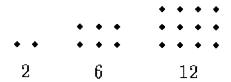
Figurate Numbers

Figurate numbers can be represented by dots arranged in the shape of certain geometric figures. For example, the 1st three rectangular numbers are shown below.

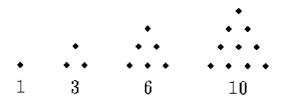
1. Consider the sequence of *rectangular numbers* whose 1st three terms are shown below.



Find the next three rectangular numbers by drawing the corresponding arrays. Let R_n denote the n^{th} rectangular number. Complete the table below and find R_{10} and R_{20} . Try to find a rule for finding R_n for any value of n.

n	1	2	3	4	5	6	7	8	9	10	11
R_n											

2. The 1st four triangular numbers are shown below.



Determine the next three triangular numbers by drawing the corresponding trianglular arrays. Let T_n denote the n^{th} triangular number. Complete the table below and find T_{10} and T_{20} . Try to find a rule for finding T_n for any value of n.

n	1	2	3	4	5	6	7	8	9	10	11
T_{n}											