Why

How does the number of elements change with unions, and products.

Results

There are a few nice relations.[1] Recall from Finite Sets that the union and product of finite sets is finite. Also, the power of a finite set is finite.

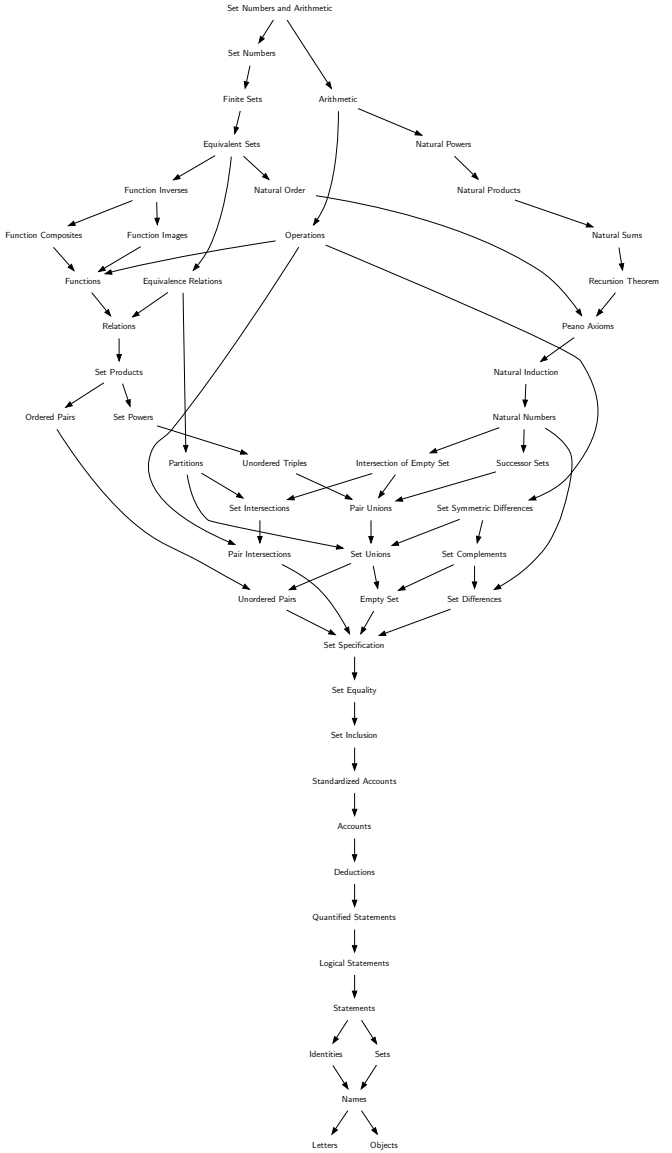
Proposition 1. *Let A and B be finite sets with $A \cap B = \varnothing$. Then $|A \cup B| = |A| + |B|$.*

Proposition 2. *Let A and B be a finite sets Then $|A \times B| = |A| \cdot |B|$.*

Proposition 3. *Let A and B be a finite sets Then $\left|A^B\right| = |A|^{|B|}$.*

Proposition 4. *Let A be a finite set. Then $|\mathcal{P}(A)| = 2^{|A|}$.*

[1] Proofs will appear in future editions.


Set Numbers and Arithmetic
Set Numbers
Finite Sets
Arithmetic
Equivalent Sets
Natural Powers
Function Inverses
Natural Order
Natural Products
Function Composites
Function Images
Operations
Natural Sums
Functions
Equivalence Relations
Recursion Theorem
Relations
Peano Axioms
Set Products
Natural Induction
Ordered Pairs
Set Powers
Natural Numbers
Partitions
Unordered Triples
Intersection of Empty Set
Successor Sets
Set Intersections
Pair Unions
Set Symmetric Differences
Pair Intersections
Set Unions
Set Complements
Unordered Pairs
Empty Set
Set Differences
Set Specification
Set Equality
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects