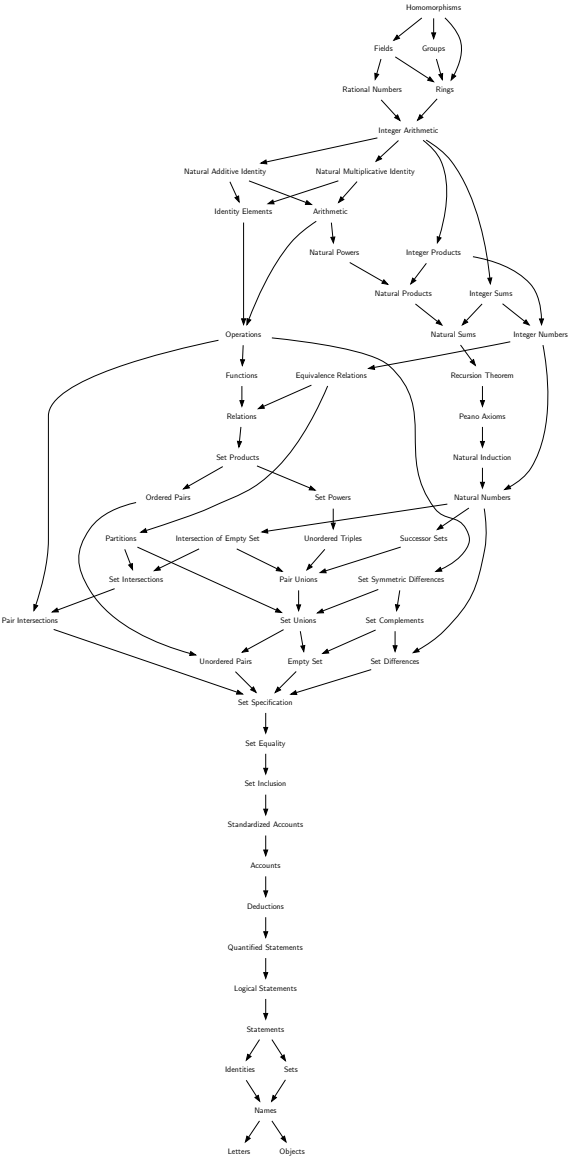
Why

We name a function which preserves algebraic structure.

Definition

A *group homomorphism* between two groups $(A, +)$ and $(B, \tilde{+})$ is a bijection $f : A \to B$ such that $f(1_A) = 1_B$ for $1_A \in A$ and $1_B \in B$ and $f(a + a') = f(a)\tilde{+}f(a')$ for all $a, a' \in A$. We define a *ring homomorphism* and *field homomorphism* similarly.


Homomorphisms
Fields
Groups
Rational Numbers
Rings
Integer Arithmetic
Natural Additive Identity
Natural Multiplicative Identity
Identity Elements
Arithmetic
Natural Powers
Integer Products
Natural Products
Integer Sums
Natural Sums
Integer Numbers
Operations
Functions
Equivalence Relations
Recursion Theorem
Relations
Peano Axioms
Set Products
Natural Induction
Ordered Pairs
Set Powers
Natural Numbers
Partitions
Intersection of Empty Set
Unordered Triples
Successor Sets
Set Intersections
Pair Unions
Set Symmetric Differences
Pair Intersections
Set Unions
Set Complements
Unordered Pairs
Empty Set
Set Differences
Set Specification
Set Equality
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects