# n<sup>th</sup> Term - Arithmetic Sequences

**To find the nth term of an Arithmetic Sequence, use the formula**

$$a_n = a_1 + (n - 1)d$$

$a_1$ **is the first term,** $a_n$ **is the nth term and** $d$ **is the difference.**

**Example**      **Find the 101st term of 6, 11, 16, 21, …**

$$a_n = a_1 + (n - 1)d$$
$$a_{101} = 6 + (101 - 1)5$$
$$= 6 + (100)5$$
$$= 506$$

**Find the nth term of the following sequences.**

1.      **2, 4, 6, 8, …**      **Find the 51st term**

2.      **7, 10, 13, 16, …** **Find the 5th term**

3.      **4, 9, 14, 19, …**    **Find the 101st term**

4.      **3, 8, 13, 18, …**    **Find the 21st term.**

5.      **4, 10, 16, 22, …** **Find the 11th term.**

6.      **10, 7, 4, 1, …**      **Find the 31st term.**

7.      **8, 7.5, 7, 6.5, …** **Find the 9th term.**

8.      **10, 2, –6, –14, …Find the next three terms of the sequence.**

9.      **Explain why the sequence 7, 9, 12, 16, … is not an arithmetic sequence.**