



# Problem of the Week

## Problem D

### A Different Difference

The *non-negative difference* between two numbers  $a$  and  $b$  is  $b - a$  or  $a - b$ , whichever is greater than or equal to zero. For example, the non-negative difference between 24 and 64 is 40.

In the sequence 74, 60, 14, 46, 32,  $\dots$ , each number after the second number is obtained by finding the non-negative difference between the previous 2 numbers. The diagram below illustrates how each term after the second term is derived.

Determine the sum of the first 1300 numbers in the sequence.

