

This is the only known collection of mathematical pizza problems. You may have thought there was no mathematics in pizza. Well, there is. It turns out there is mathematics in plain cheese pizzas, sausage pizzas, pepperoni pizzas, pineapple pizzas, teriyaki pizzas, and avocado pizzas, just to name a few. (Sometimes, it's just not good to take mathematics too seriously.)



**Pizza Problem No. 1.** What time would it be if you gave one-eighth of a pizza to one friend and one-eighth of a pizza to another friend? Hint: Not only do you have to believe that mathematics can be silly at times, you have to add fractions to solve this one.



**Pizza Problem No. 2.** What looks exactly like half a pizza? Hint: This is another one that tests what you really know about fractions. The answer to this problem is not your neighbor's bulldog. You don't have to be told that wisecracks like that can hurt.

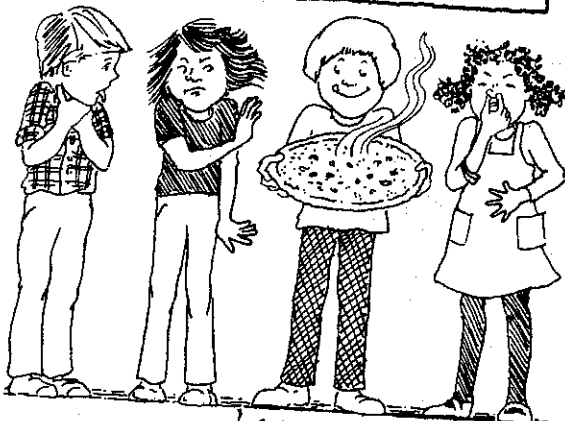




**Pizza Problem No. 3.** Why did Mr. Fibonacci ask to have his large cheese, pepperoni, salami, onion pizza cut into six pieces instead of eight? Hint: Some of the information in this problem is there just to throw you off the track. The most important clue isn't even in the problem, and it is that Mr. Fibonacci really doesn't understand much about fractions. When asked, he was unable to solve either of the first two problems.



**Pizza Problem No. 4.** How can you cut a pizza into eight slices, all the same shape and size, with only three cuts? Hint: You have to be willing to think messy for this one.



**Pizza Problem No. 5.** The favorite pizzas of Alicia, Mike, Patrick, and Sarah are anchovy, mushroom, pepperoni, and sausage. No one's name starts with the same letter as his or her favorite pizza. Mike and Sarah absolutely cannot stand anchovies, much less an anchovy pizza. Alicia and Mike know for sure that they hate pepperoni. What is each person's favorite pizza? Hint: To keep track of the information in a logical problem like this, it can help to make a chart for recording what you know.

	ANCHOVY	MUSHROOM	PEPPERONI	SAUSAGE
ALICIA				
MIKE				
PATRICK				
SARAH				



**Pizza Problem No. 6.** Jennifer and Steven's parents were planning to go on their yearly vacation to Coco Palms. Usually an adult comes to the house and stays with the kids. This year Jennifer and Steven begged and begged to be allowed to stay home alone, without any sitter. They promised to keep the house clean, do all their homework, and eat regularly.

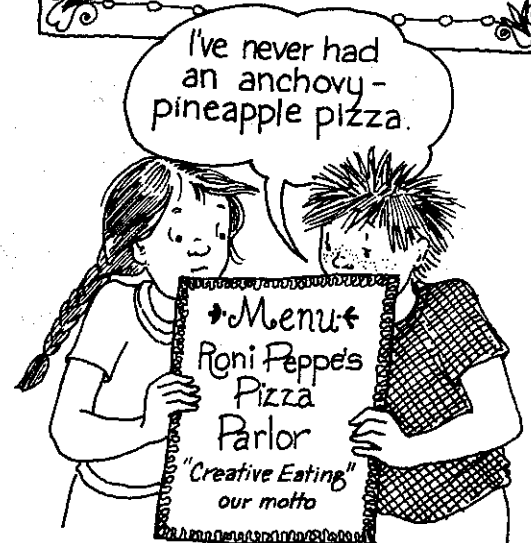
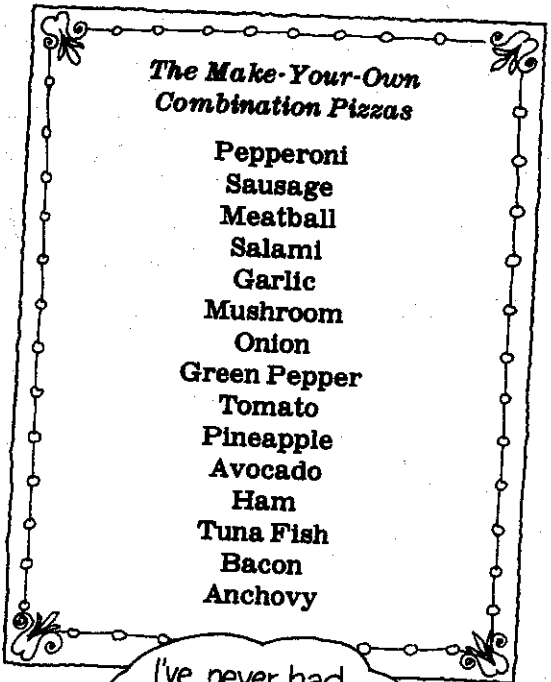


