

# Sequences and Series

$$U_n = a + (n-1)d$$

$$S_n = \frac{n}{2}(2a + (n-1)d)$$

*a = the first number*

*d = the common difference*

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Up to term 3

the sum

$$\sum_{n=1}^3 (2n+1) = 3 + 5 + 7 = 15$$

Starting with term 1

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$$U_{n+1} = 2U_n + 2 \quad U_1 = 4$$

$$U_2 = 2(4) + 2 = 10$$

$$U_3 = 2(10) + 2 = 22$$