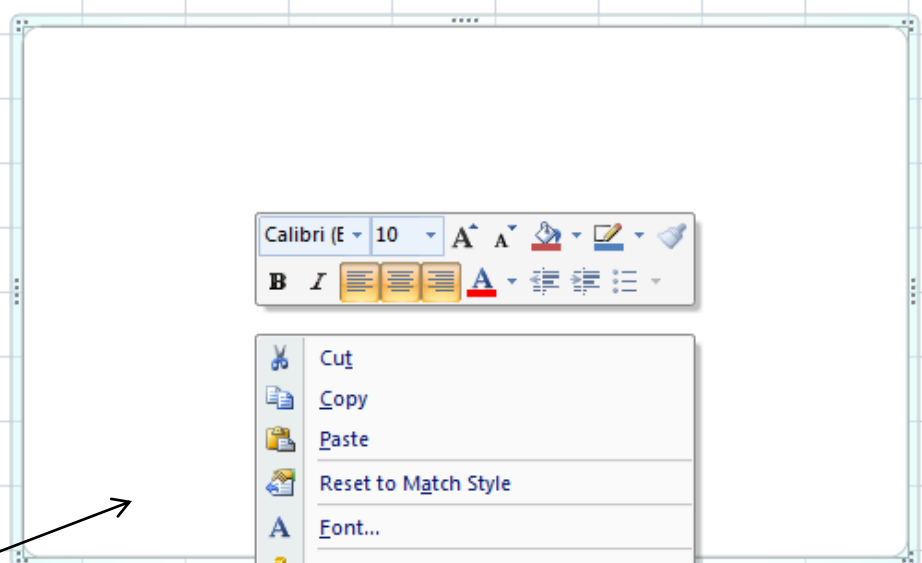
=a10+1

=a11² + \$d\$2

=f11³ + \$g\$2



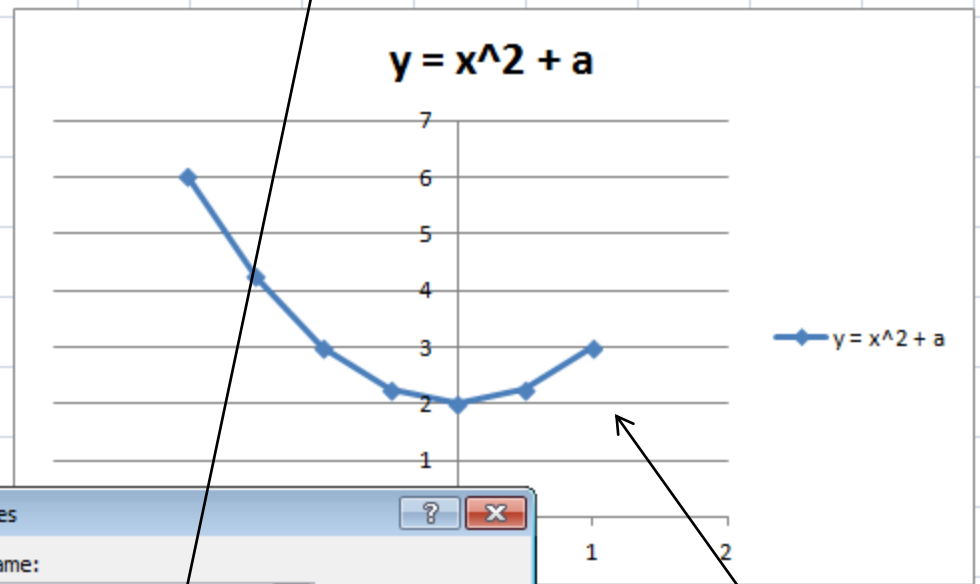
	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1															
2		a	2		b	2									
3															
4		x	$x^2 + a$		x	$x^3 + n$									
5		-2	6		-2	-6									
6		-2	4.25		-2	-1.375									
7		-1	3		-1	1									
8		-1	2.25		-1	1.875									
9		0	2		0	2									
10		1	2.25		1	2.125									
11		1	3		1	3									



A white box will appear. Move it so it doesn't obscure the data, then right click inside. Choose the **Select Data** option from the context menu which will appear.

