

# Graphmatica...

is a powerful, easy-to-use, equation plotter with numerical and calculus features:

- \* Graph Cartesian functions, relations, and inequalities, plus polar, parametric, and ordinary differential equations.
- \* Up to 25 graphs on screen at once.
- \* New data plotting and curve-fitting features.
- \* Numerically solve and graphically display tangent lines and integrals.
- \* Find critical points, solutions to equations, and intersections between Cartesian functions.
- \* Print your graphs or copy to clipboard as bitmap or enhanced metafile in black-and-white or color.
- \* On-line help and demo files make getting up to speed a snap.

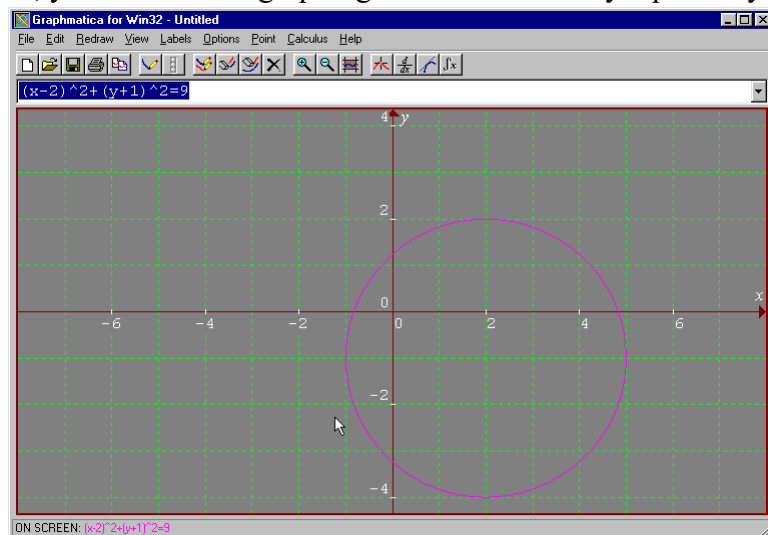
In summary, a great tool for students and teachers of anything from high-school algebra through college calculus.

Graphmatica is another free graphing utility that can be downloaded from <http://www8.pair.com/ksoft/>. While not quite as powerful as WinPlot, it is somewhat easier to learn and more intuitive.

Relations and functions can be plotted using any form the equation (not necessarily  $y =$  form), including transformational form.

## Some Brief Instructions

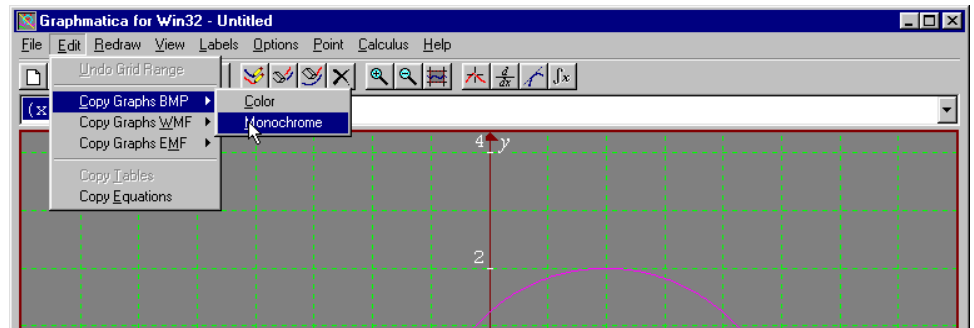
As soon as you open the program, you will see the graphing window. Enter any equation you wish, in virtually any form e.g.



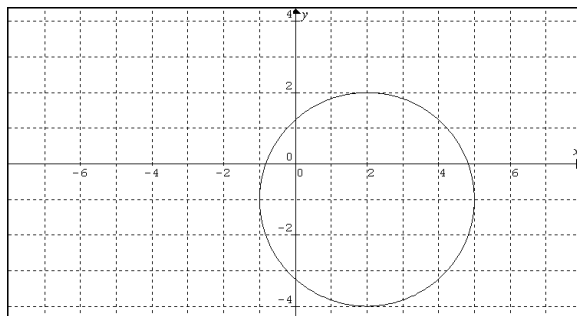
The colors right now make this graph difficult to see, but we can easily copy it in black and white

and paste into a word processor such as WordPerfect:

Be sure to choose the  
MONOCHROME option.

