

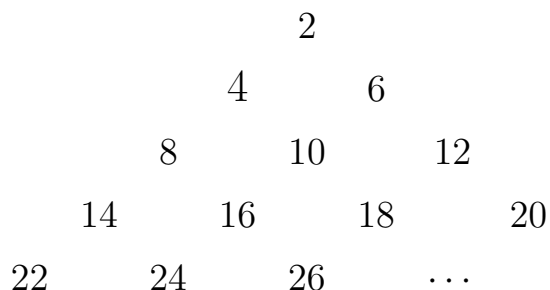


## Problem of the Week

### Problem E

#### This is the Year 2

The positive even integers are arranged in increasing order in a triangle, as shown:



Each row contains one more number than the previous row. One of the rows of the triangle contains the number 2020. Determine the sum of the numbers in the row that contains 2020.



#### Did you know?

There is a quick way to calculate the sum  $1 + 2 + 3 + 4 + \dots + 19 + 20$ ?

$$1 + 2 + 3 + 4 + \dots + 19 + 20 = \frac{(20)(20 + 1)}{2} = 210$$

In general, it can be shown that if  $n$  is a positive integer, then the sum of the integers from 1 to  $n$  is  $S = 1 + 2 + 3 + \dots + n = \frac{n(n + 1)}{2}$ .

