



## Problem of the Week

### Problem A and Solution

#### What Number Am I?

#### Problem

I am a 4-digit number.

My ones digit plus my thousands digit is equal to my tens digit plus my hundreds digit.

My tens digit is twice as much as my thousands digit.

My ones digit is the largest single-digit whole number.

My thousands digit is 4.

What number am I?

#### Solution

We are given that the ones digit is the largest single-digit whole number. Since the largest single-digit whole number is 9, the ones digit must be a 9.

We are also given that the thousands digit is a 4. Since the tens digit is twice as much as the thousands digit, then the tens digit must be  $2 \times 4 = 8$ .

Also, the sum of the ones digit and the thousands digit is  $9 + 4 = 13$ . Thus, the sum of the hundreds digit and the tens digit must be 13.

Since the tens digit is 8, then the hundreds digit must be  $13 - 8 = 5$ .

Thus, the thousands digit is 4, the hundreds digit is 5, the tens digit is 8, and the ones digit is 9. Therefore, the number is 4589.