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Find y intercept with slope and point calculator

The demand curve is a graph used in economics to demonstrate the relationship between the price of a product and the demand for that same product. The graph is calculated using a linear function that is defined as P = a - bQ, where "P" equals the price of the product, "Q" equals the quantity demanded of the product, and "a" is equivalent to non-price factors that affect the demand of the product. Given a table, it is simple to solve for the slope of a demand curve at a point using the linear demand curve equation or the equation for the slope of a linear equation. Write down a set of values for a certain point on the graph from the data provided within the table. For example, if the table states that at point (30, 2) the value of Q = 30, the value of P = 2 and the value of a = 4, write them out on a piece of paper for easy access. Insert the values into the linear demand curve equation, Q = a - bP. For example, using the above values found from the example table, insert Q = 30, P = 2 and a = 4 into the equation: 30 = 4 - 2b. Isolate the b variable on one side of the equation in order to solve for the slope. For example, using algebra we find: 30 = 4 - 2b becomes 30 - 4 = - 2b, becomes -26 = 2b, becomes -26 ÷ 2 = b. Solve for the slope "b" using your calculator or by hand. For example, solving the equation -26 ÷ 2 = b finds b = -13. So, the slope for this set of parameters equals -13. Write down the x and y values from two points listed on a demand curve's coordinate table. In the case of a demand curve, the point "x" equals the quantity demanded of a product and the point "y" equals the price of the product at that level of demand. Insert these values into the slope equation: slope = change in y / change in x. For example, if the table states that the values of of x1 = 3, x2 = 5, y1 = 2 and y2 = 3, the slope equation is set up like this: slope = (3 - 5) ÷ (2 - 3). Solve the slope equation to find the slope of the demand curve between the two chosen points. For example, if the slope = (3 - 5) ÷ (2 - 3), then slope = -2 ÷ -1 = 2. In the sales world, there are two ways of looking at profit. You can look at profit compared to your costs, or you can look at profit based on your sales. When you compare profit to costs, you are looking at markup, but when you compare profit to sales, you are looking at margin. Margin is just a way of calculating profit, while point margin is margin expressed as a percentage point. So, if you hear someone comparing margin vs. profit or margin points vs. percent of margin, these terms mean the same thing. Point generally represents 1%. To calculate point margin, first subtract your cost from the sales price to determine the margin and then divide that margin by the sales price. Margin is essentially the same as profit. Margin is the amount you have in your pocket after selling an item and subtracting your cost: Margin = Sales Price - Cost For example, if you sell a sweater for $50 and your cost for that sweater was $30, then your margin is $20. That's your profit in the transaction. If you sold the same sweater for $40, then your margin would be $10. Point margin is simply your margin expressed as a percentage point instead of in dollars. You can calculate the point margin by dividing your margin by the sales price: Point Margin = Margin / Sales Price So, if you sold the sweater for $50 with a $20 margin, then your point margin was 40 points ($20 / $50 = 0.40). If you had sold that same sweater for $40, then your point margin would have been only 25 points ($10 / $40 = 0.25). Many businesses make it a matter of policy to sell items at a specific point margin. Suppose, for example, before you put your sweater up for sale, you decided you wanted to sell it at a 45-point margin. In this case, you can use the following formula: Sales Price = Cost / (1 - Margin) If the sweater cost you $30, then to sell it at a 45-point margin, the sales price would have to be $54.54: Sales Price = $30 / (1-0.45)Sales Price = $30/0.55 Sales Price = $54.54 While margin looks at profit based on the selling price, markup looks at profit based on the cost. Companies that use markup to calculate price simply add their markup to the cost of the item. For example, if you bought a shirt from a wholesaler for $10 and want to add a flat markup of $9, then the sales price would be $19: Sales Price = Cost + Markup Like margin, markup can also be expressed as a percentage, but it is a percentage based on the cost rather than the selling price. For example, if your company's policy is to mark up shirts by 40%, then you would multiply the $10 cost by 140% to get a $14 sales price. Sales Price = Cost x (1+Markup Percentage) Note that markup must always be more than 100% when you are doing the calculation, or you will lose money. You should have probably noticed that when expressed in dollars, markup and margin work out to the same thing. That's because they both