Why

We want a notation for expressing the sum of a sequence of real numbers.

Definition

Let $x = (x_1, \ldots, x_n)$ be a sequence of real numbers. The *sequence sum* of x is the result of first summing the first two numbers, then summing the result with the third number, and so on, until we have summed all the numbers.

Notation

Let $x = (x_1, \ldots, x_n)$ be a sequence of real numbers. We denote the sequence sum of x by

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

Real Summation

Real Numbers

Rational Numbers

Integer Arithmetic

Natural Additive Identity

Natural Multiplicative Identity

Arithmetic

Identity Elements

Integer Products

Natural Powers

Natural Summation

Integer Sums

Natural Products

Family Operations

Integer Numbers

Natural Sums

Operations

Families

Recursion Theorem

Equivalence Relations

Functions

Peano Axioms

Relations

Natural Induction

Set Products

Natural Numbers

Set Powers

Ordered Pairs

Successor Sets

Unordered Triples

Intersection of Empty Set

Partitions

Set Symmetric Differences

Pair Unions

Set Intersections

Set Complements

Set Unions

Pair Intersections

Set Differences

Empty Set

Unordered Pairs

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities

Sets

Names

Letters

Objects