Why

Definition

The *scalar multiple* of a subset of a vector space *by* a given scalar is the set of all vectors which are the scalar product of the given scalar and the vector.

The *symmetric reflection* of a subset of a vector space is the scalar multiple by the additive inverse of the field. A subset of a vector space is *symmetric* if it is its own symmetric reflection.

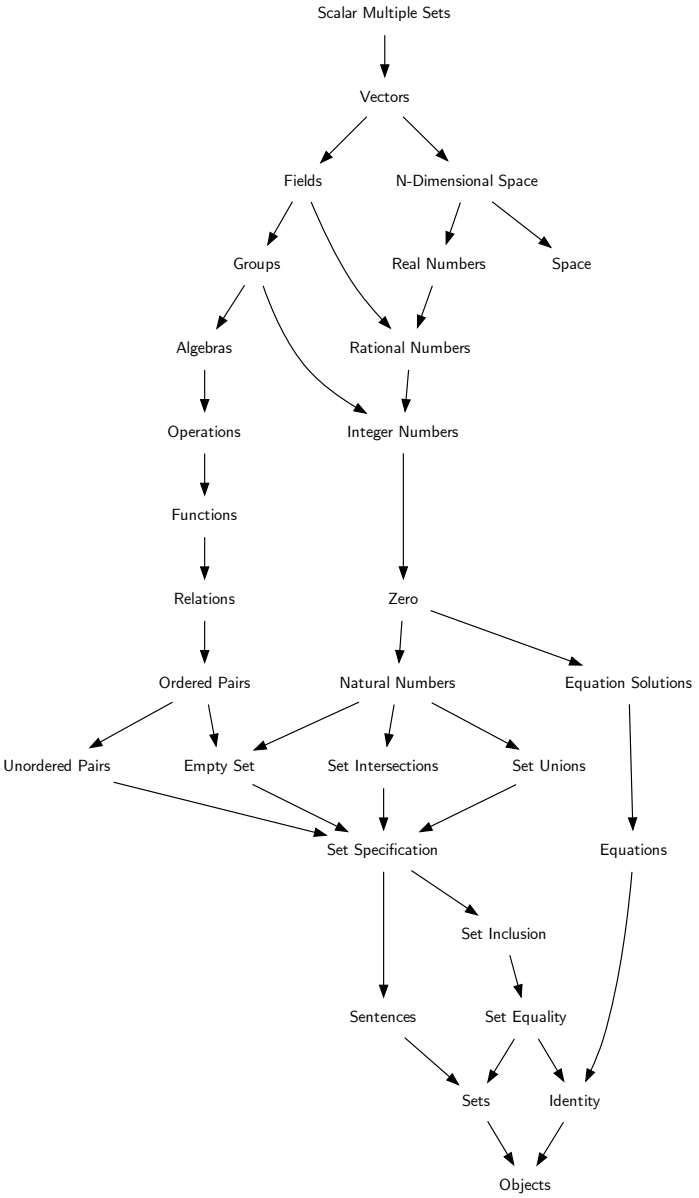
Notation

Let $(V, \mathbf{F})$ be a vector space. Let $M \subset V$ and $\lambda \in \mathbf{F}$. The scalar multiple of M by λ is the set

$$\{\lambda x \mid x \in M\},$$

which we denote by λM.

The symmetric refletion of M is $(-1)M$ which we denote by $-M$. M is symmetric if $M = -M$.


Scalar Multiple Sets
Vectors
Fields
N-Dimensional Space
Groups
Real Numbers
Space
Algebras
Rational Numbers
Operations
Integer Numbers
Functions
Relations
Zero
Ordered Pairs
Natural Numbers
Equation Solutions
Unordered Pairs
Empty Set
Set Intersections
Set Unions
Set Specification
Equations
Set Inclusion
Sentences
Set Equality
Sets
Identity
Objects