

Summation Formulas

$$\sum_{q=1}^n c = cn$$

$$\sum_{q=1}^n q = \frac{n(n+1)}{2}$$

$$\sum_{q=1}^n q^2 = \frac{n(n+1)(2n+1)}{6}$$

$$\sum_{q=1}^n q^3 = \frac{n^2(n+1)^2}{4}$$

$$\sum_{q=1}^n q^4 = \frac{n(n+1)(2n+1)(3n^2+3n-1)}{30}$$

$$\sum_{q=1}^n q^5 = \frac{n^2(n+1)^2(2n^2+2n-1)}{12}$$