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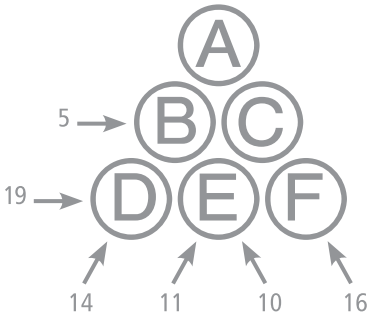
BRAIN SIZZLERS

Puzzles for Critical Thinkers

SECOND EDITION

Celia Baron



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Introduction

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Brain Sizzlers is a collection of 81 thought-provoking puzzles. The puzzles are designed to stimulate visual, spatial, logical, and mathematical thinking. Each puzzle consists of a word problem and a picture. Sometimes a picture is a crucial puzzle element; other times, a picture is just for fun. Whether working in a classroom setting or at home, children will find these puzzles fascinating and worthwhile.

It is important for children to understand that not every puzzle can be solved quickly, and perseverance is essential to success. Good problem solvers use a variety of skills and strategies to solve problems. One general strategy for approaching problems is a four-step plan like the following, which helps children organize their thinking.

Four-step Plan

1. Understand the problem.
2. Choose a strategy.
3. Solve the problem.
4. Think about the problem.

Because it is often a good idea to use more than one strategy to solve a puzzle, encourage children to apply a variety of approaches. If one approach doesn't work, suggest that children try another. Also encourage problem-solving strategies children devise themselves.

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Strategies to use with ***Brain Sizzlers*** puzzles include:

- Trial and Error
- Find a Pattern
- Work Backward
- Logical Thinking
- Make a Drawing/Sketch It
- Elimination
- Make a List
- Estimation
- Algebra

Brain Sizzlers can encourage interaction between students and teachers, children and parents, and among children themselves.

In mathematics class, ***Brain Sizzlers*** puzzles can be

- used to practice problem solving and problem-solving strategies.
- posted as problems of the week.
- provided on a page for students to solve.
- used as a class warm-up or a wrap-up.

At home, children and parents can use ***Brain Sizzlers*** puzzles to work on problem solving. It is important that parents solve the puzzles *with* their children rather than *for* their children. The process of working toward a solution is as important as the solution itself.

To ensure children's understanding and to reinforce a variety of problem-solving skills, have children explain the strategies they used to complete the puzzles. The strategies will help children to continue to solve problems as they get older. Problem solving is a life skill and ***Brain Sizzlers*** puzzles are a wonderful way for children to practice!

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In the Cards

How many cards must you draw from a deck of 52 cards to guarantee you have at least 5 cards of one suit? (**Hint:** A suit is any of 4 matching card sets—clubs, diamonds, hearts, or spades—used in card games.)

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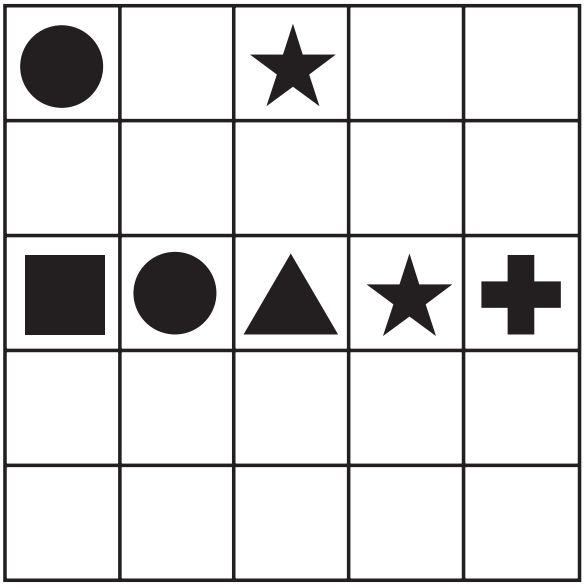
What a Square!



Fill in each box with one of the five different symbols shown. When completed, no row, column, or diagonal line should use the same symbol more than once.

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Tunnel Vision

A train, 1 mile in length and traveling at 60 mph, just passed through a 1-mile tunnel. How long did it take the entire train to pass through the tunnel?

