Graph Paper Maker

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http://www.blackcatsystems.com/software/graphmaker.html

Introduction

Graph Paper Maker lets you create your own custom sheets of graph paper. You have complete control over the graph characteristics:

• X and Y axis can independently be set for linear or log scale
• Selection from a dozen standard paper sizes, or custom create your own
• Graphs are saved as pdf files, you can print them whenever you wish
• Choose whatever color you want for the lines
• Specify independent line weights for the X and Y axis lines
• Specify the range and spacing of axis labels

Graph Paper Maker also creates several types of specialized paper:

• Isometric
• Axonometric
• Trapezoid
• Hexagon
• Polar
• Ternary
• Engineering
• Lined
• Dots
• Cross
• Note taking
• Grid
• Brick

See the next section for a description of each type.

Easy Graph Wizard

Use this method if you want to create a sheet of fairly simple graph paper, with minimal contorl over the details.

Click this button to bring up the wizard. Fill in the minimum and maximum values, as well as the minor and major spacing for the X and Y axes. Click OK. The wizard wil compute the various values for the main window, and fill them in. Then click the Generate button, and your graph will be produced.

Producing a Graph

Use this method for more control over the details of the graph.

First, select the size of the paper the graph is to be printed on. Either select one of the standard paper sizes from the popup menu, or select Custom, and then enter the size of the paper in the two boxes to the right, width and then height. You can enter either inches or mm, just be sure to select the correct units from the popup menu below.

Next select the paper layout, either portait or landscape. Note that if you select a custom paper size and landscape, it will swap the width and height.

If you would like a title for your graph, enter it in the title box. The X and Y values are the location of the text, measured from the upper left corner of the paper. They do not include the margins, to allow you to place the text outside of the graph area. If you want the text to be horizontally centered, leave the X field blank (not zero!). You can also set the size of the font used to draw the title text.

Select the units to use, either inches (in) or centimeters (cm). These units are used for the custom paper size as well as the number of lines.

Normally the X and Y Scale values are left at the default 100 (percent) value. You can change them if your printer does not correctly print out the graph, and you need to adjust the scaling.

Select the color you wish to be used to draw the lines, if you want something other than black. Click on the box to the left of the word Color to bring up the color picker.

To precisely set the line spacing, specify the number of lines you want drawn per unit (per inch or per mm) for both the X and Y axis. In most cases, you

can skip manually setting this value, and instead set the maximum value for the axis, as described several paragraphs below. Also specify the line weight, larger numbers produce thicker lines. Numbers less than 1 can be used.

The major scaling value specifies the distance, in lines, between lines with a heavier (thicker) weight, and the major weight values specifies what that weight is. You can select a unique color for the major scale lines as well.

You then specify whether you want that axis to be linear, log, or hydraulic. If log, you can specify how many decades to display. Note that in log mode, the lines per unit entry is ignored.

Hydraulic scaling is often used for plotting pressure vs flow, which proportional to the flow to the 1.85 power. Note that the 1.85 power is the default setting for this scaling, but you can change it to some other value to suit your needs.

If you have the Show Axes option checked, you can specify details about the X and Y axis scaling. For each axis, you can specify the minimum (starting) value, the maximum value, as well as the step and spacing. Here is how these values work:

The minimum value is the first value printed on the axis, on the far left for the X axis and the bottom for the Y axis. The maximum value is the last value printed on the axis. As you change the maximum value, the Lines/in (or Lines/mm) value will be automatically adjusted to produce the correct spacing between the line and number of lines. Don't go back and change the lines per inch value, or the printed maximum value for the axis will be incorrect.

The step value specifies the spacing between lines. A value of 1 means that that axis increments by 1 each grid line. The spacing value specifies how often the axis scale value should be printed (since if they are printed too close together, they might overlap). A value of 5 means that they are printed every 5 grid lines.

You can also specify the line weight for the two axis (generally to make them more prominent), as well as the size of the text for the scaling.

You can label each axis, and specifiy the font size to be used, and the

location of the label. You can also pick the font to use for the axis labels, as well as other text on the graph, from the Font popup menu.

Enter in the desired margin widths.

Now click the Generate button, and pick the name to save the file under. That's it!

Note that Graph Paper Maker will remember the name of the file you save as, and automatically use it next time. If you want to change the name, hold down the shift key when you click on Generate.

