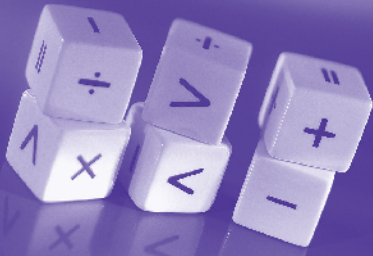


# FIGURE *it* OUT



## A FEW MATH CHALLENGES FOR YOUR FAMILY

**THIRTY-TWO PEOPLE ENTER A PING-PONG TOURNAMENT.** When a person loses a game, he or she is eliminated from the contest. How many games must be played to figure out who is the best Ping-Pong player?

**AT A FIRE SCENE, A FIREMAN STOOD ON THE MIDDLE STEP OF A LADDER** to shoot water onto the flames. When the smoke cleared, he went up three steps. A sudden burst of flames forced him to go down five steps. A few minutes later, he climbed up seven steps and worked there until the fire was out. Then he climbed the seven remaining steps and entered the building. How many steps does the ladder have?

**A RANCHER HAS 48 METERS OF FENCING TO BUILD A CORRAL FOR HIS COWS.** Since his property is bordered by a river, what is the biggest rectangular area he can fence if he uses the river as one side of the corral?

**AT A PARTY ATTENDED BY 12 FRIENDS,** the activities begin with every person shaking every other person's hand once (and only once). How many handshakes take place?

**OSGOOD SMART GLUED TOGETHER 125 SMALL CUBES** to make one big solid cube, then he painted all six sides of the big cube bright red. Later on, he broke the big cube back into small cubes and found that some cubes had three sides painted, some cubes had two sides painted, some cubes had one side painted, and some cubes had no paint on them at all. How many of each color variation did he have?

**A 200-POUND MAN AND HIS TWO DAUGHTERS** (each of whom weigh 100 pounds) are standing on the bank of a river teeming with piranhas. They want to get to the other side, but their canoe can hold no more than 200 pounds. How can they get across?

**A GIANT HERO SANDWICH HAS BEEN CREATED THAT IS 30 FEET LONG.** It has been divided into four parts so that each part is one foot longer than the previous one. What are the lengths of the four pieces?

**IF YOU HAVE CHOCOLATE, STRAWBERRY, AND VANILLA ICE CREAM,** how many *different* double-dip cones can you make? Remember, some people like to eat their strawberry *before* they eat their chocolate, and some like it the other way around.

**IF A STATE'S LICENSE PLATES CONSIST OF ONE DIGIT** followed by three letters, followed by three digits—such as 1ABC123—how many unique license plates can be issued?

**HOW MANY DIFFERENT SHAPES,** not counting reflections or rotations, can be cut from a 3-inch by 3-inch grid if cutting is allowed on the grid lines only?

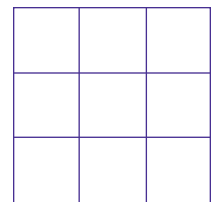


Photo by Ross Hause

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