

Summation notation

Let a_m, a_{m+1}, \dots, a_n be real numbers.

Let m and n be integers, $n \geq m$

$$\sum_{i=m}^n a_i = a_m + a_{m+1} + \dots + a_n \quad (1)$$

E.g. if $A = 2$,

$$\sum_{a=0}^A p_a I_a x^a = p_0 I_0 + p_1 I_1 x + p_2 I_2 x^2 \quad (2)$$

Key fact: if c is any constant (i.e., does not depend on index i)

$$c \sum_{i=m}^n a_i = ca_m + ca_{m+1} + \dots + ca_n \quad (3)$$