

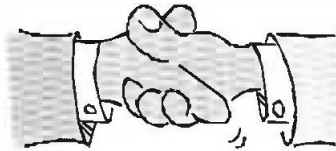
# A Page of Problems

## All the Same Down Deep

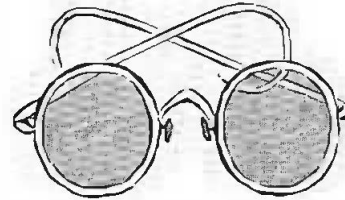
*A Craig Loewen*

At a special ceremony, every person present was asked to shake hands exactly once with each of the other people present. If there were 100 people at the ceremony, how many handshakes were there in all?

How many people would have to be present to ensure that there were at least 10,000 handshakes?



How many diagonals are there in a regular icosagon?



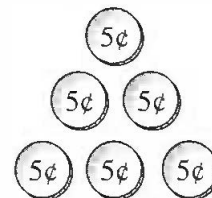
How many in a regular triacontagon?



Karl Friedrich Gauss (1777–1855) was a famous mathematician. He was good at mathematics even as a young child.

One day his teacher was trying to keep him busy and assigned him the task of adding the numbers 1 through 100. It is said that he found the answer in under a minute! Can you?

Brad started arranging nickels in a triangular pattern as shown, using one nickel in the first row, two in the second row, three in the third row and so on.



He ran out of nickels when he completed the 30th row. How many nickels did he use? What was the value of his triangle?