

ARITHMETIC

Why

We call name the operations which produce natural sums, products and powers.

Definition

Consider the set of natural numbers. The we can define three functions corresponding to sums, products and powers which are operations (see *Operations*) on this set.

We call addition the function $+: \omega \times \omega \to \omega$, which maps two natural numbers m and n to their sum m+n. We call multiplication the function $\cdot: \omega \times \omega \to \omega$, which maps two natural numbers m and n to their sum $m \cdot n$. We call exponentiation the function $(m, n) \mapsto m^n$.

