Algebra II – Arithmetic Series & Summation Notation NOTES

Calculate $1 + 2 + 3 + 4 + 5 + 6 + 7 + \ldots \quad \ldots 94 + 95 + 96 + 97 + 98 + 99 + 100.$

Let's try an easier one first:

$$1 + 2 + 3 + 4 + 5 + 6 + 7 + 8$$

Is there a formula?

Sequences & Series:

5, 10, 15, 20, 25, 30	is a Sequence
5 + 10 + 15 + 20 + 25 + 30	is a Series

Finite & Infinite:

7 + 10 + 13 + 16 + 19	is a finite series
7 + 10 + 13 + 16 + 19 …	is an infinite series

Can we calculate the value of each of the above?

Summation Notation:

$$\sum_{n=1}^{5}(2n)$$

Means:

$$\sum_{n=3}^{7}(2n+1)$$

Means: