Why

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

Results

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

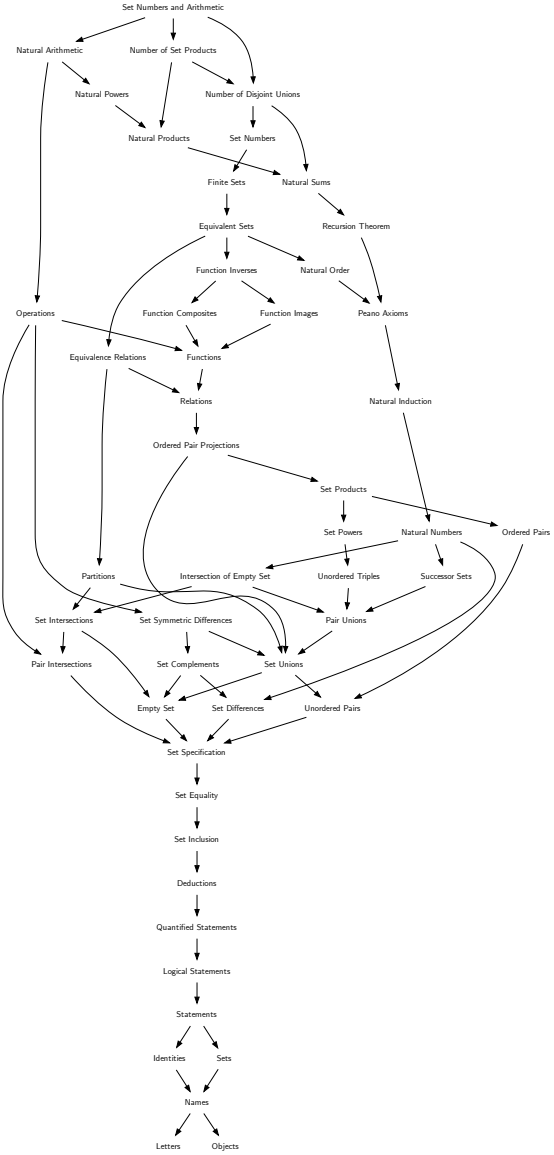
Proposition 1. *Let A and B be finite sets with $A \cap B = \varnothing$. Then $|A \cup B| = |A| + |B|$.*

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 $|\mathcal{P}(A)| = 2^{\nu m A}$.*

[1] Proofs will appear in future editions.


Set Numbers and Arithmetic
Natural Arithmetic
Number of Set Products
Natural Powers
Number of Disjoint Unions
Natural Products
Set Numbers
Finite Sets
Natural Sums
Equivalent Sets
Recursion Theorem
Function Inverses
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Ordered Pairs
Partitions
Intersection of Empty Set
Unordered Triples
Successor Sets
Set Intersections
Set Symmetric Differences
Pair Unions
Pair Intersections
Set Complements
Set Unions
Empty Set
Set Differences
Unordered Pairs
Set Specification
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