Quadratic Series

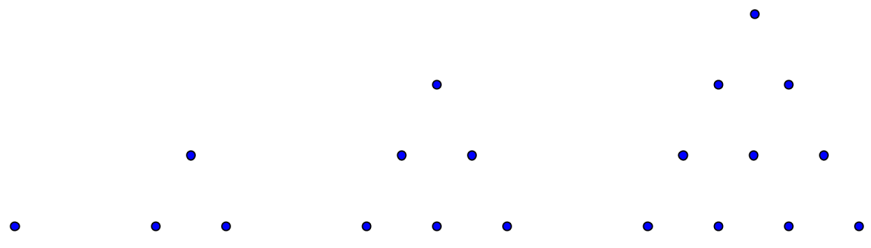
1. Find T_n, the nth term for each of the following quadratic sequences:
   i. 2, 5, 10, 17, 26...
   ii. 6, 12, 20, 30, 42 ...
   iii. 4, 9, 18, 31, 48

2. The number of seats per row in an opera house is described in the table below.

Row	1	2	3	4	5
No. of seats	17	18	21	26	33

   i. Find T_n, which describes the number of seats in row n.
   ii. How many seats are in row 10?

3. The first four terms of a particular pattern are shown in the diagram below (top of next page).



   i. Draw the next pattern.
   ii. Represent the number of dots in each pattern as a series. Find T_n of the series, where T_n is the number of dots in pattern n.
   iii. How many dots are there in the 11th pattern.
   iv. Which pattern has 210 dots?