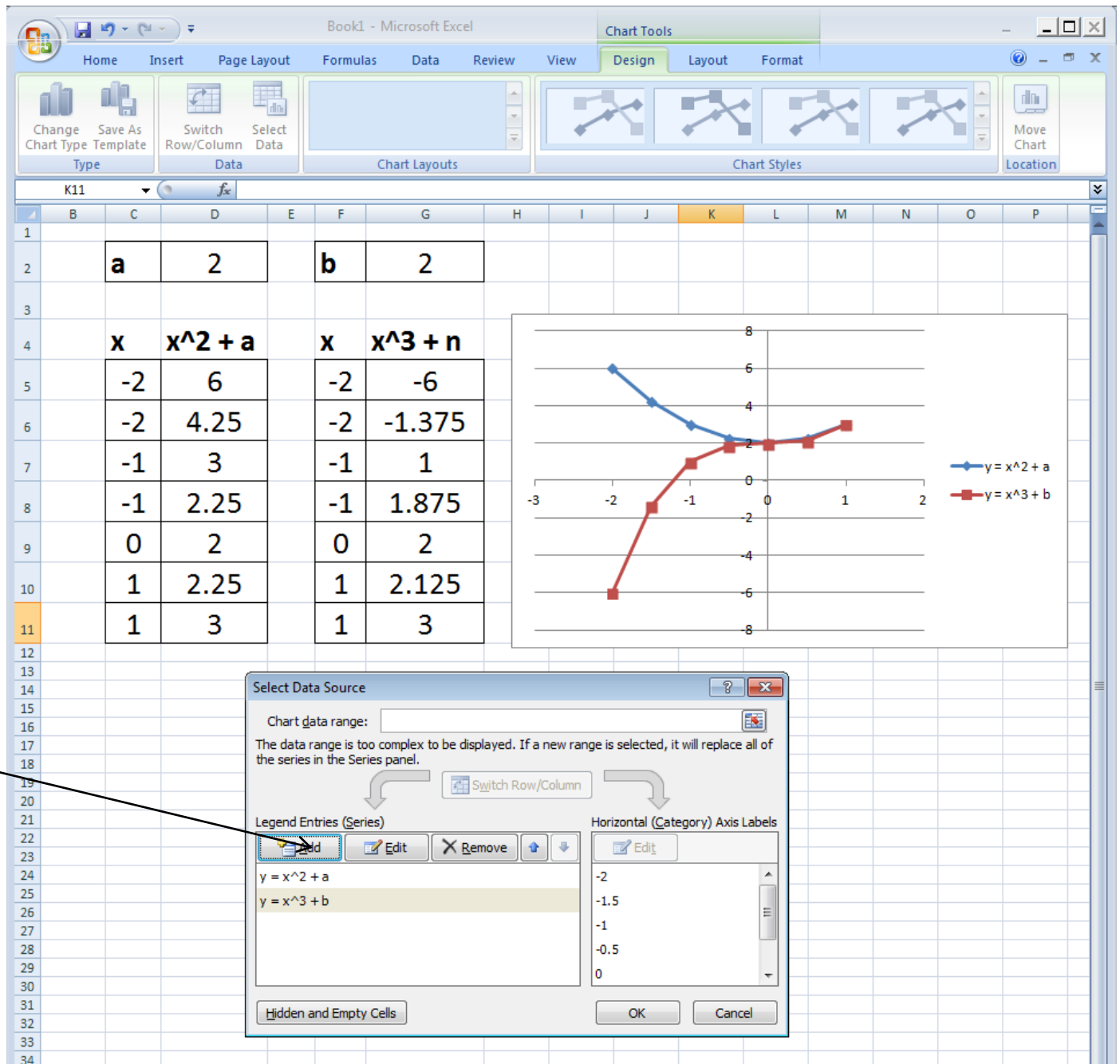
Select Data ... menu option →

	B	C	D	E	F	G	H	I
1								
2		a	2		b	2		
3								
4		x	x² + a		x	x³ + n		
5		-2	6		-2	-6		
6		-2	4.25		-2	-1.375		
7		-1	3		-1	1		
8		-1	2.25		-1	1.875		
9		0	2		0	2		
10		1	2.25		1	2.125		
11		1	3		1	3		



