Why

If x is related to y and y to z, then x and z are related.

Definition

Let R be a relation from X to Y and S a relation from Y to Z. The *composite relation* from X to Z contains the pair $(x, z) \in (X \times Z)$ if and only if there exists a $y \in Y$ such that $(x, y) \in R$ and $(y, z) \in S$. This composite relation is sometimes called the *relative product*.

Notation

We denote the composite relation of R and S by $R \circ S$ or RS.

Example

Let X be the set of people and let R be the relation in X "is a brother of" and S be the relation in X "is a father of". Then RS is the relation "is an uncle of".

Relation Composites

Relations

Cartesian Products

Set Powers

Ordered Pairs

Unordered Triples

Pair Unions

Set Unions

Unordered Pairs

Empty Set

Set Specification

Set Inclusion

Standardized Accounts

Definitions

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities

Sets

Names

Objects

Letters