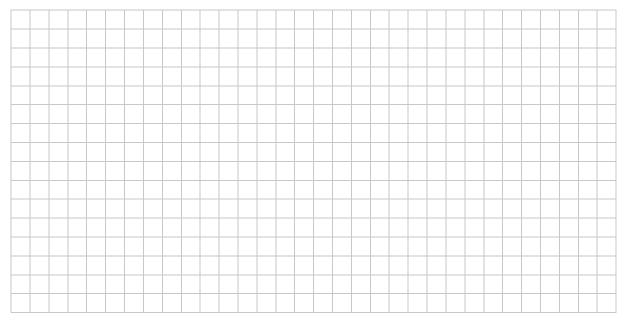
## **Question 5**

(a) The Sieve of Sundaram is an infinite table of arithmetic sequences.The terms in the first 4 rows and the first 4 columns of the table are shown below.

4	7	10	13	
7	12	17	22	
10	17	24	31	
13	22	31	40	

## (i) Find the **difference** between the **sums** of the first 45 terms in the first two rows.



## (ii) Find the number which is in the 60<sup>th</sup> row and 70<sup>th</sup> column of the table.



(b) The first two terms of a sequence are  $a_1 = 4$  and  $a_2 = 2$ . The general term is defined by  $a_n = a_{n-1} - a_{n-2}$ , when  $n \ge 3$ . Write out the next 6 terms of the sequence **and hence** find the value of  $a_{2019}$ 

