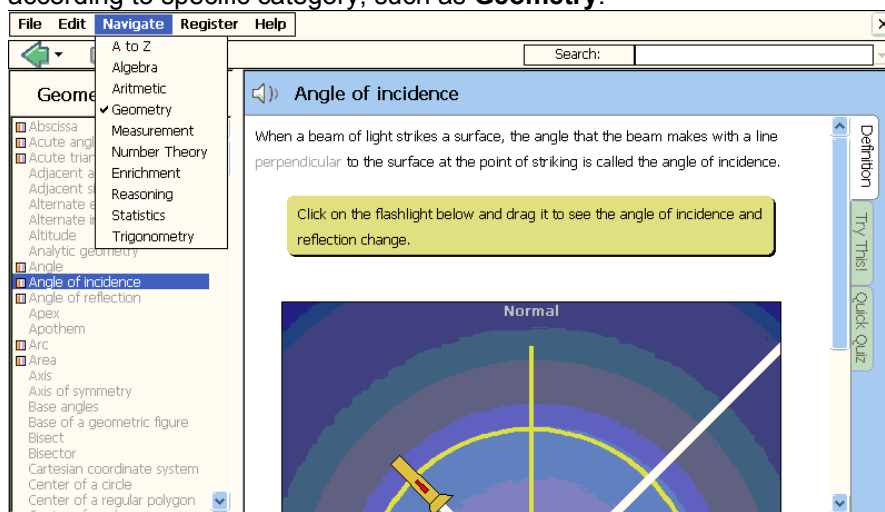


Nova5000 Math Concepts Tutorial

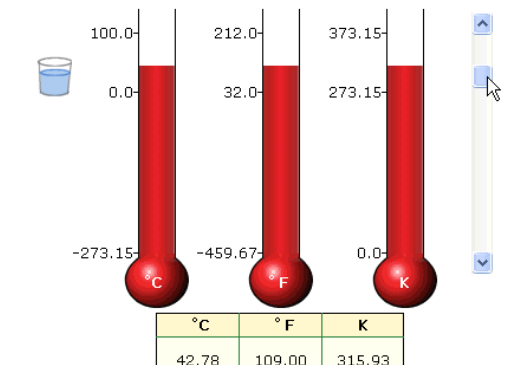
Inside Math

The Nova is bundled with the Demo version of Inside Math. To get the full list of Math definitions, install the Full version.

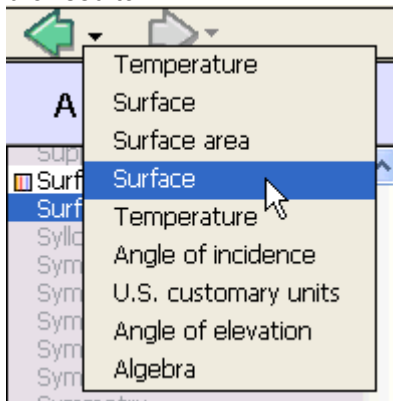
1. Launch Inside Math from the **Start menu > Programs > Science & Math**.
2. The default view displays all definitions. Use the **Navigate** menu item to display according to specific category, such as **Geometry**.



3. Navigate back to the **A to Z** category and use the **Search** window to find the **Surface** definition. Note that the search is performed as you type in each letter of the definition.
4. Click the **Surface** sound icon to hear the definition being pronounced. This is useful on more complicated definitions.
5. Read through the definition. Note that any other definition mentioned also appears as a hyperlink. Rotate some of the shapes in the diagram to demonstrate the Flash plug-in and double click the shape to expose the wire frame view.
6. Enter **Temperature** in the **Search** window. Drag the scroll bar up and down to show the water state changing with temperature, and point out the icons on the left and the table below, indicating these changes in state in C, F and K.



7. Enter **Long Division** in the **Search** window. Quickly scroll through the definition until you get to the Flash demonstration. Click **Show Division** and use **Next** to work through each step of the calculation.
8. Highlight the **More Info** and **Try This!** tabs which appear on some of the definitions. They offer more extensive definitions and online quizzes. Some of the quizzes involve answering questions on a piece of paper or even in TextMaker.
9. Click the **Try This!** tab and answer the question correctly. Click **Try Another** and answer once incorrectly.
10. You can then use the **Back** arrow to show that you have a history of the definitions you browsed to.