If the file is already open in another application, you will get an error message. Close the file, then try generating it again. And be sure that you don't name your file Graph Paper Maker, the same name as the program itself, or you will get this error message!

Since the produced file is a pdf file, you can save it, and print it out any time you'd like, without having to run the program again, or send it to someone else.

If you have the box checked, your graph will automatically be opened in Adobe Acrobat, Preview, or whatever the default application for pdf files is on your computer.

There are a lot of options to set, which allow you to highly customize your graph. It may take a little experimentation to find the precise values that result in the desired output. Also, certain printers may have scaling issues that could cause lines to not appear in exactly the correct locations.

Adding Text Markers

Perhaps you wish to display some text in various locations on your graph, such as to mark data or to create some sort of pattern. If you check the option to add markers to the graph, you will be prompted to select a text file, which defines where text markers should be placed. This text file is a series of lines, each with three values: an X location, a Y location, and the text to display, which can be a single letter or a word. Each value is separated by a space. The X and Y locations are relative to whatever scale

has been defined for the graph. There is a sample file that comes with the download which gives some examples. You can use it along with the default graph options to see how it works. Note that the file containing the marker information must be a plain ASCII text file. It cannot be a special word processing file, such as .doc, .rtf, etc. It must be plain text. You will need to obtain your own plain text editor if you do not already have one. Many word processors can save as a plain text file, you will need to read the documentation for your word processor to see how this is accomplished.

Specialized Paper

Isometric Graph Paper

Select Isometric from the Windows menu to display the Isometric Graph Paper window. Many of the settings are the same for normal sheets of graph paper, such as margins, page orientation, etc. The Cell Size sets the dimensions of each triangle side.

Axonometric Graph Paper

Select Axonometric from the Windows menu to display the Axonometric Graph Paper window. Many of the settings are the same for normal sheets of graph paper, such as margins, page orientation, etc. You can set the Cell Size, as well as whether or not horizontal and vertical lines are drawn.

Trapezoid Graph Paper

Select Trapezoid from the Windows menu to display the Trapezoid Graph Paper window. Many of the settings are the same for normal sheets of graph paper, such as margins, page orientation, etc. You can set the Cell Size, as well as whether or not horizontal and vertical lines are drawn.

Hexagon Graph Paper

Select Hexagon from the Windows menu to display the Hexagon Graph Paper window. Many of the settings are the same for normal sheets of graph

paper, such as margins, page orientation, etc. You can set the Cell Size.

Polar Graph Paper

Select Polar from the Windows menu to display the Polar Graph Paper window. Many of the settings are the same for normal sheets of graph paper, such as margins, page orientation, etc.

The unique settings for this type of paper are:

Circles: specifies the number of concentric circles.

Spokes: The number of major spokes radiating from the center of the circles.

Minor: The number of minor spokes.

Minor Start: The starting concentric circle for the minor spokes. This is to prevent crowding from too many spokes near the center of the graph.

Labels: Either degrees or radians can be selected, or none for no display of the angle.

Ternary Graph Paper

Select Ternary from the Windows menu to display the Ternary Graph Paper window. This produces a triangular graph, used to produce barycentric plots of three variables which sum to a constant value.

You can select one of two methods of displaying axis values (or have no display), as well as flip the orientation of the axis values.

Engineering Paper

This creates sheets of paper commonly used in engineering classes and work. Select Engineering from the Windows menu to display the Engineering

Paper window. Many of the settings are the same for normal sheets of graph paper.

Lined Paper

This creates sheets of standard notebook paper, with an optional vertical line on the left hand side. Select Lined from the Windows menu to display the Engineering Paper window. Many of the settings are the same for normal sheets of graph paper.

Dots Paper

This creates sheets of paper, with a grid of dots. You can set the dot spacing, as well as the dot size. You can also draw lines between the dots.

Cross Paper

This creates sheets of paper, with a grid of dots. You can set the dot spacing, as well as the cross size. You can also draw lines between the crosses.

Note Taking Paper

This creates sheets of note taking paper. It is meant for taking class notes. You can enter in title and subject information for the header, as well as control the line spacing, create a grid, etc. The Width and Height values control the size of the note area, as a percentage of the total paper size.

Grid Paper

This creates sheets of paper, with a grid of lines. You can set the grid spacing, as well as the thickness and color.

Brick Paper

This creates sheets of paper, with a patetern of bricks. You can set the brick size, as well as the thickness and color.