U7D2

Arithmetic Sequences

What is similar about the following sequences?

1.	3, 5, 7, 9, 11
2.	-1, 4, 9, 14, 19

3. 20, 17, 14, 11, 8

All of these sequences are classified as **arithmetic** sequences since each term is generated by adding a ______ or _____ to the previous term. The first term is designated as ______.

An arithmetic sequence looks like : a, a + d, a + 2d, a + 3d, a + 4d, ... or In general, $t_n = a + (n - 1)d$ $t_n = d =$

Examples:

- 1. Determine t_n and t_{50} for the following arithmetic sequences: a) 2, 6, 10, 14 b) $10, \frac{19}{2}, 9, \frac{17}{2}, ...$
- Determine the number of terms in the sequence
 7, 11, 15... 199.
- 3. Determine t_{50} if $t_4 = 5$ and $t_{11} = 26$ for an arithmetic sequence.
- 4. Describe the arithmetic sequence $t_n = 3n 2$ as a recursive sequence.