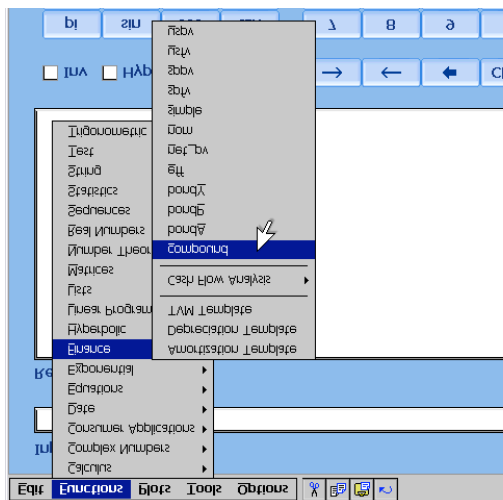
Portrait 4 for Nova5000 Sales Script

Portrait 4 is the graphing and calculating software that comes with the Nova5000. Portrait 4 Graphing & Calculating has a short learning curve, generates detailed colorful plots and is extremely easy-to-use with word processing and spreadsheet programs. These are advantages traditional graphing calculators cannot match. The bottom-line is that with Portrait 4 schools no longer need to purchase traditional calculators. Savings realized can be directly



20 Minute Learning Curve

Portrait 4 has an exceptionally short twenty minute learning curve that lets teachers spend more time teaching math and less time teaching calculators. Three key features that give Portrait 4 such a short learning curve:

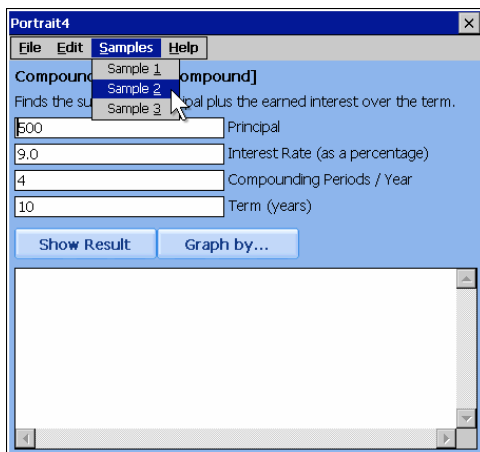


1. Menu-driven Interface

Note Portrait 4's **simple, familiar menu-driven interface**. Anyone who knows how to use a computer will immediately choose a menu such as "Functions" and find the function they want to perform like "Compound Interest". Everything Portrait 4 offers is never more than 3 clicks away.

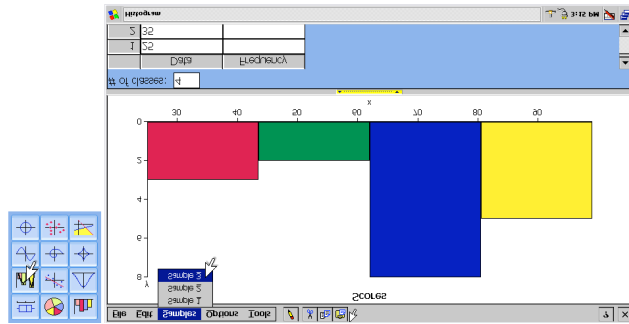
2. Function Templates

Select "Compound Interest" to see one of Portrait 4's **function templates**. These templates have clearly labeled boxes for each variable or piece of data that needs to be entered. Students no longer need to worry about committing long key strokes to memory or entering data in a specific order.



function and plot within Portrait 4 has sample data that provides students with ready-made models for any graph or calculation they need to make. Besides providing teachers with more time for teaching math in the classroom, Portrait 4's short learning curve also significantly reduces the amount of time and professional development money that needs to be spent training teachers to use calculators.

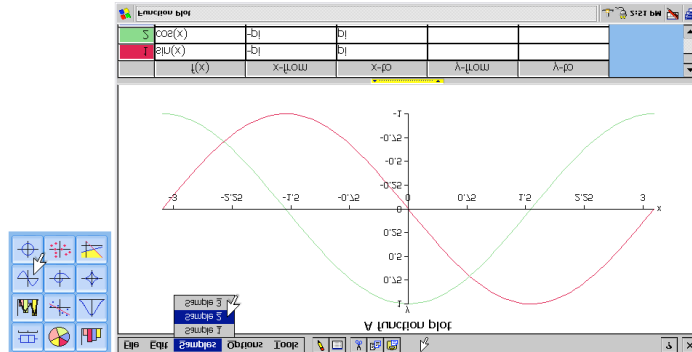
Colorful Graphs



Histogram:

