Why

We want a notation for expressing the sum of several natural numbers.

Definition

Let $s = (m_1, \ldots, m_n)$ be a sequence of natural numbers. The *sequence sum* of s 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

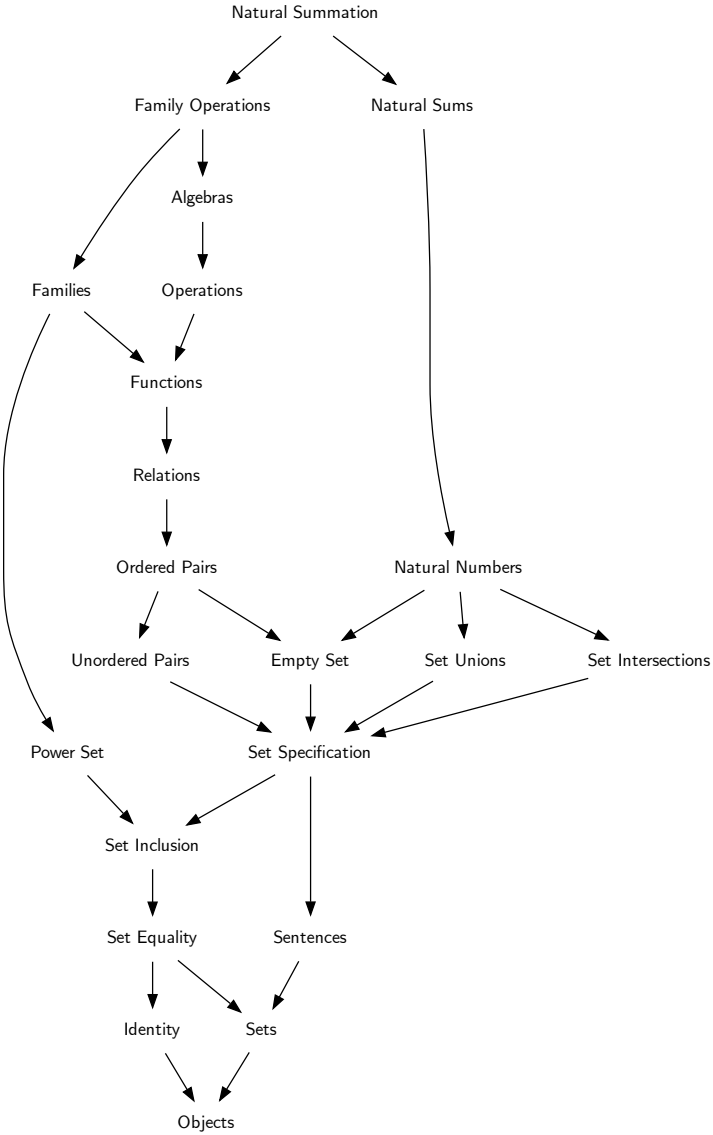
0.1 Notation

We denote the sum of a sequence using by using the $\sum$ symbol. $\sum$ is the capital greek letter “sigma" and is a mnemonic for “sum."

Let $(m_1, \ldots, m_n)$ be a sequence of natural numbers. Let us denote by m_i an element of the sequence, where $i = 1, \ldots, n$.

We denote that the sum ranges over an (ordered) index set $\{1, \ldots, n\}$ by writing $\sum_{i=1}^{n}$. We denote the sequence sum

$$\sum_{i=1}^{n} m_i.$$


Natural Summation
Family Operations
Natural Sums
Algebras
Families
Operations
Functions
Relations
Ordered Pairs
Natural Numbers
Unordered Pairs
Empty Set
Set Unions
Set Intersections
Power Set
Set Specification
Set Inclusion
Set Equality
Sentences
Identity
Sets
Objects