Why

How does inverse and converse relations interact.

Results

Let R be a relation between X and Y and let S be a relation between Y and Z.

Proposition 1. $(RS)^{-1} = S^{-1}R^{-1}$

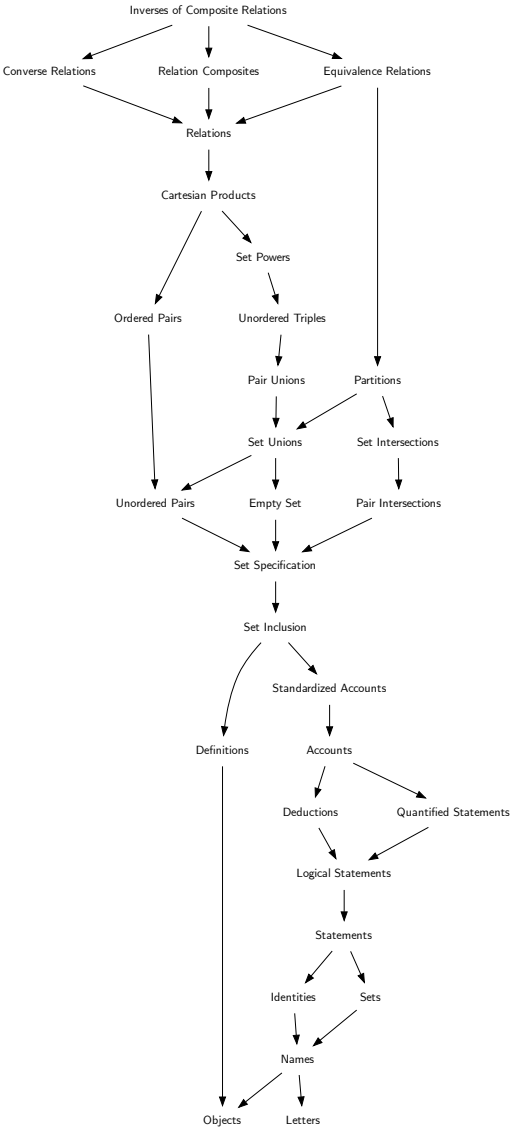
Identity Relations

Recall that I is the identity relation on X if $x\,I\,y$ if and only if $x = y$.

Proposition 2. *Let R be a relation on X. Let I be the identity relation on X. Then $RI = IR = R$, $RR^{-1} \supset I$, $R^{-1}R \supset I$.*

Relation Properties

Proposition 3. *R is symmetric if and only if $R \subset R^{-1}$*


Inverses of Composite Relations
Converse Relations
Relation Composites
Equivalence Relations
Relations
Cartesian Products
Set Powers
Ordered Pairs
Unordered Triples
Pair Unions
Partitions
Set Unions
Set Intersections
Unordered Pairs
Empty Set
Pair Intersections
Set Specification
Set Inclusion
Standardized Accounts
Definitions
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Objects
Letters