NAME :

ARITHMETIC SEQUENCES

(1) Write in the cells below the first five terms of your sequence, in the correct order.

(2) Write in the cells below the next five terms of your sequence.

(3) Write in the cells below the terms of your sequence which positions are given. For example, in the first cell, you have to write the 20th term in your sequence.

20		**21**		**50**		**101**	

(4) Work out the difference between two consecutive terms in your sequence.

$d =$

(5) Let's note a_1 the first term of your sequence, a_2 the second one, and so on.
Give the notation – not the value – of the term next to each of the terms below.

a_6		a_{12}		a_{153}		a_n	

(6) Find a relation between any term a_n and the next term.

(7) Find a relation between a term a_n, the difference d found in question (4), and the first term a_1.

(8) Use the formula you found in the previous question to compute directly these terms.

a_{200}		a_{250}		a_{500}		$a_{1,000}$	

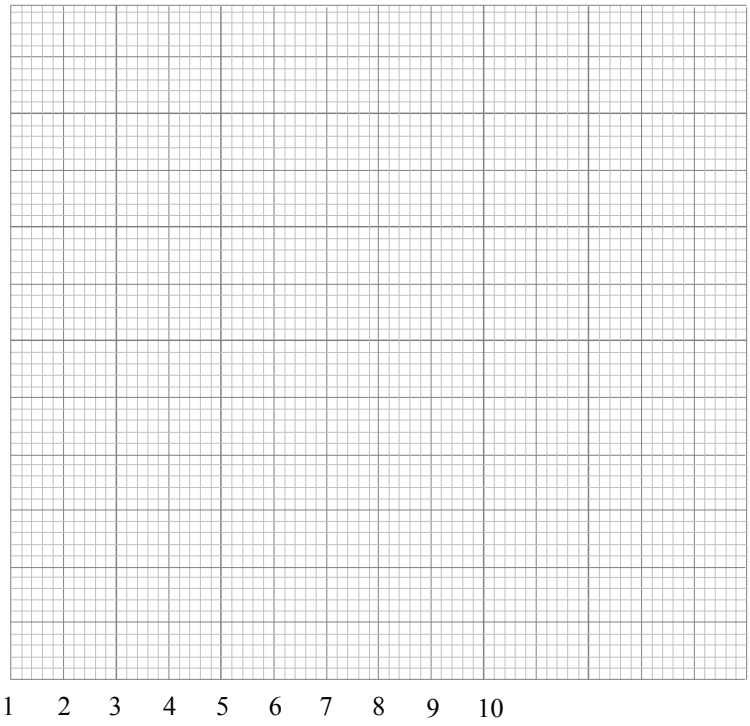
(9) Find a relation between any term a_n and the term a_2.

(10) Find a relation between any term a_n and the term a_5.

(11) Find a relation between any two term a_n and a_m.

(12) Plot the first ten terms of your sequence in the graph.

To do so, choose a convenient scale on the ***y***-axis.



(13) What can you say about the graph of this sequence ?

(14) Compute S_5 the sum of the first five terms of your sequence.

(15) Compare a_1+a_5 and a_2+a_4 .

(16) Write in a row the first five terms of the sequence in increasing order of the positions.
Write in a row below the same terms but in decreasing order of the positions.
What does the first row sum up to ? The second row ?

(17) Write S_5 in terms of a_1 and a_5

(18) Find a relation between S_n the sum of the first ***n*** terms, ***n*** the number of terms, a_1 the first term and a_n the ***n***-th term.