Portrait 4 provides graphs with high visual impact that are colorful, accurate and extremely detailed


Sine & Cosine:

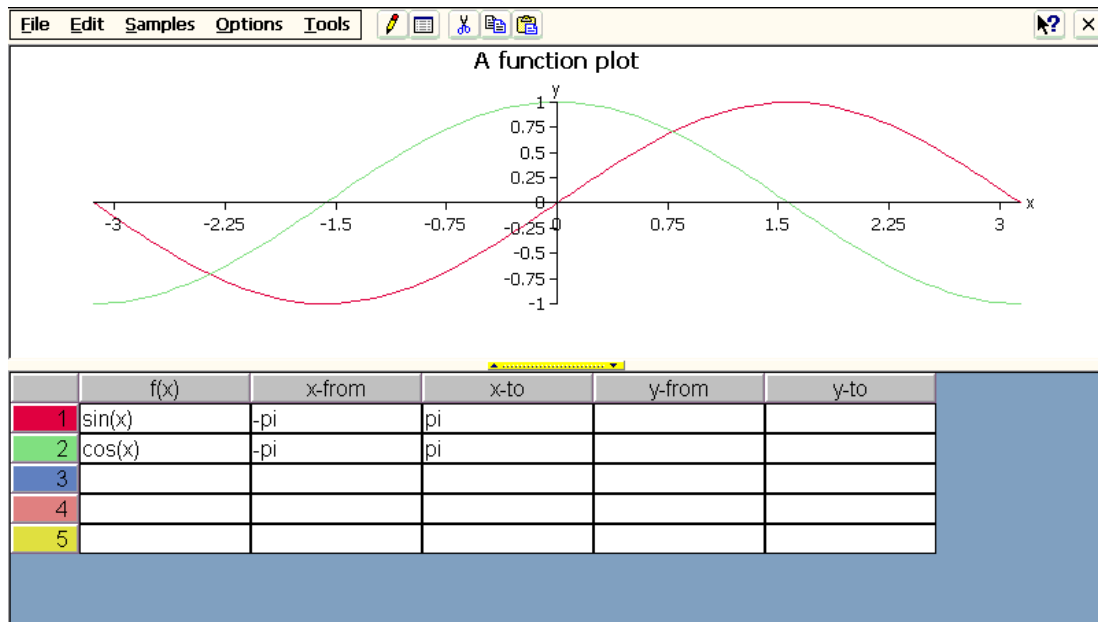


Colorful graphs make working through problems easier. Teachers don't need to keep clarifying which equation or variable each curve represents.


Building a Graph of a Function

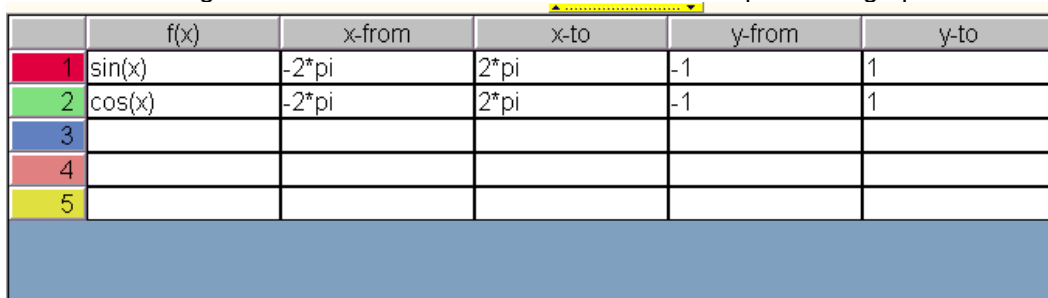
By the following the steps below you can experience how to build a simple Sine & Cosine graph:


1. In the main Portrait 4 window, go to **Plots > Plot $y=f(x)$** or select the  icon from the right of the screen.
2. Select **Samples > Sample 2** to open the sample Sine & Cosine graph. This will save you having to enter the values in the table and build the graph from scratch.

