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
Astra Pizza started the week out with enough pizza dough to make 143 pizzas. At the end of the week there was enough to make 84 pizzas. How many pizzas did they make?	To solve this math problem, subtract the amount of pizza dough left at the end of the week from the amount Astra Pizza started with.	
What is the perimeter of the Nova Pie box if they are squares with each side having 10 inches?	A square has four equal size sides and the perimeter is the measure of the outside of a shape. Therefore we can solve this problem by taking one side and multiplying it by four or by taking the side and adding it together four times.	
The area of the real estate where the pizza companies would go consists of two connected rectangular rooms. The first room is 5 meters by 8 meters and the second room is 15 meters by 10 meters. How much area is the real estate?	Find the area of each rectangular room by multiplying the two dimensions of the room together. Then add the two areas together. Don't forget to use correct units on your answer!	
If 30% of the 50 Nova Pie pizzas made in one night are vegetarian, how many are vegetarian?	Change the percentage to either decimal or fraction form then multiply it by the total number of pizzas made.	
The Nova Pie is created using a specific ratio of cheese to tomato sauce to get their renowned cheesy pizza pies. The ratio is 3 cups of tomato sauce to 5 cups of cheese. They are making a unique large pizza for a party that will use 22 cups of cheese. How much tomato sauce will be needed? Answer should be in a mixed number.	To find out how much tomato sauce is needed for 22 cups of cheese, first divide 22 by 5 (the number of cheese cups in the ratio) to find out how many times the ratio is used. Then, multiply that number by 3 (the tomato sauce part of the ratio) to get the total cups of tomato sauce needed. Remember to express the final answer as a mixed number.	
At Astra Pizza, a cheese pizza is $12, a pepperoni pizza is $14, a veggie pizza is $14, and the loaded supreme ultra pizza is $16. If they sold 15 cheese , 3 pepperoni, 4 veggie, and 2 supreme ultras on a Tuesday night, how much money did they make?	Calculate the total made on each pizza first by multiplying the price times the quantity sold. Then add all of the totals for each pizza together to see how much money Astra Pizza made.	

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
The rules for the coin flip option were recently disclosed to the two pizza companies. Astra Pizza is heads and Nova Pie is tails. The pizza company that wins is the one that gets three coin flips on their side in a row. What is the probability of three coin flips being the same in a row?	The probability of getting the same side of the coin three times in a row is 50% x 50% x 50%. Drawing a probability tree can be helpful in seeing why this is the case.	
The average number of pizzas sold in a week for Nova Pie is 250. If the company wants a 15% buffer of ingredients just in case there is a rush of orders one week. How many pizzas should Nova Pie have ready to make each week?	You can either take the number of pizzas times 1.15 or find 15% of the pizzas and add it to 250. Can you figure out why these will give the same result?	
A Nova PIe pizza box is a square with a perimeter of 40 inches. What is the length of the diagonal of the pizza box?	First, find the length of one side of the square. Then you can use Pythagorean's Theorem to solve for the length of the diagonal. Pythagorean's Theorem is $a^2 + b^2 = c^2$ where a and b are the sides and c is the hypotenuse.	
A Nova Pie pizza slice forms a perfect 45-degree angle. What's the length of the crust if the radius is 10 cm?	Multiply the circumference ($C=2\pi r$) times the proportion of the whole circle that is contained in the 45 degree angle (45/360).	
There are 3 houses that need a pizza delivery. The first house is 5 km away from the restaurant, the second house is 3.5 km from the first, and the final house is 2.4 km from the second and 1.1 km from the store. If the car goes an average of 50 km/h and each delivery takes 1 minute at each house, how long will the driver be gone?	First, add up all of the driving distances then divide that total distance by 50km/h. Then change the answer into minutes by multiplying by 60. Finally, add the total amount of time the driver takes at the 3 houses for the deliveries.	
10 Nova Pies can be made in an hour and 15 Astra Pizzas can be made in an hour. In a pizza making competition, how long will it take Nova Pies to catch up to Astra Pizzas if Nova Pies a 30 pizza head start?	There are multiple ways to solve this problem. One using algebra is by creating two functions for lines and finding their intersection. Nova Pies could be represented as $y = 10x +30$ (y being pizzas made and x being hours) and Astra Pizzas is $y = 15x$.	