| Sigma Notation = Closed Form | Expanded |
|---|---|
| $$\sum_{k=1}^{n} 1 = n$$ | $1 + 1 + 1 + ... + 1$ (n times) |
| $$\sum_{k=1}^{n} k = \frac{n(n+1)}{2}$$ | $1 + 2 + 3 + ... + n$ |
| $$\sum_{k=1}^{n} k^2 = \frac{n(n+1)(2n+1)}{6}$$ | $1 + 4 + 9 + ... + n^2$ |
| $$\sum_{k=1}^{n} k^3 = \frac{n^2(n+1)^2}{4}$$ | $1 + 8 + 27 + ... + n^3$ |
| $$\sum_{k=1}^{n} k^4 = \frac{n(n+1)(2n+1)(3n^2+3n-1)}{30}$$ | $1 + 16 + 81 + ... + n^4$ |
| $$\sum_{k=1}^{n} k^5 = \frac{n^2(n+1)^2(2n^2+2n-1)}{12}$$ | $1 + 32 + 243 + ... + n^5$ |

11