

ES: What is sigma notation? How do we write a sum?

Σ Greek letter Sigma.

Sigma is used for the notation for sums, thus is called Sigma notation.

the sum of n terms $a_1, a_2, a_3, \dots, a_n$ is written as

$$\sum_{i=1}^n a_i = a_1 + a_2 + a_3 + \dots + a_n$$

where i is the index of summation,

a_i is the i th term of the sum

lower bound is i and

upper bound is n .

(ex1)

Find the sum

$$\sum_{i=1}^5 i^2 = 1^2 + 2^2 + 3^2 + 4^2 + 5^2 = \boxed{55}$$

(ex2)

write the sum in sigma notation

$$1 + 2 + 3 + 4 + 5 + 6 = \sum_{i=1}^6 i$$

Summary