Gold WILF : to find the nth term of a number sequence and apply this to find given terms.

Finding the Nth term

Here is Fernando's example;

Term Number (n)	1	2	3	4
Sequence	2	5	8	11

The **difference** between each number is **3** so the rule (n^{th} term) will start with **3n**.

3n as a sequence is 3 , 6 , 9 , 12

We have 2 , 5 , 8 , 11

So to get the numbers we need, we have to **subtract 1**. This must mean the full rule is:

$$3n - 1$$

For each of the following sequences;

a) work out the next 3 terms,

b) work out the n^{th} term,

c) use the n^{th} term rule to work out the 20^{th} term.

1) 3, 5, 7, 9 ...
2) 9, 12, 15, 18 ...
3) 7, 11, 15, 19 ...
4) 10, 16, 22, 28 ...
5) 1, 5, 9, 13 ...
6) 4, 11, 18, 25 ...
7) 2, 7, 12, 17 ...
8) 4, 9, 14, 19 ...
9) 7, 5, 3, 1 ...
10) 16, 13, 10, 7 ...

Write down the first **five terms** of the sequence with the following n^{th} terms:

11) $3n + 6$
12) $2n - 3$
13) $-2n + 1$
14) $-5n + 12$