Why

[1]

Definition

A *forest* is an undirected graph if it does not contain any cycles.

A *tree* is a connected and acyclic undirected graph. Since the tree is connected, by taking the family union of its edges we obtain the vertex set. For this reason, we often only reference the edge set when speaking of trees. But, in these sheets, a tree is always an ordered pair.

Notation

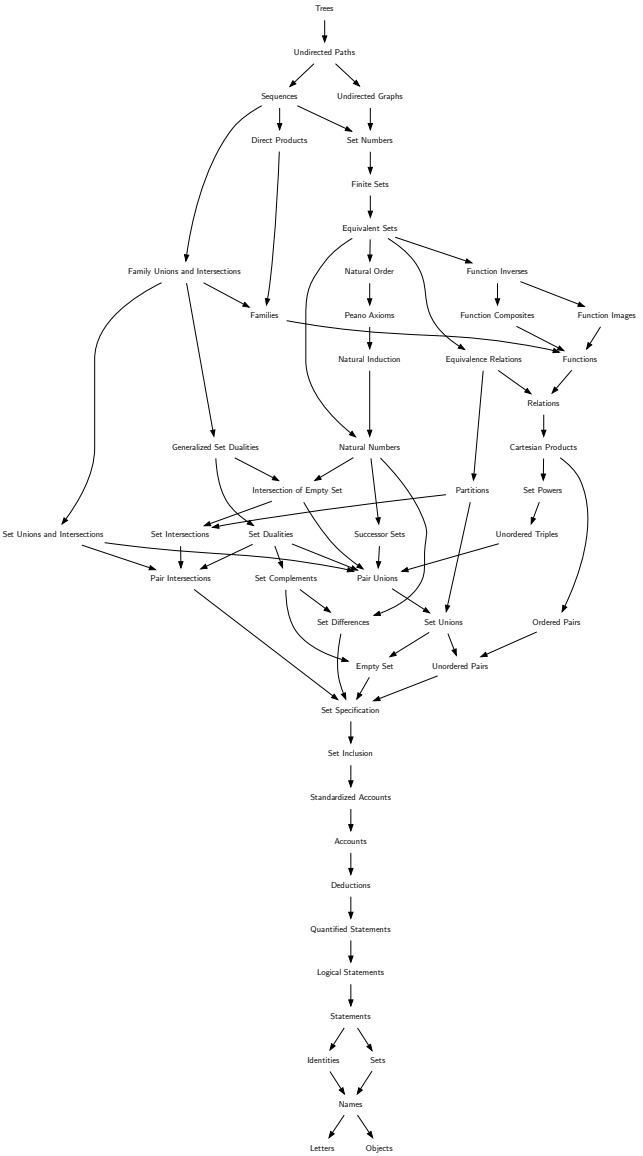
Let $T = (V, E)$ be a tree, a mnemonic for "tree."

Properties

Proposition 1. *A unique path exists between any two vertices of a tree.*

Proof. The path exists because a tree is connected. The path is unique, since were it not, we could create a cycle by combining these paths. □

[1] Future editions will include.


Trees
Undirected Paths
Sequences
Undirected Graphs
Direct Products
Set Numbers
Finite Sets
Equivalent Sets
Family Unions and Intersections
Natural Order
Function Inverses
Families
Peano Axioms
Function Composites
Function Images
Natural Induction
Equivalence Relations
Functions
Relations
Generalized Set Dualities
Natural Numbers
Cartesian Products
Intersection of Empty Set
Partitions
Set Powers
Set Unions and Intersections
Set Intersections
Set Dualities
Successor Sets
Unordered Triples
Pair Intersections
Set Complements
Pair Unions
Set Differences
Set Unions
Ordered Pairs
Empty Set
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects