

Tray Sale

Helga and Nels both decorate wooden trays to sell at a weekly craft show.

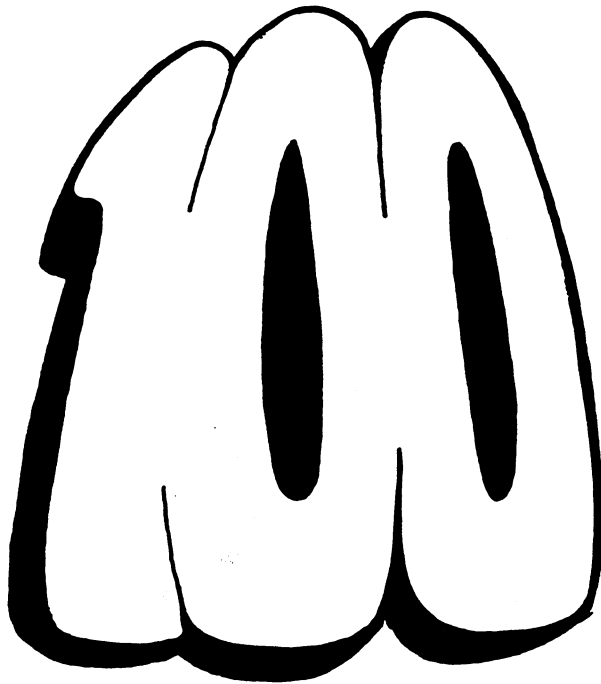
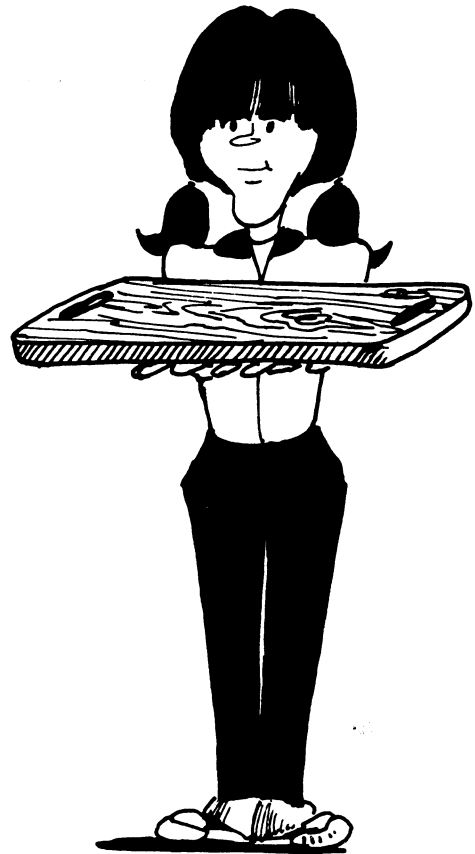
Helga sells hers for two for \$7.50. Nels' are three for \$10.00.

Although selling very similar trays, they are not business rivals, for each has no trouble selling the $2\frac{1}{2}$ dozen that could be made between shows.

When Nels broke his leg, and couldn't get to the show, Helga even offered to sell his trays with hers. The price was 5 for \$17.50 and she sold them all. After each 5 were sold, she put \$7.50 in her cash box and \$10.00 in Nels'.

The next week Nels said, "Let's take turns going to the show." He reasoned that they were each getting the original price, and selling out.

Should Helga accept?



Two Additions

Arrange all nine digits from 1 to 9 in sequence to equal 100. You are to use two addition signs and two subtraction signs. There is more than one solution.

This is an incorrect attempt:

$$12 - 345 + 67 - 8 + 9.$$

Six Triangle Sale

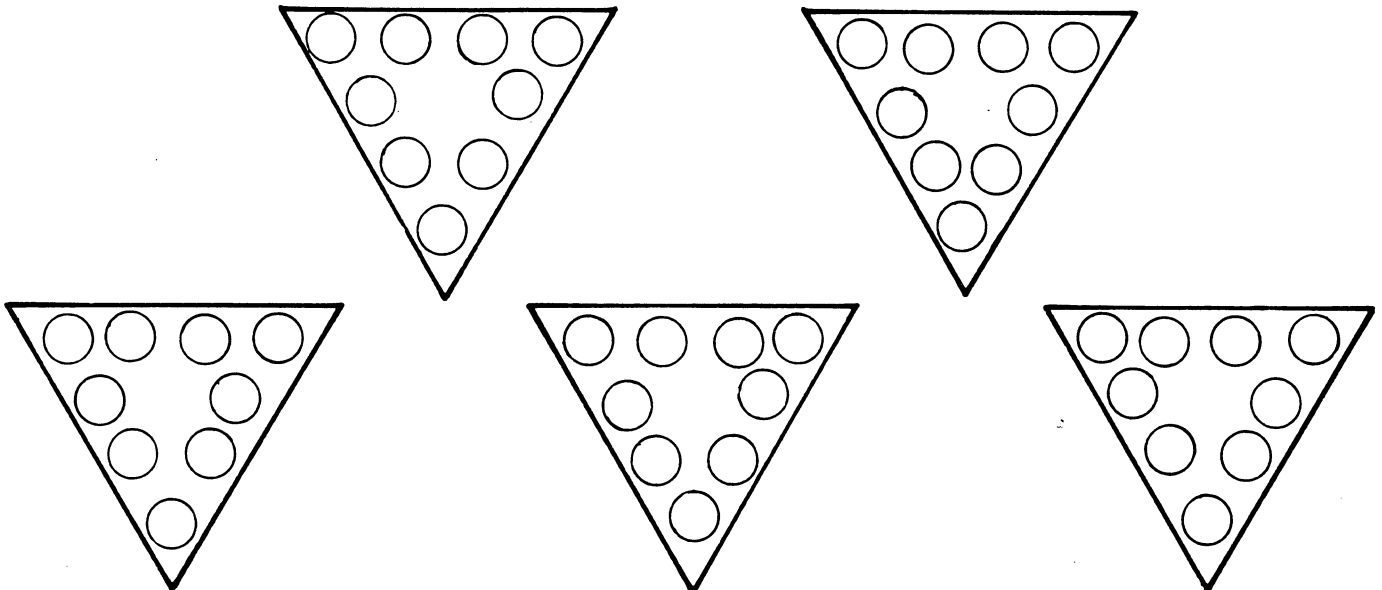
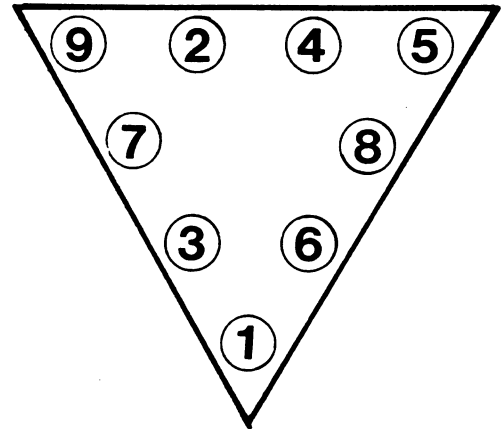
In the store where Martin works, the manager asked him to design 6 triangular signs.

