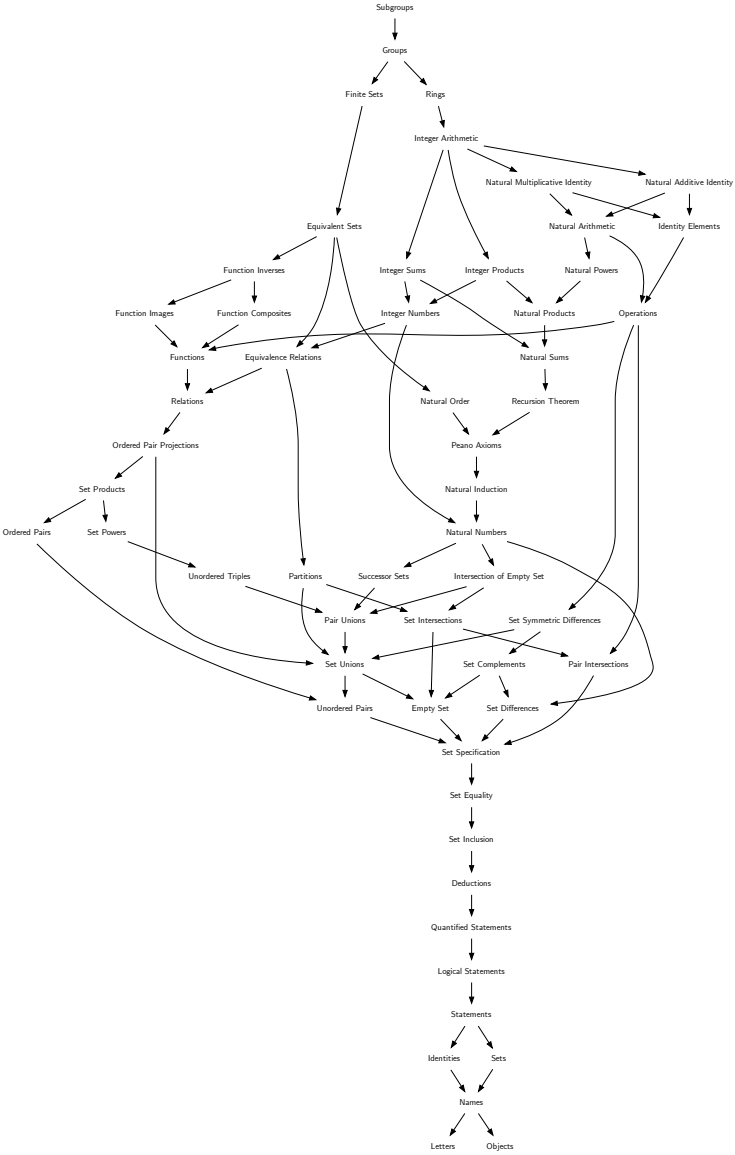
Definition

Given a group $(G, \circ)$ and a subset $H \subset G$, if $(H, \circ|_H)$ is a group then we call it a *subgroup* of $(G, \circ)$. As we often refer to the group G we we refer to H as the subgroup. If $H \subsetneq G$, we refer to H as a *proper subgroup*.

Examples

Trivial subgroup. Suppose $e \in G$ is the identity element of the group $(G, \circ)$. Then $\{e\}$ is a subgroup of of $(G, \circ)$.


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