

Summation

$$\sum_{i=1}^n x_i$$

Diagram illustrating the components of the summation expression:

- summation sign → \sum
- index of summation → $i=1$
- stopping point upper limit → n
- typical element → x_i
- starting point lower limit → $i=1$

This expression means sum the values of x , starting at x_1 and ending at x_n .

$$\sum_{i=1}^n x_i = x_1 + x_2 + x_3 + \dots + x_n$$

Example: Given the data set $\{3, 4, 5, 5, 10, 17\}$

$$\sum_{i=1}^6 x_i = 3 + 4 + 5 + 5 + 10 + 17 = 44$$