Why

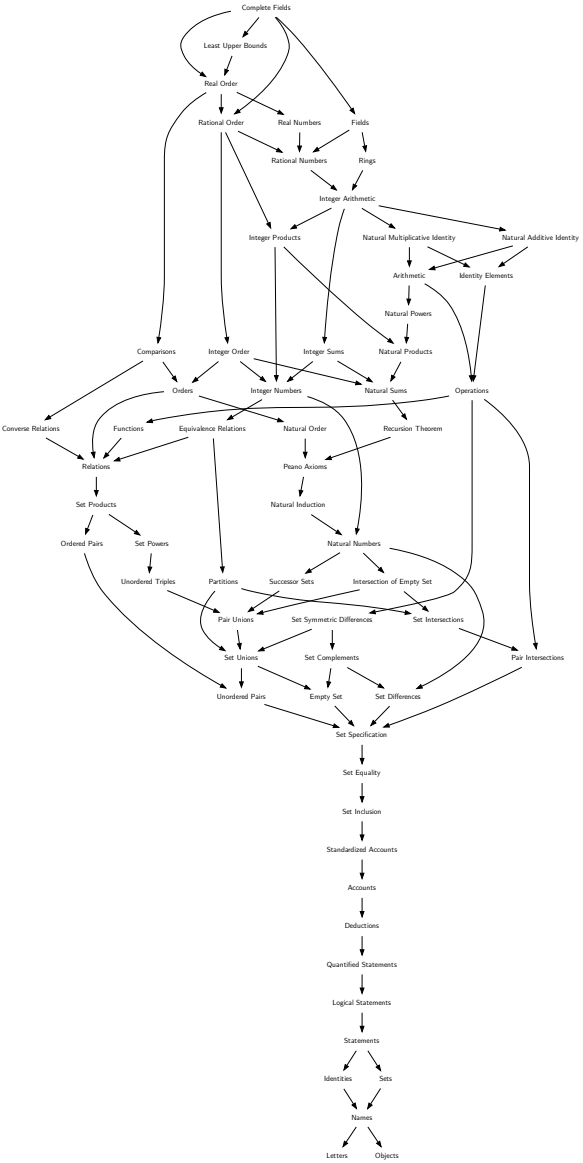
We want the a field which corresponds to points on the real line.[1]

Definition

An ordered field[2] is *complete* if every nonempty subset bounded from above has a least upper bound.

[1] Future editions are likely to modify this why.

[2] To be defined in future editions, but we take the usual definition of a field with an order. See, for example Rational Order or Real Order).


Complete Fields
Least Upper Bounds
Real Order
Rational Order
Real Numbers
Fields
Rational Numbers
Rings
Integer Arithmetic
Integer Products
Natural Multiplicative Identity
Natural Additive Identity
Arithmetic
Identity Elements
Natural Powers
Comparisons
Integer Order
Integer Sums
Natural Products
Orders
Integer Numbers
Natural Sums
Operations
Converse Relations
Functions
Equivalence Relations
Natural Order
Recursion Theorem
Relations
Peano Axioms
Set Products
Natural Induction
Ordered Pairs
Set Powers
Natural Numbers
Unordered Triples
Partitions
Successor Sets
Intersection of Empty Set
Pair Unions
Set Symmetric Differences
Set Intersections
Set Unions
Set Complements
Pair Intersections
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