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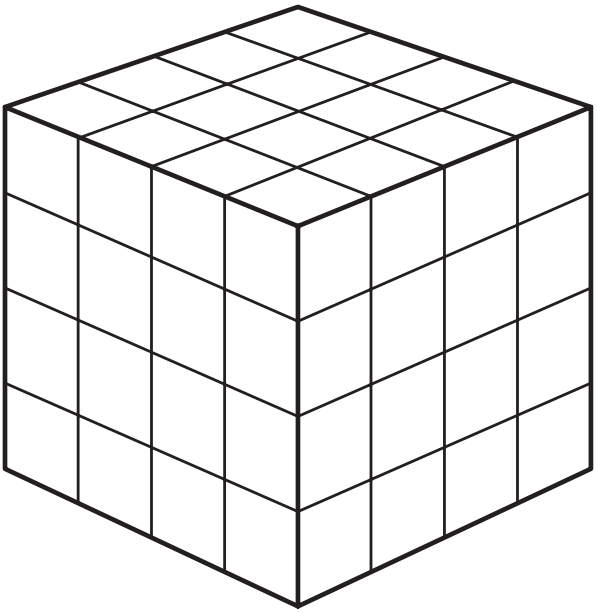
Cubism



The above cube measures 4 inches along each edge. If its outside is painted blue, how many of the 1-inch cubes have no blue paint on any face?

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Valuable Letters

B + O + O + K = 13

F + O + I + L = 10

F + U + L + L = 19

S + A + I + L = 20

B + O + I + L = 11

S + I + L + K = 18

Each different letter in the words above represents a digit from 1 through 9. The words are written as addition problems with the sum given. Determine the value of each letter.

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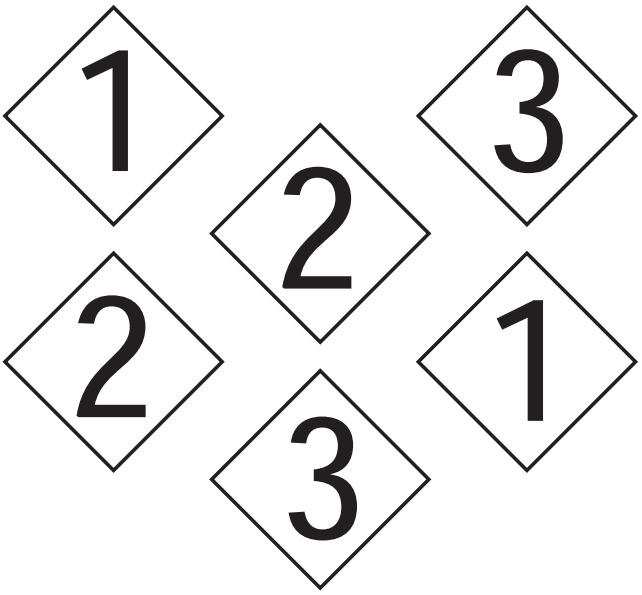
Made to Order



Arrange the digits above into a 6-digit number. The number should have the ones separated by 1 digit, the twos separated by 2 digits, and the threes separated by 3 digits.

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Dollars and Sense

How many ways can a $10 bill be changed into dimes, quarters, or a combination of dimes and quarters?

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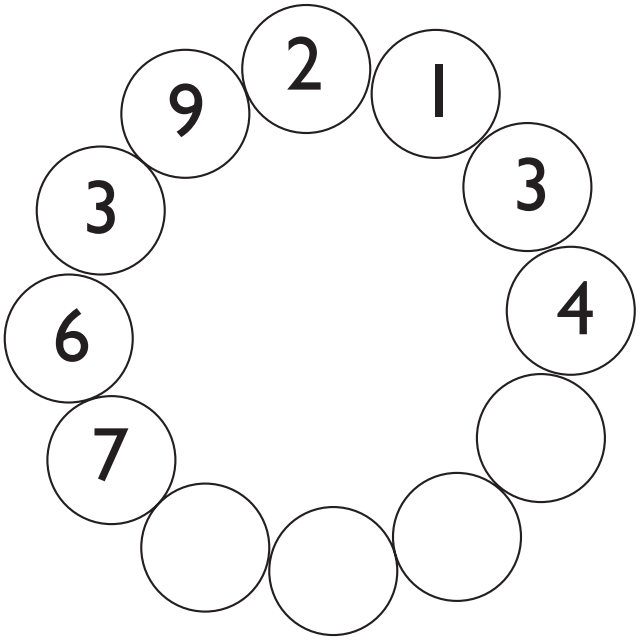
Number Bracelet



What pattern do the numbers make? Place four numbers from 1 to 9 in the empty links to complete this pattern.