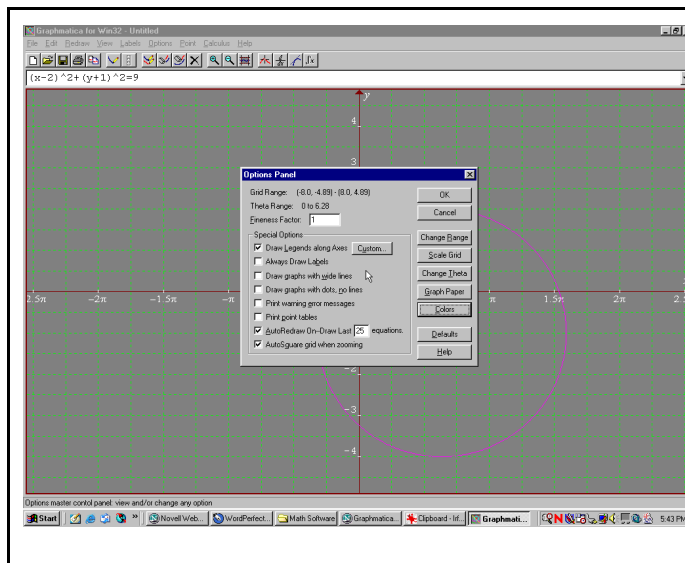


When copied, you can paste it into WordPerfect, where it should come out in black and white:

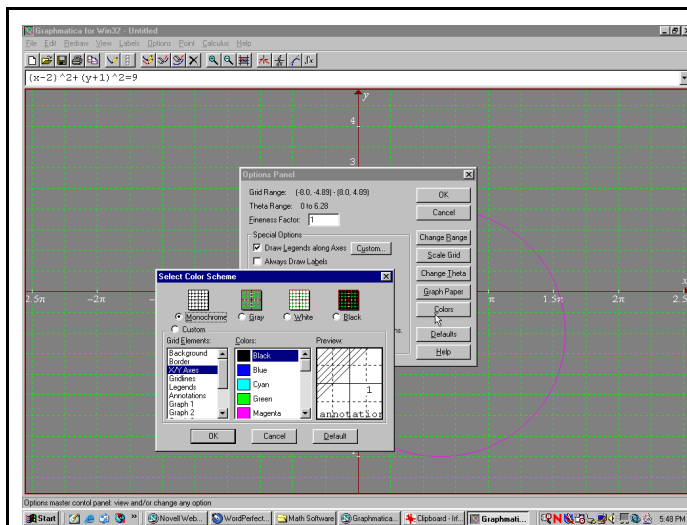


Resize and anchor as desired

Alternatively, you can change colors of all or part of the drawing by selecting OPTIONS-SETTINGS:



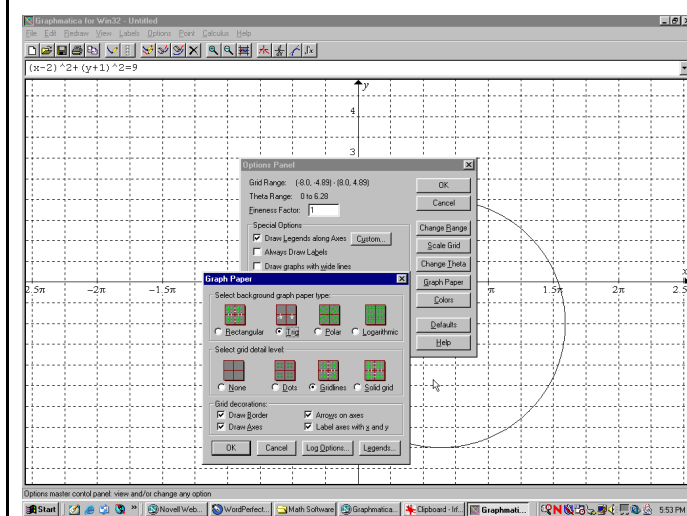
Select COLORS



Selecting MONOCHROME changes the grid to black and white.

Other attributes, such as the X-Y axes, can be selected in the left-hand column, then a color for that attribute can be selected from the middle column.

