Problemoids

Grade 5
Math Challenge

Revised Edition

Bill McCandliss
Albert Watson

Royal Fireworks Press
Unionville, New York

1. Number Puzzler

Write a math problem that uses only the digit 9 four times and equals 100. Can you find 10 different solutions?

Hint 1

Use trial and error and mathematical operations you know to *solve a simpler problem*. Make three 9s equal 10.

Hint 2

Solve a simpler problem. Make two 9s equal 1.

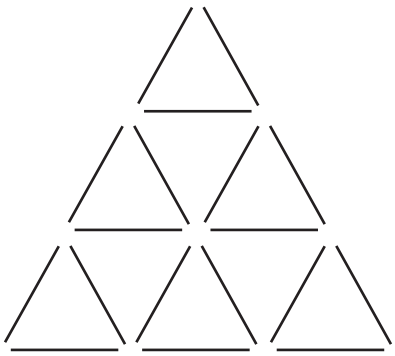
14. Toothpick Geometry

Let's do some toothpick geometry. Solve each of the following problems using the figure below:

a. Make six four-sided figures of the same size and shape by moving six of the toothpicks.

b. Remove five toothpicks to form five triangles.

c. Remove six toothpicks to form five triangles.



Hint 1

Solve part of the problem. What sorts of four-sided figures can you produce by moving or removing toothpicks?

Hint 2

Work backward.

Hint 3

Use trial and error.

25. Hop to It

This year the members of a local agricultural club plan to entertain the preschool children in their community with an animal race. They decide to mark a straight racecourse 100 feet in length. The winner will be the first animal to run to the end of the course and back.

The racing dog makes three-foot jumps, the goat leaps eight feet per jump, and the rabbit jumps two feet at a time. The rabbit, however, can jump three times each time the dog jumps twice and four times each time the goat jumps once.

The members of the agricultural club know which animal will win, but they plan to ask their young friends whether they can pick the winner before the race. Which animal will win? Which will finish second?

Hint 1

Solve part of the problem. How many jumps will it take the dog to reach the 100-foot mark?

Hint 2

Draw a diagram of the racecourse and the jumps of the animals.

Hint 3

Use all given and implied information. How far must the dog travel to complete the entire race?