How to find a vertex of a graph

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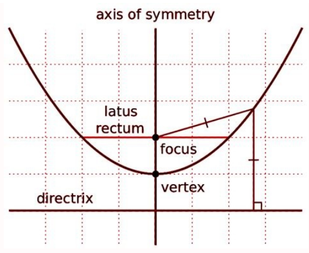


Find the vertex and intercepts without graphing

$f(x) = 2x^2 + 8x + 6$

$a = 2 \quad b = 8 \quad c = 6$

Vertex

$x = \frac{-b}{2a} = \frac{-8}{2(2)} = \frac{-8}{4} = -2$

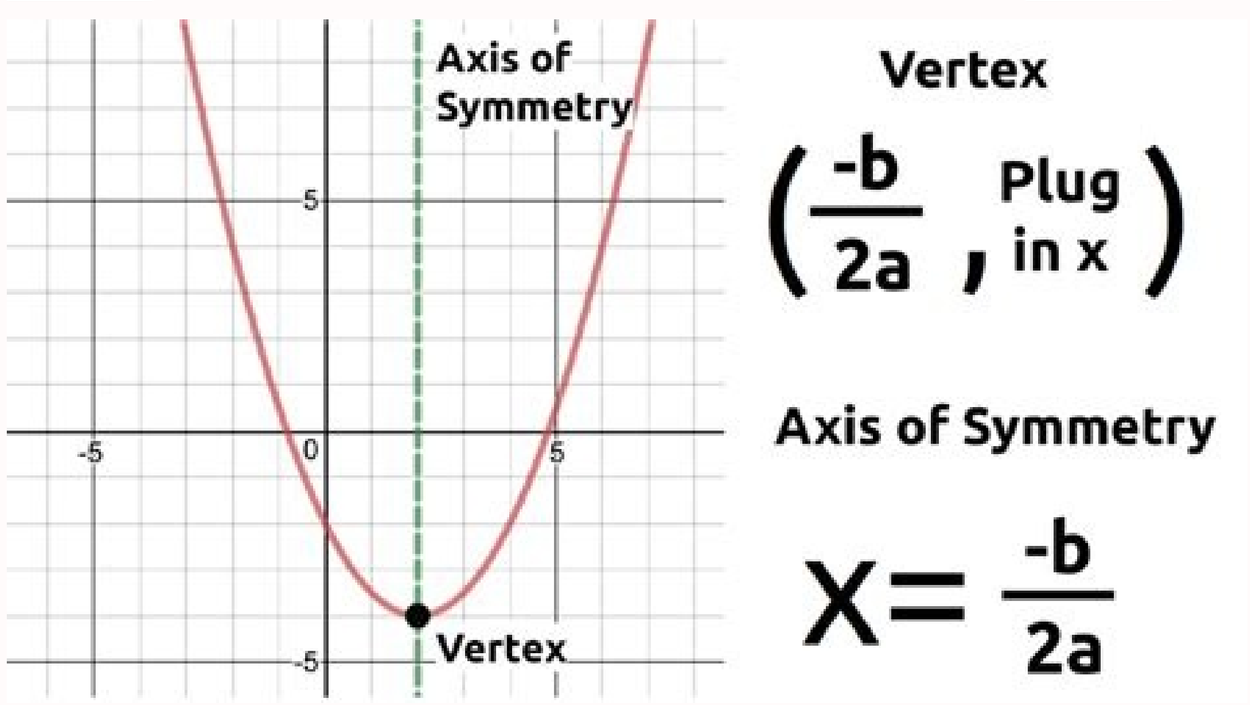
$f(-2) = 2(4) + 8(-2) + 6$

$= 8 - 16 + 6$

$= -2$

Vertex

$(-2, -$

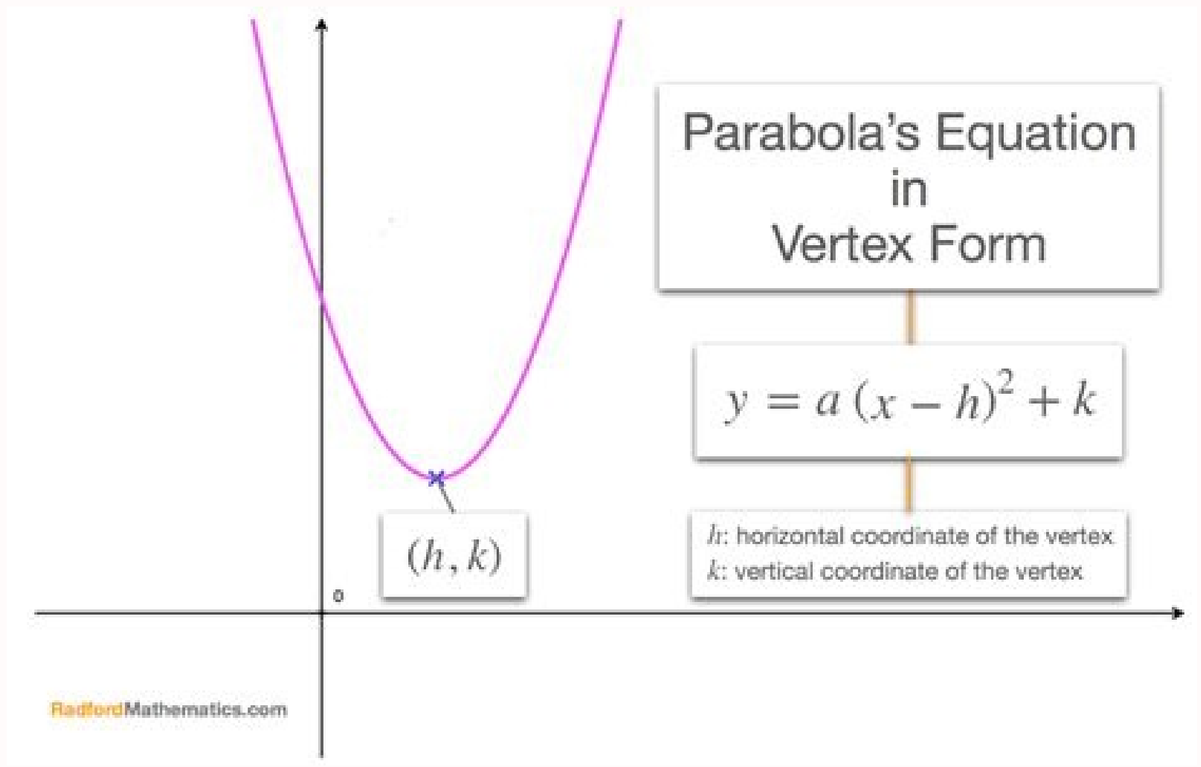


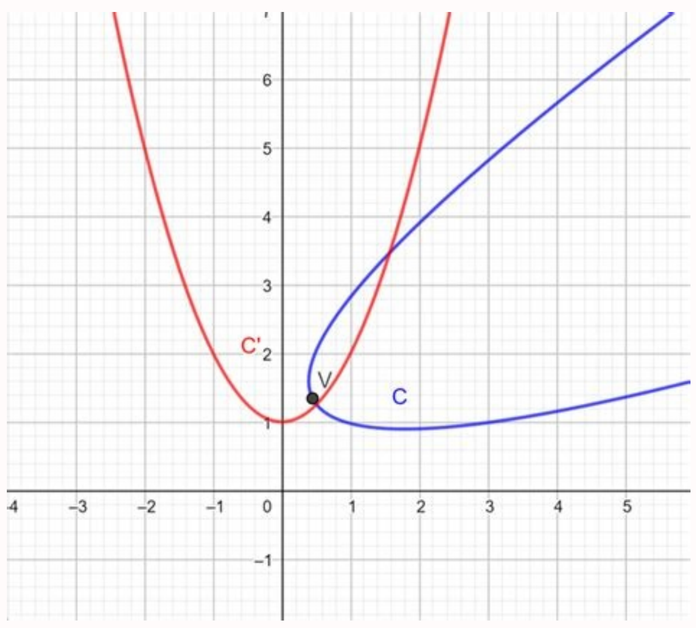
Vertex

$$\left(\frac{-b}{2a}, \text{Plug in x}\right)$$

Axis of Symmetry

$$X = \frac{-b}{2a}$$





How to find the vertex of a graph on a calculator. How to find the vertex of a graph of a function. How to find the degree of a vertex in a graph. How to find the equation of a parabola from a graph without vertex. How to find the vertex of a parabola on a graph. How to find the vertex of a parabola on a graphing calculator. How to find the vertex of a graph on a ti-84. How to find vertex form of a parabola from a graph.

