Definition

A *module* is a vector space whose scalars are a ring (and so *not* a field). Every vector space is a module.

Modules

Vectors

Real Vector

Fields

N-Dimensional Space   Space Vectors   Plane Vector Sums and Differences   Rings

Distance

Plane Vectors

Space Distance

Plane Distance

Interval Length

Intervals

Real Space

Real Plane

Real Line   Integral Line

Real Order

Geometry

Rational Order   Real Numbers

Rational Numbers

Integer Arithmetic

Lists

Set Numbers   Integer Products   Natural Additive Identity   Natural Multiplicative Identity

Finite Sets

Arithmetic   Identity Elements

Direct Products   Equivalent Sets

Natural Powers

Family Unions and Intersections   Function Inverses   Comparisons   Integer Order   Natural Products   Integer Sums

Families   Function Composites   Function Images   Operations

Functions   Converse Relations   Equivalence Relations   Orders   Integer Numbers   Natural Sums

Natural Order   Recursion Theorem

Relations

Peano Axioms

Set Products

Natural Induction

Generalized Set Dualities   Set Powers   Natural Numbers

Set Unions and Intersections   Set Dualities   Unordered Triples   Intersection of Empty Set   Successor Sets   Partitions   Set Symmetric Differences

Pair Unions   Set Intersections   Ordered Pairs   Set Complements

Pair Intersections   Set Unions   Set Differences

Unordered Pairs   Empty Set

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets   Identities

Names

Letters   Objects

4