Type in range of data
(or use the button on
the right to select it with
a mouse)

Graph will
automatically
update



Click on the **Add** button to add additional lines.

The repeat the same procedure as before.

Set chart options such as gridlines using the **Chart Tools** options, which will appear on the 'ribbon' if you click on the chart area.

The screenshot shows the Microsoft Excel interface with the Chart Tools ribbon active. The ribbon includes tabs for Design, Layout, and Format. The Gridlines group is expanded, showing options for Primary Horizontal and Primary Vertical Gridlines. A dropdown menu for Primary Vertical Gridlines is open, showing options: None, Major Gridlines, Minor Gridlines, and Major & Minor Gridlines. The chart area displays a line chart with two data series: $y = x^2 + a$ (blue line with diamond markers) and $y = x^3 + b$ (red line with square markers). The chart is overlaid on a data table in the spreadsheet.

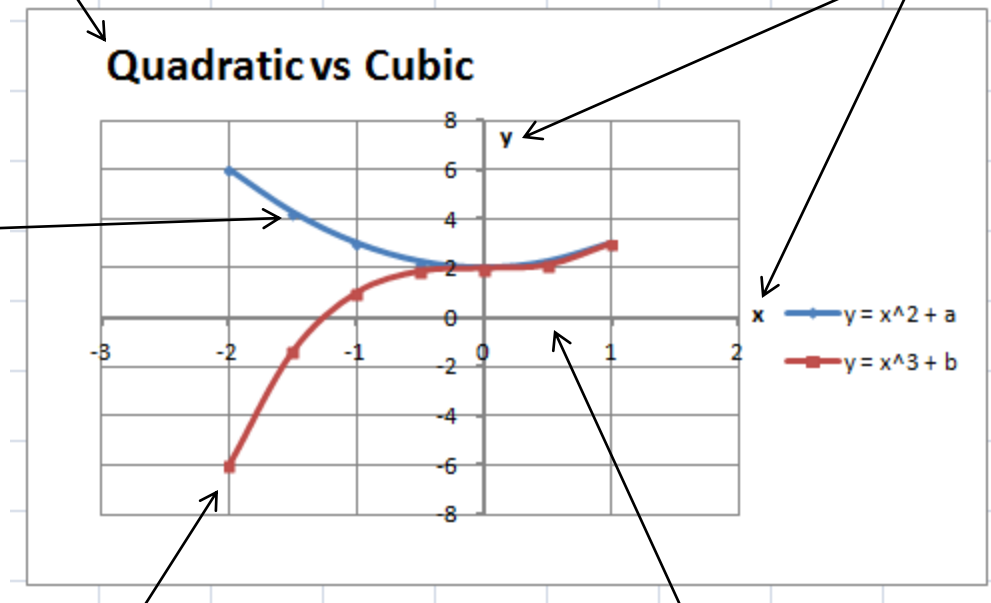
x	$x^2 + a$	$x^3 + b$
-2	6	4.25
-1	3	1
-1	2.25	1.875
0	2	2
1	2.25	2.125
1	3	3

Many aspects of a graph can be customized via the **Chart Tools** part of the 'ribbon' icon bar.

Chart title added

x and y axis labels
have been added

Right clicking on the data point **markers** enable their appearance to be modified. In this case the **marker sizes** have been changed from 7 to 4 points.



Graph type changed from 'straight line scatter' to a scatter connected with smooth curves. These are probably *cubic splines*.

Weight (thickness) of axes gridlines have been modified, to more clearly identify where the axes are in the grid