Bringing Maths to Life (Levels 1-2)

Read the questions below carefully and see if you can use your mathematical skills to solve the problems all the way to Level 3. If you're struggling to solve the problem, the tip might be able to help you.

Question	Tip	Answer
The Great Chocolate Store has 400 Astra Sweets chocolate bars. If they received a new shipment of 500 chocolate bars and they sold 376 chocolate bars. How many are left at the store?	Subtract the number of chocolate bars sold from the total number of chocolate bars after receiving the new shipment to find how how many are left.	
Astra Sweets generally packages chocolates in boxes of 12. How many boxes are needed for 132 chocolates?	Divide the total number of chocolates by the number of chocolates per box to determine the number of boxes needed.	
Astra Sweets chocolate is made from 60% Cocoa, 30% Cane Sugar, and 10% secret ingredient. If the factory mixes together all the ingredients for the day's chocolate making and it weighs 800 kilograms, how much of that is cocoa?	Multiply the total weight of the mixed ingredients by the percentage of cocoa to find out how much of it is cocoa.	
At the airport a piece of checked in luggage can weigh 32 kg. My bag already weighs 31.2k and a chocolate bar weighs 0.05kg. What is the maximum amount of many chocolate bars can I fit in my luggage?	Calculate the remaining weight allowance for the luggage and divide this by the weight of one chocolate bar to find the maximum number of bars that can be added.	
If the ratio of milk chocolates to dark chocolates in the mixed batch of boxes from Astra Sweets is 3:2, how many of each are there in a batch of 50?	Divide the total number of chocolates by the sum of the ratio parts and then multiply by each part of the ratio to find the number of milk and dark chocolates.	
Astra Sweets won the Worldwide Chocolate Competition as the best chocolate by 12 points over their nearest competitor. Astra Sweets also had double the amount of points as their nearest competitor. How many points did Astra Sweets receive?	Set up an equation where the competitor's score is x and Astra Sweets' score is x+12 and also 2x. Set those values as equal since they are both Astra Sweets' score, then solve for x.	

Bringing Maths to Life (Levels 3-5)

Read the questions below carefully and see if you can use your mathematical skills to solve the problems all the way to Level 3.

If you're struggling to solve the problem, the tip might be able to help you.

Question	Tip	Answer
Nova is putting together a business plan for Nova Sweets and estimates her total costs for the month of February to be $3,120. If they sells each chocolate bar for $1.50, how many chocolate bars will the Nova Sweets team need to sell to cover their costs?	Divide the total costs for February by the price per chocolate bar to find out how many bars need to be sold to cover these costs.	
Astra Sweets created a limited run of chocolate circles. If the chocolates have a radius of 7cm, what is the circumference of the chocolates? Round to the nearest hundredth or leave the answer in terms of π.	Use the circumference formula for a circle $C=2\pi r$, where r is the radius.	
What's the probability of randomly picking a milk chocolate bars and then a dark chocolate bar from a box with 3 milk and 7 dark chocolate bars? Round to the nearest hundredth.	Calculate the probability of picking one milk chocolate bar, then calculate the probability of picking a dark chocolate bar from the remaining chocolates. Multiply those values together.	
Nova Sweets launched their chocolate website with huge sales of 1,432 chocolate bars. The next 4 days were a bit slower with sales of 325, 414, 222, and 184. What is the difference between the mean and the median for these sales?	First calculate the mean and median of the sales numbers, then find the difference between these two values	
The annual profit function for Astra Sweets is f(x) = 1.50x - 40,000. How many chocolates need to be sold for Astra Sweets to make $5,000 in profit?	Set the profit function equal to $5,000 and solve for x to find the number of chocolates that need to be sold.	
Nova uses some fancy AI analysis to determine the number of people learning about her brand each day follows a pattern described by the equation $f(x)=-2x^2+12x+100$, where $f(x)$ is the number of days since her launch. Find the day when the maximum number of people learn about the brand on a single day.	To find the x value of the maximum, you can use the vertex formula. Since the function is already in $ax^2 + bx + c$ form where a = -2, b = 12, and c = 100, and the vertex formula is $x = -b/2a$. One can also set the derivative to equal zero and solve for x to find the maximum x value.