Homomorphism

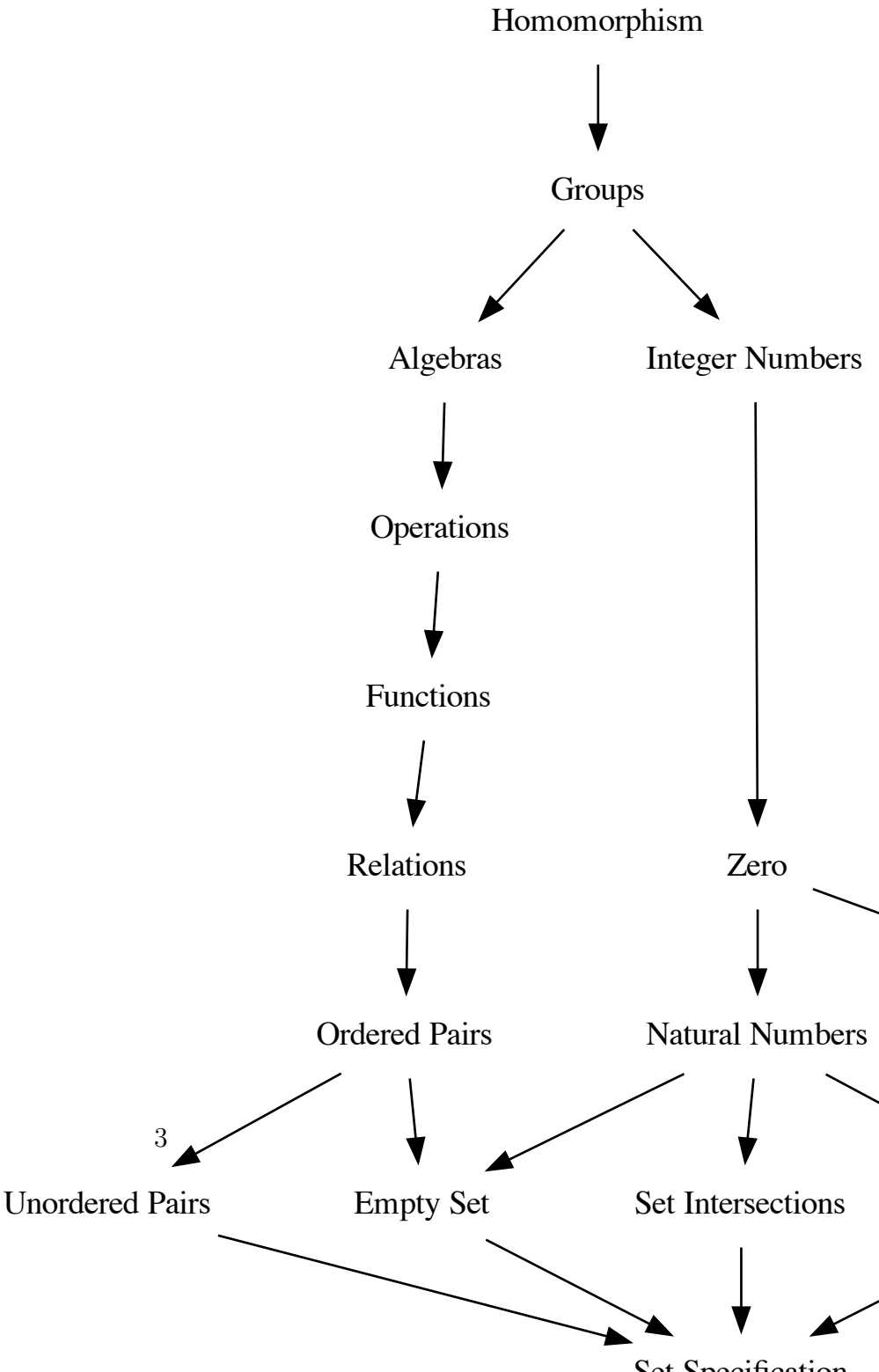
1 Why

We name a function which preserves group structure.

2 Definition

A *homomorphism* from group $(A, +)$ to group $(B, \tilde{+})$ is a function $f : A \to B$ such that $f(e_A) = f(e_B)$ for identities $e_A \in A$ and $e_B \in B$ and $f(a + a') = f(a)\tilde{+}f(a')$ for all $a, a' \in A$.

2.1 Notation


Homomorphism
Groups
Algebras
Integer Numbers
Operations
Functions
Relations
Zero
Ordered Pairs
Natural Numbers
3
Unordered Pairs
Empty Set
Set Intersections