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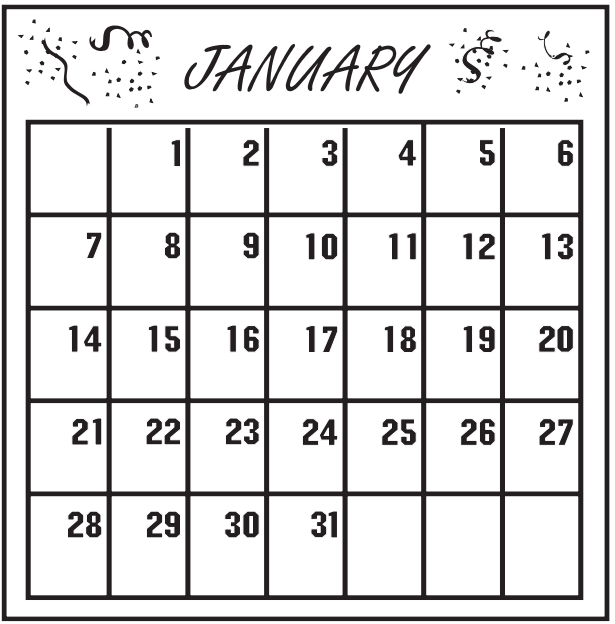
That Was Some Day



What day of the week was yesterday, if five days before the day after tomorrow was Wednesday?

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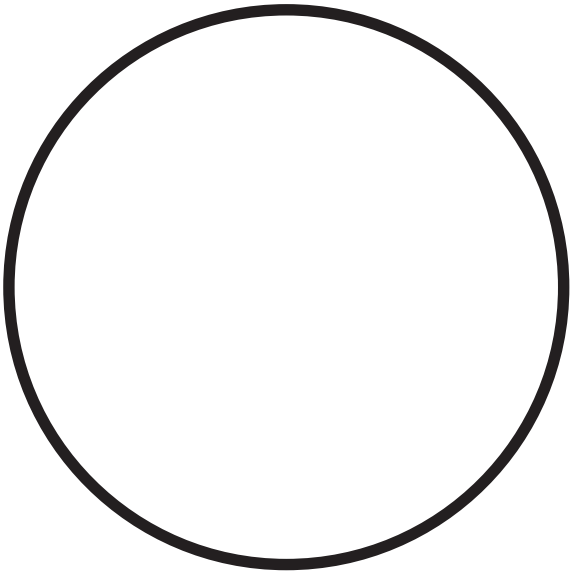
Four Lines and a Circle



What is the greatest number of pieces into which you can cut a circle by drawing four straight lines across it?

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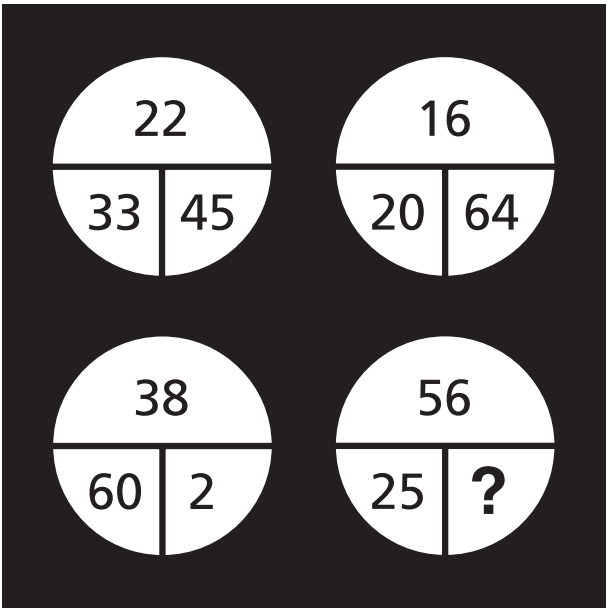
Missing Number



What number belongs in the lower right-hand portion of the fourth circle?