Their parents said they'd agree, but on one condition. The condition was that Jennifer and Steven had to figure out how many days their parents would be gone. If they could, it would be proof that they were clever enough to deal with any problem that might come along.

It wasn't just a wild guess they had to make, however. Jennifer and Steven's mom was a mathematician, and she gave them a pizza problem to solve that would also give them the correct answer to their problem.

"Every night while we're away," their mom explained, "you'll have to eat at the local pizza parlor. And every night you have to order a different combination pizza, choosing two different ingredients from the list on the menu. How many nights will you have to eat there to have tried every possible combination pizza, each with two ingredients?"

Jennifer and Steven went down to the pizza parlor and got a menu. It listed 15 choices of ingredients.



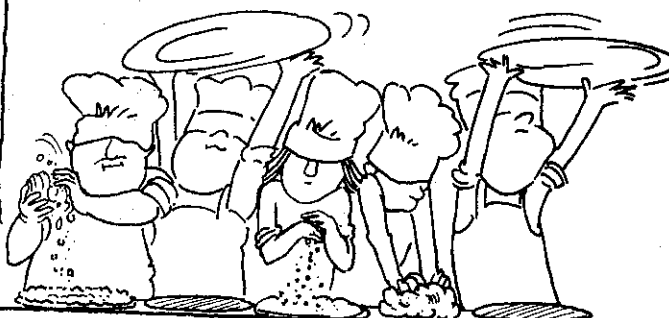
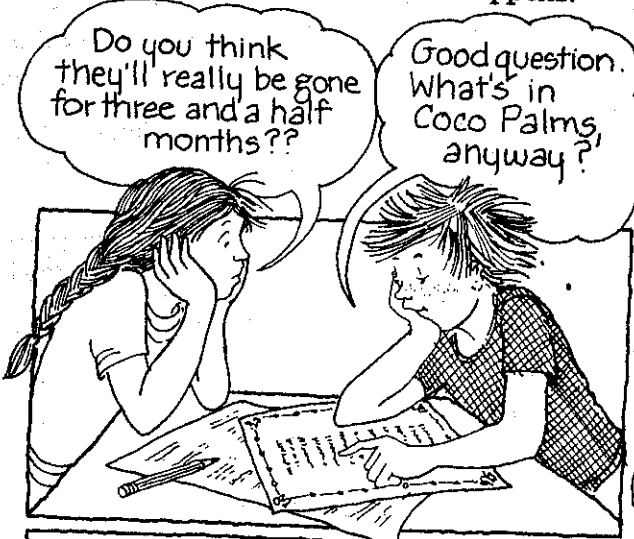
How many different combination pizzas are there if each is made with 2 ingredients? Hint: If you'd like to think this problem through as a mathematician might, start small. Start with just 2 ingredients, and work your way up to 15. With 2 ingredients, pepperoni and sausage, for instance, there is only one possible pizza. If you add a third ingredient, meatball, then there are three possibilities: pepperoni-sausage, pepperoni-meatball, or sausage-meatball. Add a fourth and see what happens.

If you'd like to write like a mathematician as well as think like one, make a table. It can help you see the pizza pattern.

INGREDIENTS	PIZZAS
2	1
3	3
4	?



**Pizza Problem No. 7.** If it takes ten pizzamakers ten minutes to make ten pizzas, how long will it take five pizzamakers to make five pizzas?



September 4, 1974, was a great day in pizza history. According to the Guinness Book of World Records, on that day the largest pizza was baked. It measured 25 feet 1 inch in diameter and weighed 1,200 pounds.