Each sign would advertise 9 items, one for each price, \$1, \$2, \$3, \$4, \$5, \$6, \$7, \$8, and \$9.

The total price for the 4 items on each side of the sign must equal \$20. Each sign must have a different arrangement of the numbers.

Martin's first sign is shown on the right.

Help him finish the job.



Probability

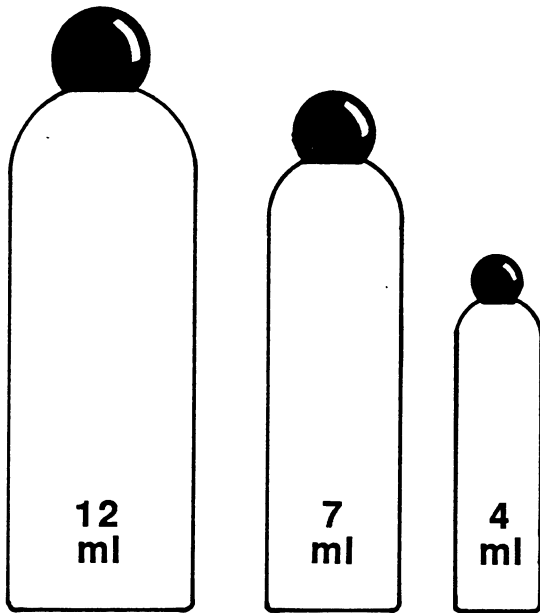


In the maths class there are 10 girls and 10 boys. The school may send two representatives to a maths field day; the students are to be chosen by lot.

The teacher draws the first name; it is a girl.

Are the chances greater than, less than or equal that the second name is also a girl?

Perfume Pouring



When Lily and Rose were on holiday, they visited a perfume factory. They shopped at the company's outlet store and decided to buy a 12 ml bottle at a very good price and split it.

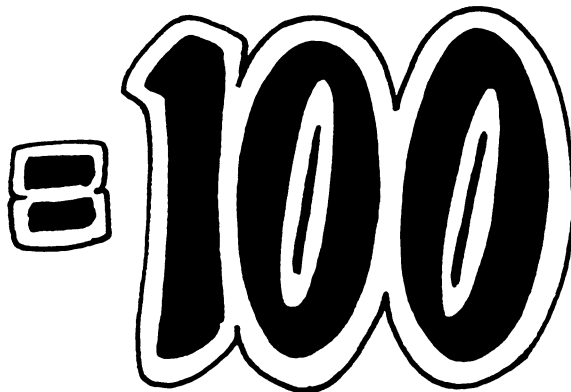
Later, at Lily's, they weren't so sure it was a good idea, for they had no 6 ml bottle for Rose's half.

Lily said, "I think we can do it with the 7 ml and the 4 ml bottles I have."

Rose protested, "Seven ml is more than my share; four ml is not enough."

How did Lily divide the 12 ml equally, using the three containers?

Five Additions



Can you arrange the nine digits from 1 to 9 in sequence to equal 100? You are to use five addition signs and one subtraction sign.

This is an incorrect attempt: $1 + 2 + 3 + 4 + 56 + 7 - 89$.

Letter Sums



In letter sums, each letter stands for a digit. You are to find the digits that fit the sums. To begin with, here is an easy one.

$$\begin{array}{r} T \ W \ O \\ + T \ W \ O \\ \hline F \ O \ U \ R \end{array}$$

The letter O above stands for 4.

$$\begin{array}{r} T \ W \ 4 \\ + T \ W \ 4 \\ \hline F \ 4 \ U \ R \end{array}$$

Fill in the other digits. Remember, the same digit must always be substituted for the same letter, and different digits for different letters.

Twenty Percent Off

Maybelle likes to tell everyone what a bargain hunter she is.

"See this," she said. "It was \$36; I bought it for \$25 at the Clipper."

"That same item is now $\frac{1}{3}$ off at the Bargain Boutique," said Evelyn.

"You can get it for 25% off at the Pop Shop," said Martha.

Where is the best price?