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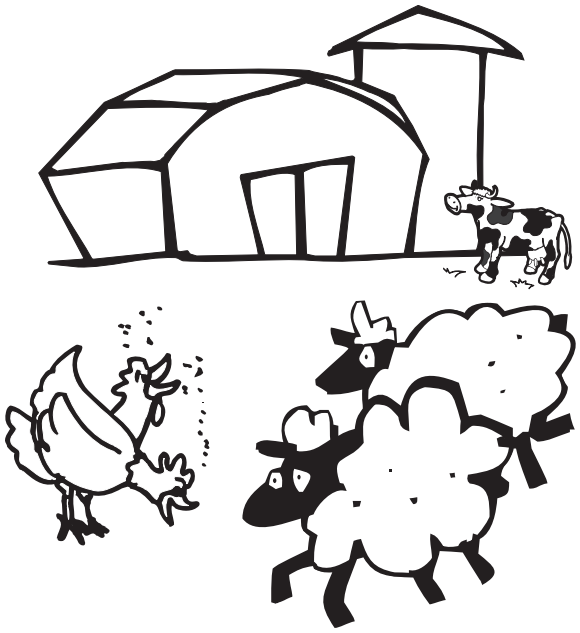
Barnyard Jumble



Something has stirred up the animals in the barnyard, but the farmer is able to count 30 heads and 100 feet. Can you determine how many of the animals counted are two-legged and how many are four-legged?

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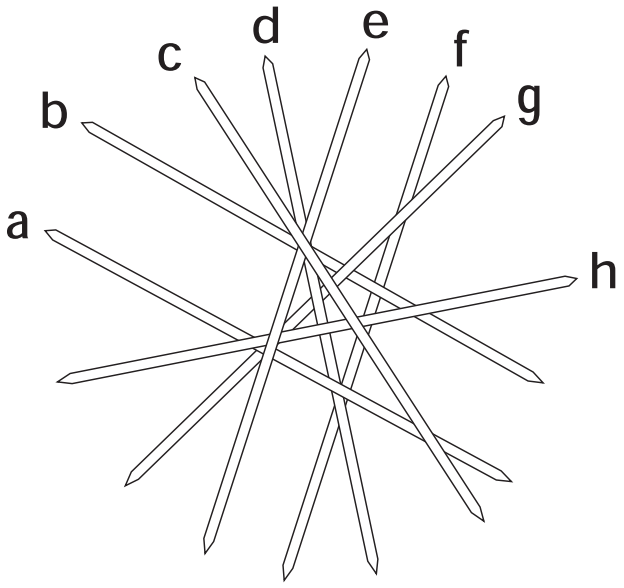
Pickup Sticks



In what order should the sticks be picked up so that only the top stick is being removed each time?

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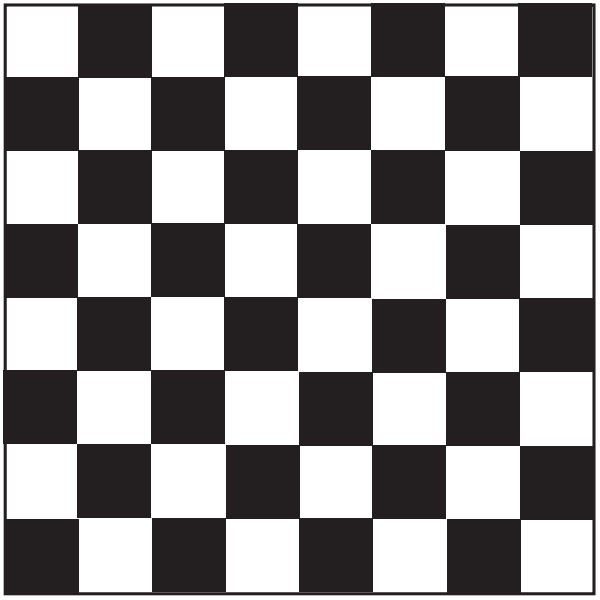
Checking Squares



How many squares are contained in this checkerboard? (**Hint:** Some squares may include other squares.)

