Propiedades de las sumatorias y sumatorias más comunes

(1.8)
$$\sum_{i=1}^{N} C * i = C * \sum_{i=1}^{N} i, \text{ with } C \text{ a constant expression not dependent on } i$$

(1.9)
$$\sum_{i=C}^{N} i = \sum_{i=0}^{N-C} (i + C)$$

(1.10)
$$\sum_{i=C}^{N} i = \sum_{i=0}^{N} i - \sum_{i=0}^{C-1} i$$

(1.11)
$$\sum_{i=1}^{N} (A + B) = \sum_{i=1}^{N} A + \sum_{i=1}^{N} B$$

(1.12)
$$\sum_{i=0}^{N} (N - i) = \sum_{i=0}^{N} i$$

(1.13)
$$\sum_{i=1}^{N} 1 = N$$

(1.14)
$$\sum_{i=1}^{N} C = C * N$$

(1.15)
$$\sum_{i=1}^{N} i = \frac{N(N+1)}{2}$$

$$\frac{N}{2}(N+1) = \frac{N(N+1)}{2}$$

(1.16)
$$\sum_{i=1}^{N} i^2 = \frac{N(N+1)(2N+1)}{6} = \frac{2N^3 + 3N^2 + N}{6}$$

(1.17)
$$\sum_{i=0}^{N} 2^i = 2^{N+1} - 1$$

(1.18)
$$\sum_{i=1}^{N} A^i = \frac{A^{N+1} - 1}{A - 1}, \quad \text{for some number } A$$

(1.19)
$$\sum_{i=1}^{N} i2^i = (N-1)2^{N+1} + 2$$

(1.20)
$$\sum_{i=1}^{N} \frac{1}{i} = \ln N$$

(1.21)
$$\sum_{i=1}^{N} \lg i \approx N \lg N - 1.5$$