**1** Complete the next term in each of the following sequences.
(i)   32   25   18   11   4   .....
(ii)   1   3   6   10   15   .....
(iii)   1   3   9   27   81   .....
(iv)   64   16   4   1   ¼   .....
(v)   1   1   2   3   5   .....

2 Look at the following sequence: 3   6   11   18   27
Describe in words how the sequence changes.


3 Work out a formula for the **Nth term** for each of the following sequences.
(i)   4   7   10   13   16
(ii)   1   3   5   7   9
(iii)   20   17   14   11   8
(iv)   1   4   9   16   25
(v)   2   8   18   32   50

Pattern 1   Pattern 2   Pattern 3   Pattern 4
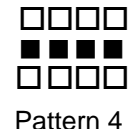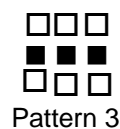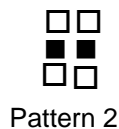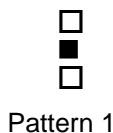
4 A pattern can be made by using black and white counters.
(i)   How many black counters will be needed for the Nth pattern?
(ii)   How many white counters will be needed for the Nth pattern?

Pattern 1   Pattern 2   Pattern 3   Pattern 4
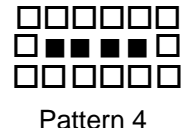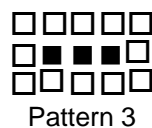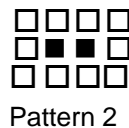
Three white counters are then added to both ends of every pattern.
(iii)   How many white counters are needed for the 15th pattern?
(iv)   How many counters are needed altogether (black & white) in the Nth pattern?

5 A sequence has the **Nth term**:   4n - 3   Write down the first 5 terms of the sequence.

6 Write down the first 5 terms of the n^3 (cubed) sequence.

7 Find the **Nth term** for the following sequence: 4   16   36   64   100

8 The first 5 terms of the sequence 2^n are: 2   4   8   16   32
Write down the first 5 terms for the 3^n sequence.