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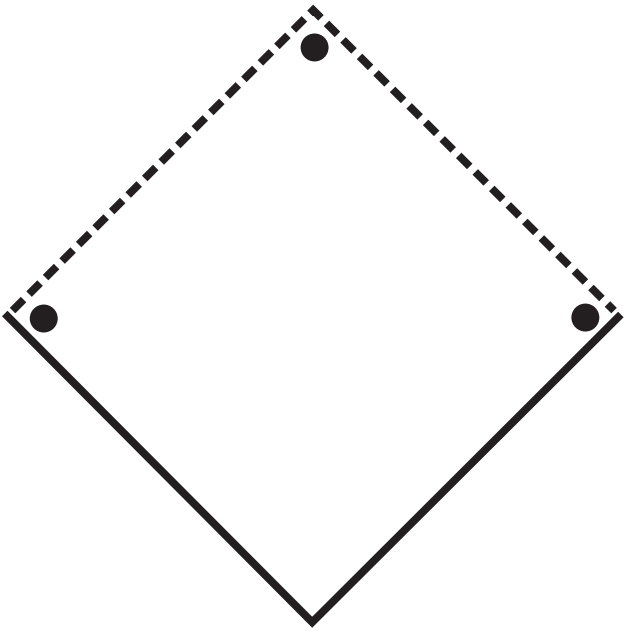
On the Dotted Line



Suppose this paper has been folded into quarters along the dotted line, and that three holes were then punched through it. What will the paper look like when it is unfolded?

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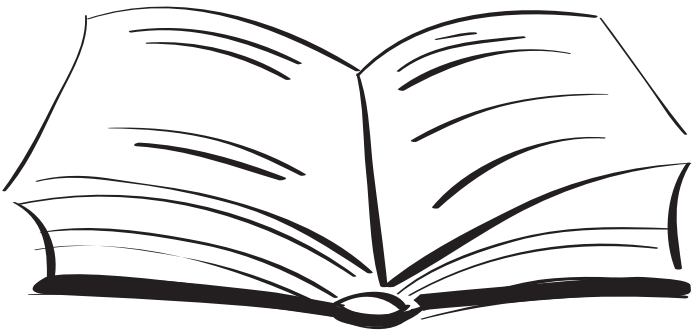
Food for Thought



How many times does the digit 1 appear in the page numbers of a 500-page book?

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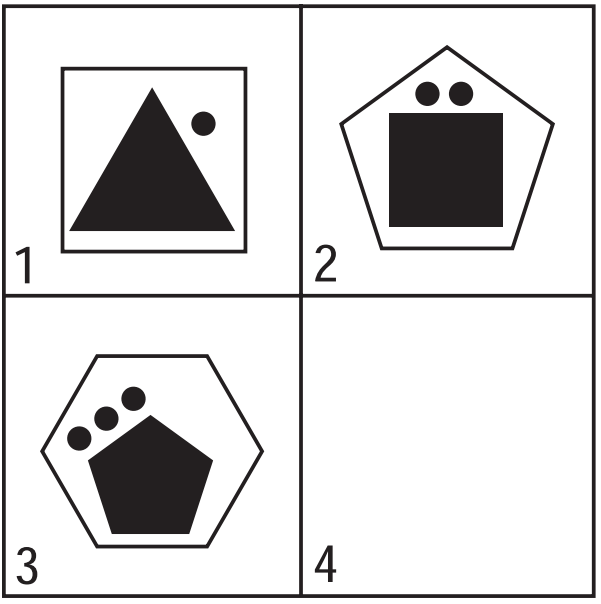
Go Figure



The figure in each square follows a pattern. After you determine the pattern, draw the figure that belongs in the fourth square.

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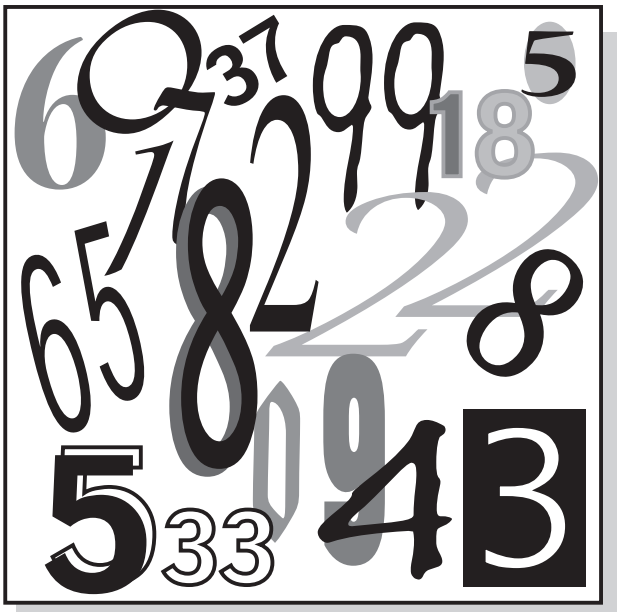
A Tall Order



In the English language, only one number is spelled with its letters in alphabetical order. What is that number?