represent profit. If the cost is $8 and you sell an item for $20, then your markup and margin are both the same $12. It's only when you look at the percentages or points that markup and margin vary considerably. As a final example, suppose you are selling a hat for $54 that cost you $30. Both markup and margin are $20. This is a markup of 180%, but it's a 44-point margin. Your break-even point is the threshold at which you start making money, once you've covered both your overhead expenses such as rent, and variable costs such as materials and labor. Knowing how many units you need to produce to reach your break-even point helps you plan and set goals to keep your company solvent. The accounting calculations may seem dry, but they represent an important and relevant milestone, marking the line between incurring a loss and earning a profit. Variable costs are expenses that vary and more or less correlate with the amount of product your company produces. If you manufacture bicycles, you use twice as many tire and brake parts to make 40 bicycles as you do to make 20. It takes more labor as well to manufacture the additional units. Variable cost per unit usually doesn't change appreciably relative to how many units you produce. Your contribution margin reflects the other costs that go into producing the items you sell. The overall amount you pay for these fixed costs doesn't change significantly relative to how much you produce. If you pay $1,000 per month in rent, you owe this amount to your landlord whether you produce one unit or one thousand units over the course of the month. Other fixed costs figured into your contribution margin include licenses, utilities and the expense of paying your bookkeeper. To calculate your contribution margin per unit, subtract your variable expenses per unit from your sale price. For example, if you sell a bicycle for $200 and it takes $150 worth of materials to build it, the remaining $50 represents your contribution margin. This sum will go towards paying your rent, bookkeeper and other fixed expenses until these costs are fully covered. After they are covered, the extra $50 becomes profit and you get to keep it. To calculate your break even point in units, divide your total fixed costs by your contribution margin per unit. If your bicycle shop spends $3000 per month on rent, utilities, licenses and other necessary fixed costs, and your contribution margin is $50 per bicycle, you must produce 60 bicycles to earn that extra $3000. Your break even point is 60 units per month. Once you've determined your break even point in units, you can proceed to calculate how many units you must produce and sell to earn a profit that will meet your personal and professional needs. Divide your desired profit by your contribution margin, which is now going directly towards extra income. If you hope to earn a $2,000 per month profit, you must produce and sell an additional 40 bicycles at a contribution margin of $50 per bicycle to earn this extra $2,000. If you are considering a new home loan, you may have the option to lower the interest rate you receive by paying mortgage points. Mortgage points, which sometimes are referred to as discount points, are a fee that you pay at the time you close the loan in exchange for a lower interest rate. Typically, a point costs you 1% of the total amount of your loan. And in exchange, you receive a reduction of approximately 0.25% on your interest rate. But is paying points a good idea? It likely depends on the length of time you plan to stay in the home. Money expert Clark Howard advises against paying points unless you're very confident that you'll own the home for a long period of time. You can read more about his strategy and the nuances of mortgage points here. Team Clark's Mortgage Points Calculator is designed to help you make this decision. Simply input two loan options (starting with the loan with the lowest amount of points, if applicable) and our tool will break down how much money you could save on your payment and how long it will take you to recoup the upfront costs of buying the points. 0> This calculator works by comparing two different financing options (points and interest rates) for loans with the same amount and length. When comparing the loans, enter the loan with fewer or zero points first. The cost (in points) for loan 1 is {{ discountPoints1Amount }}. The cost (in points) for loan 2 is {{ discountPoints2Amount }}. This is a cost difference of {{ discountSpread }}. The payment amount for loan 1 is {{ monthlyPayment1 }}. The payment amount for loan 2 is {{ monthlyPayment2 }}. This is a payment difference of {{ calc_monthlyPaymentDiff }}. Based on the difference in your loan payment, it will take {{ breakeven }} months ({{ calc_breakevenYears }} years) to recover the cost of paying points. In this scenario, it would only be worth paying points if you are sure you are going to be in your home for longer than {{ calc_breakevenYears }} years. Get a quote on a mortgage from LendingTree.