

An arithmetic series refers to the sum (or total) of all of the terms in an arithmetic sequence.

Ex. Calculate the following sum: $1 + 3 + 5 + 7 + 9 + 11 + 13 + 15 + 17 + 19$.

Ex. Solve $1 + 2 + 3 + 4 + 5 + 6 + 7 + 8 + 9 + 10 + 11 + 12 + 13 + 14 + 15 + 16 + 17 + 18 + 19 + 20$

We can determine the sum of an arithmetic series: $S_n = \left(\frac{n}{2}\right)(a + t_n)$ where: a is the first term
 t_n is the last term
 $\left(\frac{n}{2}\right)$ is half of the number of terms in the series

Ex. Determine the sum of the first 50 terms in the arithmetic series $100, 91, 82, 73, \dots$

Ex. Determine the sum of the arithmetic series $-60 - 53 - 46 - \dots + 143$.