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A Weighty Matter

If 11 plums weigh as much as 2 oranges and 1 apple, while 2 plums and 1 orange weigh as much as 1 apple, how many plums weigh as much as 1 apple?

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It's Raining Cats and Dogs

If the chance of rain is 50 percent for each of the 2 days of a weekend, what is the chance that it will rain on at least 1 of the 2 days?

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Letter Wise

What does the message say?

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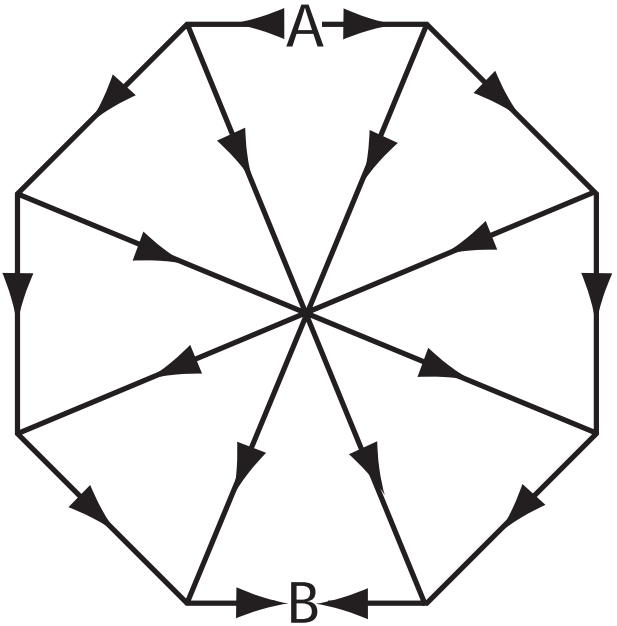
Way Out



In how many different ways can you go from A to B if you move only in the direction of the arrows?

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In Truth

1. Statement 2 is false.
2. Statement 3 is false.
3. Statement 4 is false.
4. Statement 1 is false.

Four statements are given above. How many of the statements are true?

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It's a Wrap

Find the smallest rectangular area of wrapping paper that can be used to wrap a present that is 22 inches by 20 inches by 10 inches. The paper cannot be cut.

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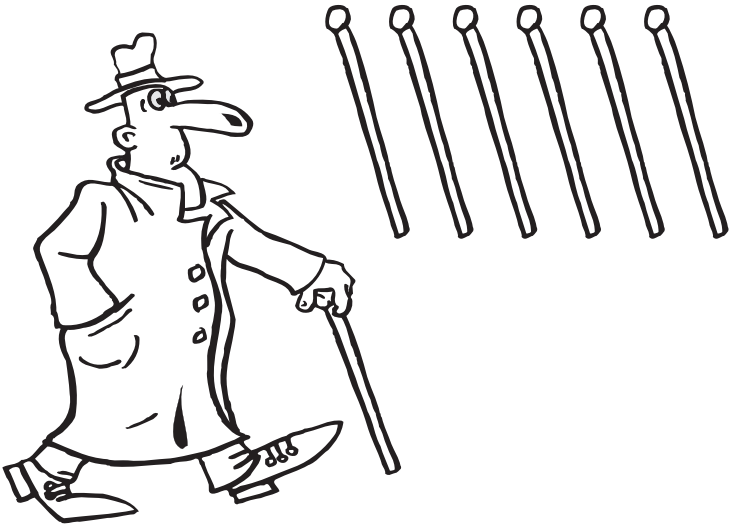
Sticktoitiveness



Harold has six new walking sticks. Rearrange them so that each walking stick touches every other walking stick, but not in a pile.

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Canny Cat

Sparky weighs $\frac{3}{4}$ of her weight, plus $\frac{3}{4}$ of a pound. How much does she weigh?