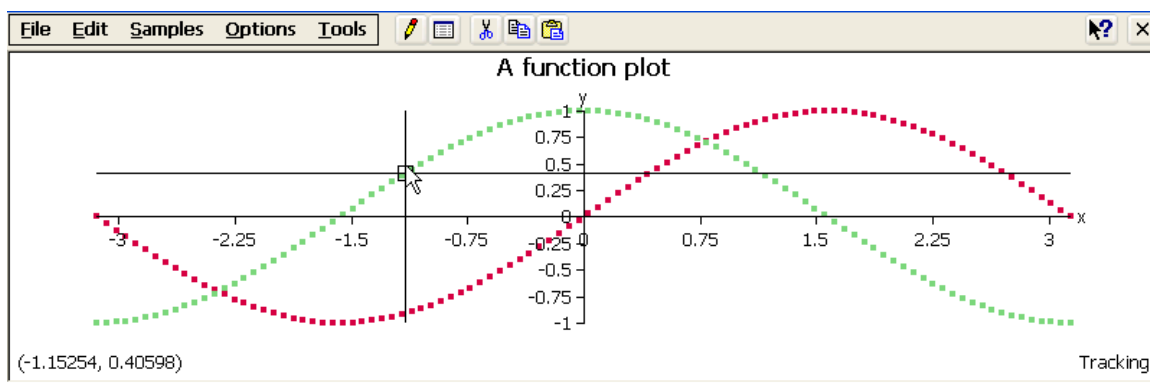


3. You can manipulate the table and increase the range of the graph. For example, alter the x-from and x-to values or define a range for the y-axis. Just use the virtual keyboard to enter the new values into the table cells. In the example below, we entered a factor of 2 to the function.

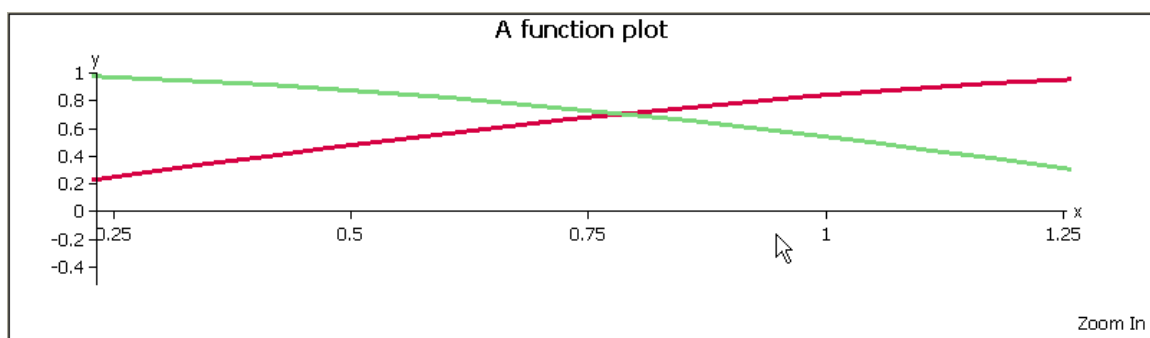
After entering the new values click the Pencil icon  to update the graph.



4. Tap the yellow bar  to toggle between Table Only view, Graph Only view or the default Table and Graph view.
5. You can see the various options available under the **Options** menu item.
 - a. Format the graph style. Under **Options > Style**, select **Point** and then select **Symbol > Diamond**.
 - b. Also see how you can change the labels and axes of the graph by selecting **Options > Labels, Axes**.
6. Explore the graph using the **Tools** menu item. Go to **Tools > Track points**, double tap one of the curves and drag the cross-hair through the curve, while noting the coordinates on the bottom left of the graph.



7. Zoom in on a specific section of the graph to explore it in closer detail. Go to **Tools > Zoom in** and use the stylus or mouse to drag the zoomed area on the graph.



8. Notice how the Integral or Derivative of the graph can be displayed using the Tools option.

Compatibility with Word Processing & Spreadsheet Programs

Portrait 4's compatibility with word processing and spreadsheet programs promotes math literacy by making it simple to write about and present mathematical concepts.

Copying data from spreadsheets into *Portrait 4* is as easy as 1-2-3.

1. Open the spreadsheet called **Portrait4_Car_Plot.xls** located on this CD
Highlight all fields by clicking the grey box in the top left corner
Select the Edit Menu and then Paste

2. Open *Portrait 4* and select the Point Plot icon.
Highlight all fields in the new window by clicking the top left corner
Select the Edit Menu and then *Paste*

3. Finally, click the pencil icon at the top to see the finished Point Plot
Note: if you make changes to the data, you must hit the pencil to see them displayed

Pasting that Point Plot into a word-processing program is even easier.

1. Select File Menu and then Copy Image
 2. Open a word processing program
 3. Select the Edit Menu and then Paste
- applied to funding and sustaining school technology plans.