How to Calculate a Demand Function Tools of Economics An Explanation of the Supply &... What Is the Difference Between... How to Calculate the Slope of a... How to Calculate a Demand Function... How to Calculate PED How do I Calculate Seasonality? How to Calculate Residual Variance How to Create a Waterfall Chart How to Calculate Elasticity of... Equations Used in Economics The Advantages of Purchasing Power... How to Calculate Weighted Variance How to Find a Marginal Cost Function What Does the Marginal Rate of... Difference Between Complementary... One goal of statistics is to present data in a meaningful way. Often, data sets involve millions (if not billions) of values. This is far too many to print out in a journal article or sidebar of a magazine story. That's where graphs can be invaluable, allowing statisticians to provide a visual interpretation of complex numerical stories. Seven types of graphs are commonly used in statistics. Good graphs convey information quickly and easily to the user. Graphs highlight the salient features of the data. They can show relationships that are not obvious from studying a list of numbers. They can also provide a convenient way to compare different sets of data. Different situations call for different types of graphs, and it helps to have a good knowledge of what types are available. The type of data often determines what graph is appropriate to use. Qualitative data, quantitative data, and paired data each use different types of graphs. Erik Dreyer / Getty Images A Pareto diagram or bar graph is a way to visually represent qualitative data. Data is displayed either horizontally or vertically and allows viewers to compare items, such as amounts, characteristics, times, and frequency. The bars are arranged in order of frequency, so more important categories are emphasized. By looking at all the bars, it is easy to tell at a glance which categories in a set of data dominate the others. Bar graphs can be either single, stacked, or grouped. Vilfredo Pareto (1848–1923) developed the bar graph when he sought to give economic decision-making a more "human" face by plotting data on graph paper, with income on one axis and the number of people at different income levels on the other. The results were striking: They showed dramatically the disparity between rich and poor in each era over the course of centuries. Walker and Walker / Getty Images Another common way to represent data graphically is a pie chart. It gets its name from the way it looks, just like a circular pie that has been cut into several slices. This kind of graph is helpful when graphing qualitative data, where the information describes a trait or attribute and is not numerical. Each slice of pie represents a different category, and each trait corresponds to a different slice of the pie; some slices usually noticeably larger than others. By looking at all of the pie pieces, you can compare how much of the data fits in each category, or slice. Qwfp / Wikimedia Commons / CC BY 3.0 A histogram in another kind of graph that uses bars in its display. This type of graph is used with quantitative data. Ranges of values, called classes, are listed at the bottom, and the classes with greater frequencies have taller bars. A histogram often looks similar to a bar graph, but they are different because of the level of measurement of the data. Bar graphs measure the frequency of categorical data. A categorical variable is one that has two or more categories, such as gender or hair color. Histograms, by contrast, are used for data that involve ordinal variables, or things that are not easily quantified, like feelings or opinions. A stem and leaf plot breaks each value of a quantitative data set into two pieces: a stem, typically for the highest place value, and a leaf for the other place values. It provides a way to list all data values in a compact form. For example, if you are using this graph to review student test scores of 84, 65, 78, 75, 89, 90, 88, 83, 72, 91, and 90, the stems would be 6, 7, 8, and 9, corresponding to the tens place of the data. The leaves—the numbers to the right of a solid line—would be 0, 0, 1 next to the 9; 3, 4, 8, 9 next to the 8; 2, 5, 8 next to the 7; and, 2 next to the 6. This would show you that four students scored in the 90th percentile, three students in the 80th percentile, two in the 70th, and only one in the 60th. You'd even be able to see how well students in each percentile performed, making this a good graph to understand how well students comprehend the material. Produnis/Wikimedia Commons/Public Domain A dot plot is a hybrid between a histogram and a stem and leaf plot. Each quantitative data value becomes a dot or point that is placed above the appropriate class values. Where histograms use rectangles—or bars—these graphs use dots, which are then joined together with a simple line, says statisticshowto.com. Dot plots provide a good way to compare how long it takes a group of six or seven individuals to make breakfast, for example, or to show the percentage of people in various countries who have access to electricity, according to MathIsFun. Illia Connell / Wikimedia Commons / CC BY 3.0 A scatterplot displays data that is paired by using a horizontal axis (the x-axis), and a vertical axis (the