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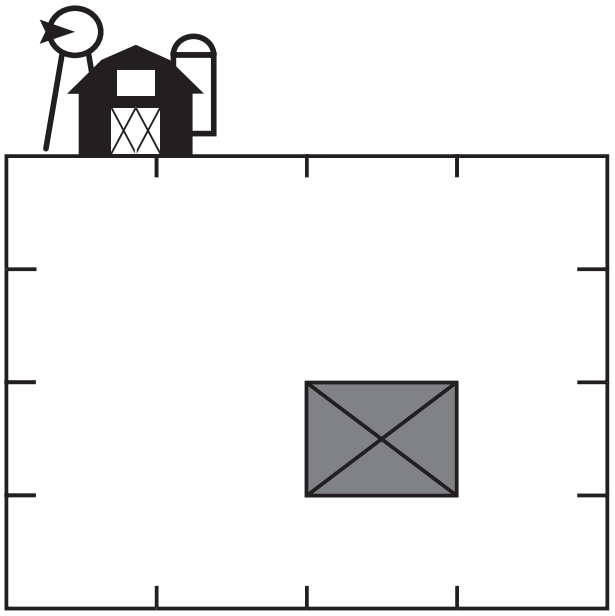
Field Work



How can a farmer divide the unshaded land into five fields of the same size and shape?

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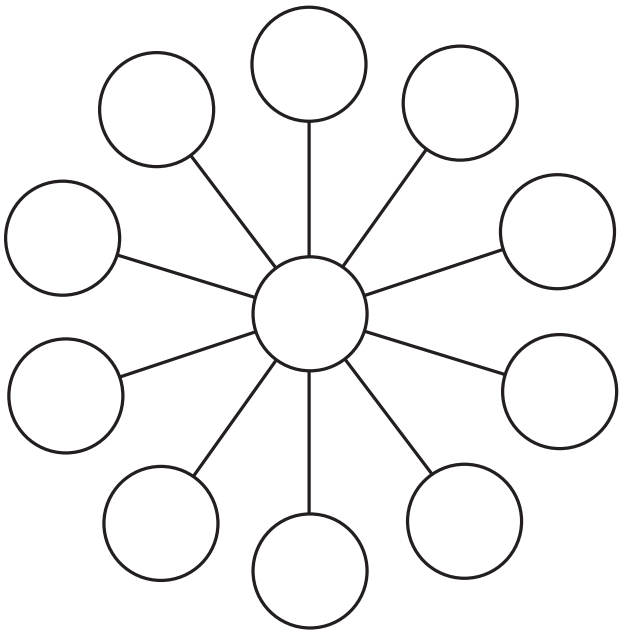
Sum Circle



Place each of the numbers from 1 to 11 in a circle so that every straight line of 3 circles totals 18.

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Family Portrait

Mortimer has 2 more brothers than sisters. How many more brothers than sisters does Mortimer's oldest sister have?

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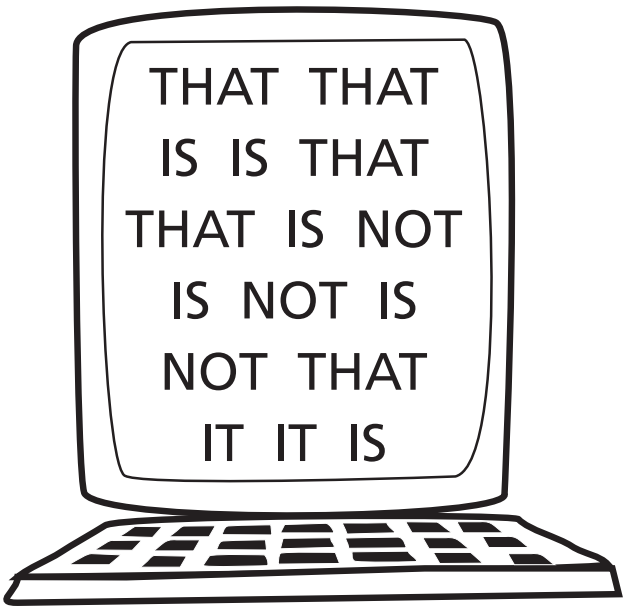
Is That It?



Use punctuation to make sense of the words on the screen. Do not change or move any words.

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