Success Criteria for finding the nth term of an arithmetic sequence.

No	Success Criteria	Completed?
1	Find the difference between each term and check if the differences are all the same.	
Eg	4, 11, 18, 25 → Here, the difference each time is +7	
2	This difference becomes the n co-efficient (the number in front of n).	
Eg	In our example, the difference is 7 so the first term becomes $t_n=7n$	
3	Substuitute n for 1 so that you find out what the first term in the sequence should be.	
Eg	7n → 7(1) = 7 so the first term should be 7.	
4	Compare the answer to No 3 (ie 7) to the actual number in the sequence (ie 4) and form an expression by adding or subtracting the difference.	
Eg	7n = 7(1) = 7. Here, the answer needs to be 4, so subtract 3. $t_n=7n-3$ becomes the expression for the nth term.	
5	To find the 738th term, just substitute n=738.	
Eg	7n-3 = 7(738) – 3 = 5166 is the 738th term in the sequence.	
6	To find if a number is in the sequence, just rearrange the equation and check if the value of n	
Eg	So is 5227 a member of this sequence? $$t_n = 7n - 3$$ $$\therefore \; t_n + 3 = 7n$$ $$\therefore \frac{t_n + 3}{7} = n$$ $$\therefore n = \frac{5227 + 3}{7}$$ $$= \frac{5230}{7}$$ $$= 747 \; remainder \; 1$$ The remainder of 1 means that the number 5227 is not in the sequence.	