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.

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[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   Groups

Integer Arithmetic   Integer Additive Inverses

Integer Order   Integer Products   Integer Sums   Natural Multiplicative Identity   Natural Additive Identity   Inverse Elements

Integer Numbers   Arithmetic   Identity Elements   Element Functions

Natural Exponents   Algebras   Function Inverses

Natural Products   Operations   Function Composites   Function Images

Natural Sums   Functions

Recursion Theorem   Equivalence Relations

Peano Axioms   Relations

Natural Induction   Cartesian Products

Natural Numbers   Set Powers

Intersection of Empty Set   Successor Sets   Partitions   Unordered Triples

Set Intersections   Pair Unions   Ordered Pairs

Set Differences

Set Unions

Pair Intersections   Empty Set   Unordered Pairs

Set Specification

Set Inclusion

Standardized Accounts

Definitions   Accounts

Deductions   Quantified Statements

Logical Statements

Statements

Identities   Sets

Names

Objects   Letters