y-axis). The statistical tools of correlation and regression are then used to show trends on the scatterplot. A scatterplot usually looks like a line or curve moving up or down from left to right along the graph with points "scattered" along the line. The scatterplot helps you uncover more information about any data set, including: The overall trend among variables (You can quickly see if the trend is upward or downward.)Any outliers from the overall trend.The shape of any trend.The strength of any trend. Peter James Eaton / Wikimedia Commons / CC BY 4.0 A time-series graph displays data at different points in time, so it is another kind of graph to be used for certain kinds of paired data. As the name implies, this type of graph measures trends over time, but the timeframe can be minutes, hours, days, months, years, decades, or centuries. For example, you might use this type of graph to plot the population of the United States over the course of a century. The y-axis would list the growing population, while the x-axis would list the years, such as 1900, 1950, 2000. (Image credit: Future) Now in its third year, Vertex is the conference for 2D and 3D artists, and is organised by our sister titles ImagineFX and 3D World. This year, all tickets quickly sold out. So what drew over 1,200 artists to London's Olympia Conference Centre on 27-28 February? With so much going on, it's difficult to know where to start...There were opportunities to receive feedback on your work from top professionals, including portfolio reviews (see our inspirational design portfolios here if you missed it) and a Bring Your Own Animation meet-up. There were life-drawing classes, and live art battles. There were workshops on everything from character design to lighting. And of course, there were must-see talks from some of the creative industry's biggest names, and must-see stands from a range of top sponsors.Highlights included Pixar technical artist Dylan Sisson revealing the mind-boggling secrets of Toy Story 4 and Onward, Tom Reed delving into creature design for The Lion King, and artists Karla Ortiz and Lois Van Baarle (aka Loish) sharing key insights from their own careers (read our exclusive interview with Loish here). Ortiz, for instance, told the audience: "It's okay to doubt yourself. We all do. You're not an artist unless you want to quit at least once." (Discover more of her tips here.)The highlight of Vertex, though, was how open and friendly everyone was, allowing artists and speakers to freely mingle, learn from one another, and progress their careers. Indeed at the talk How to Get a Job at ILM, supervising art director Jason Horley revealed that a recent hire was recruited after they'd chatted at 2019's Vertex, where she was advised to develop skills in 3D tools. If that's not a reason to grab a 2021 ticket, we don't know what is. You can see the full showreel from Vertex 2020 below.Next year's event is expected to be a huge success, so don't miss out on your chance to attend. Register your interest at vertexconf.com (opens in new tab)This article originally appeared in issue 186 of ImagineFX, the world's leading magazine for digital artists. Buy issue 186 (opens in new tab) or subscribe to ImagineFX (opens in new tab).Read more: Thank you for reading 5 articles this month* Join now for unlimited accessEnjoy your first month for just £1 / $1 / €1 *Read 5 free articles per month without a subscription Join now for unlimited accessTry first month for just £1 / $1 / €1 By Daniel Ketchum ı Ablestock.com/AbleStock.com/Getty Images Adobe Photoshop is one of the most popular graphics programs on the market . This is due in no small measure to its versatility. Photoshop is used for a wide array of projects, from creating ads and brochures to making your animations. It can also be used to create first-rate graphs for business presentations or government websites. Gather the data you will base your graphs on. Choose how you want the data displayed. For example if you want to demonstrate a change in sales figures, you could do this as a bar graph, with the vertical axis representing sales and the horizontal representing time. If you also want to use your data to show different in the sales of different types of items you could do this with a pie chart. Open Photoshop. Select "File" and click "New."In the dialog that opens enter the size in pixels that you want for the graph. Set the resolution to what you need for your project. For example, if you

are placing it on the Internet you should set it to 72, but if it will be printed you should set it to 300. Click “OK.” Select the “Pen” tool from the toolbar and draw in the lines showing the top and bottom of your bar graph. Apply a stroke to all the lines. Select the “Rectangular” Shape tool and on left side of the canvas draw in your bar graph, changing the “Fill” color for each one. Select the “Ellipse” tool, and draw a circle on the right side of the canvas. Change the “Foreground” color. Use the “Polygonal” selection tool to select a pie shaped slice of the circle, creating one of the percentages you want to show. Fill it using the Paintbucket tool. Change the color and repeat this for each segment. Select the “Text”tool and type in all the text and numbers you want for your graphs. Select “File” and click