Click OK when finished

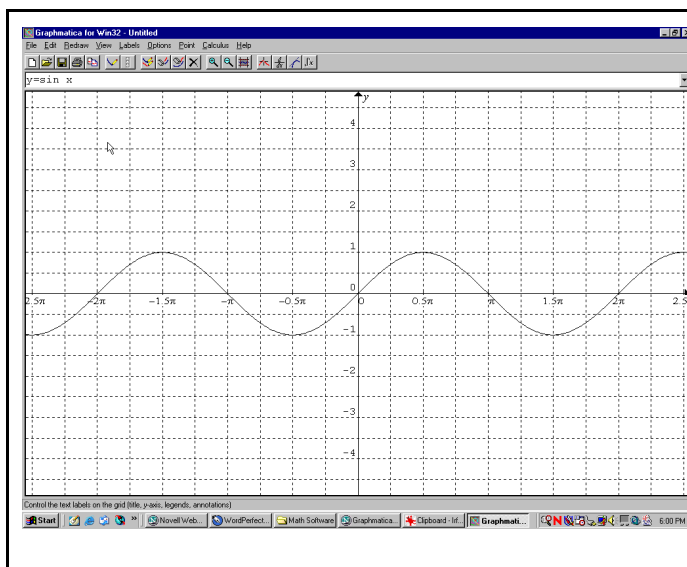


Back in the OPTIONS Panel, you can change the style of graph paper from, say, rectangular to trigonometric, polar, or logarithmic

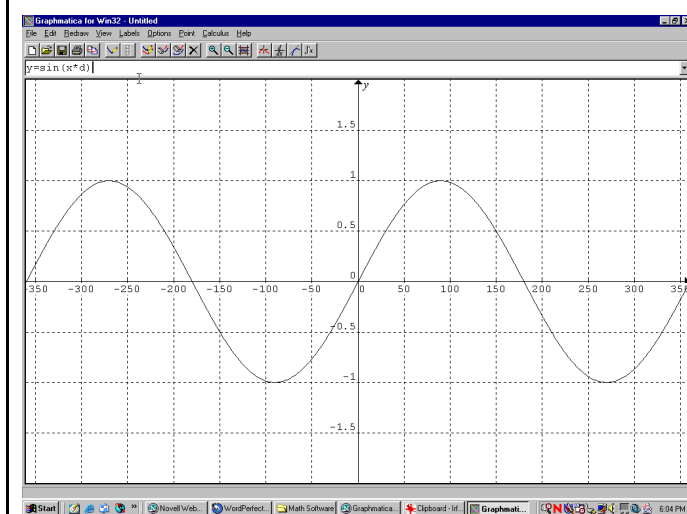
You can also change the detail level of the grid e.g. no grid lines

While in this screen, you can also change the labels on the axes by clicking LEGENDS. Here you can change the increments on the axes and the names of the axes (up to 7 characters).

You can experiment with other options in the OPTIONS panel e.g. to change the scale on the graph, you can select CHANGE RANGE.



All trigonometric graphs are drawn in radian mode by default, even if the software is set to degree mode!



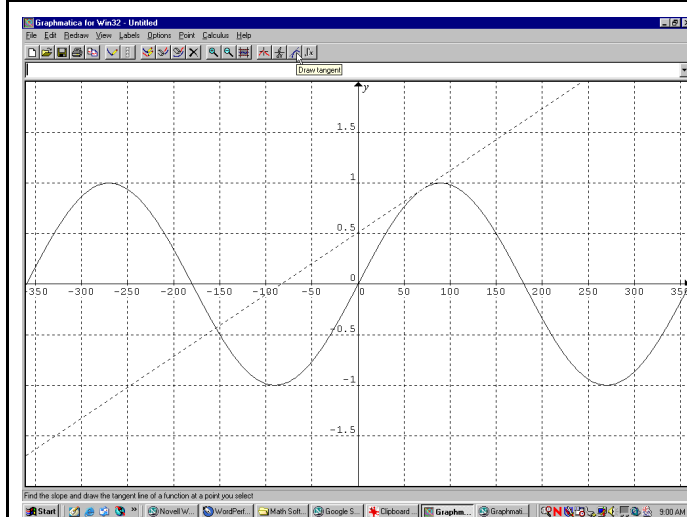
To graph a trig function in degrees:

type the equation in a format such as

$$y = \sin (x*d)$$

where the “\*d” tells the program to graph in degrees.

Don’t forget: for a graph in degrees, you will want rectangular graph paper!



Try a couple of other features from the buttons on the toolbar, such as adding a tangent line to your graph (click the tangent icon in the toolbar, then click on the point where you wish to draw a tangent)...