



## Problem of the Week

### Problem D

### Summing up a Sequence 1

The first term in a sequence is 24. We can determine the next terms in the sequence as follows:

- If a term is even, then divide it by 2 to get the next term.
- If a term is odd, then multiply it by 3 and add 1 to get the next term.

By doing this, we can determine that the first three terms in the sequence are 24, 12, and 6.

Elias writes the first  $n$  terms in this sequence and notices that the sum of these terms is a four-digit number. What is the smallest possible value of  $n$ ?

**24, 12, 6, ...**

