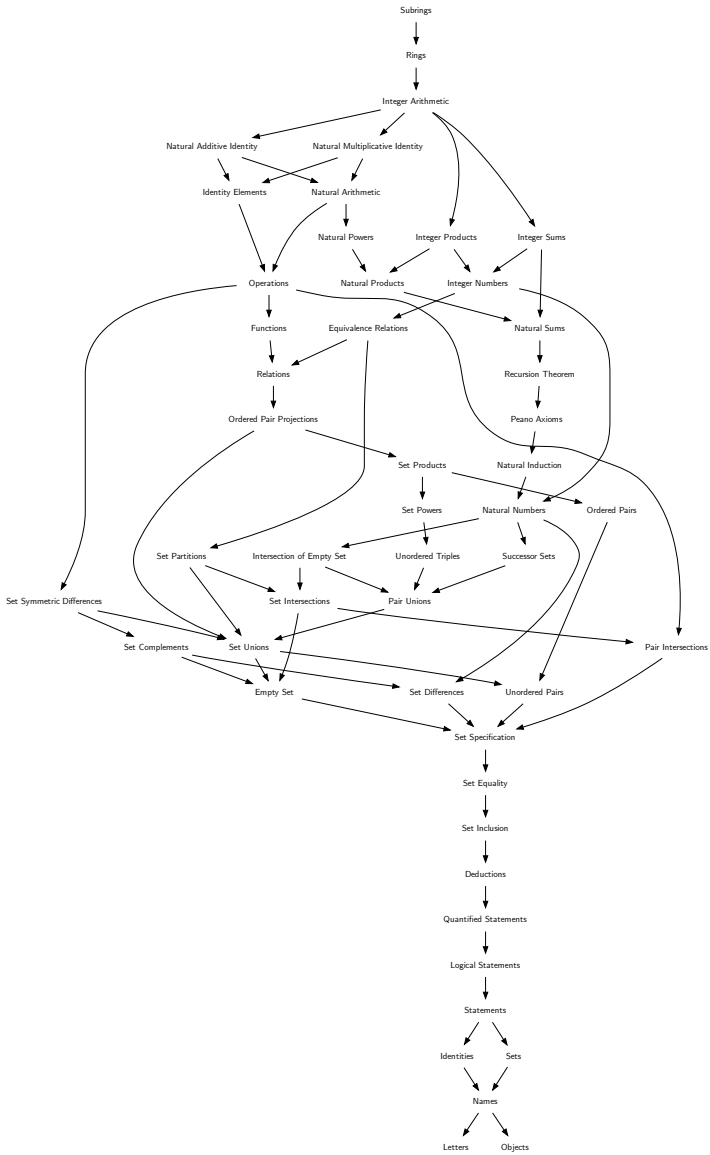
Definition

Let $(R, +, \cdot)$ be a ring. A ring $(S, +, \cdot)$ is a *subring* of $(R, +, \cdot)$ if $S \subset R$.

Verification

If $(R, +, \cdot)$ and $S \subset R$, then $+$ is associative and commutative on S because it is on R. Likewise $\cdot$ is associative on S and $+$ and $\cdot$ distribute over each on S because they do on R. So we have restricted the number of conditions to check, and arrive at our first statement of sufficient conditions on S that ensure $(S, +, \cdot)$ is a ring.


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