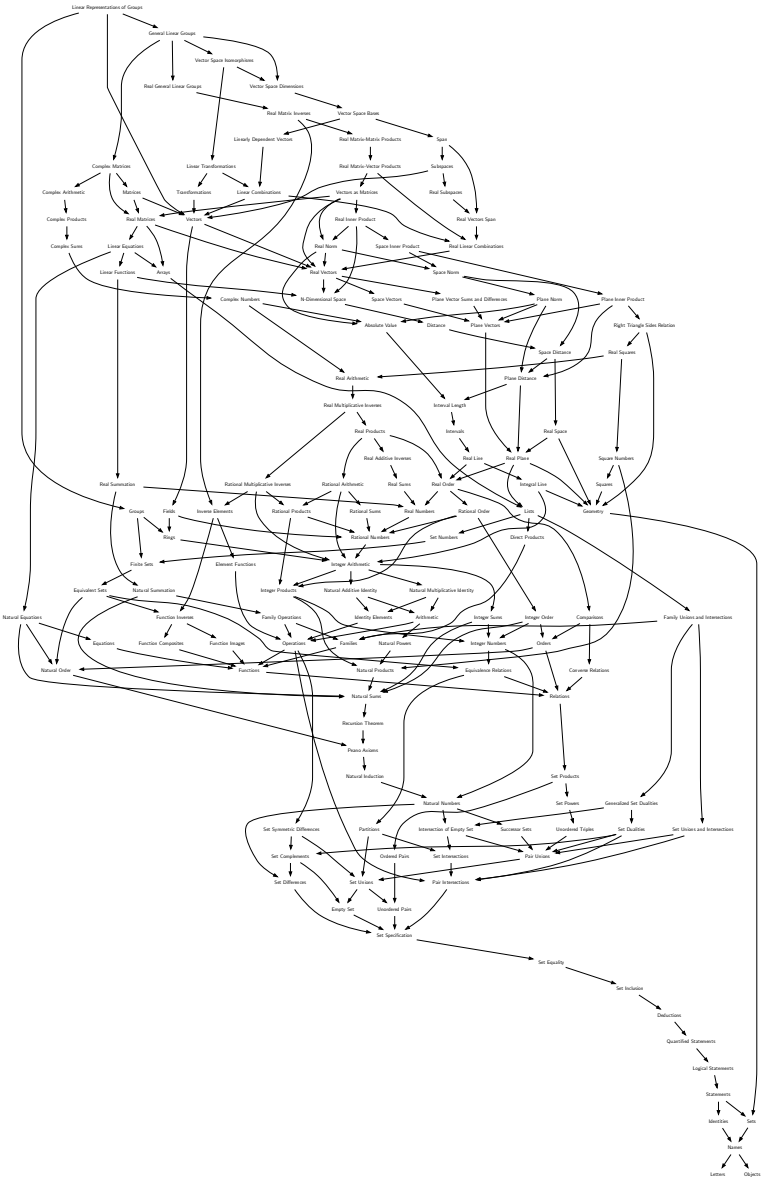
Definition

Suppose G is a finite groupwith identity 1 and suppose V is a vector space over the field $\mathbf{C}$ of complex numbers. A *linear representation* $\rho : G \to GL(V)$ of G in V is a group homomorphismfrom G to the general linear group $GL(V)$. Given ρ, we call V a *representation space* (or *representation*) of G

Suppose V has finite dimension n. In this case, we call n the *degree* of the representation ρ. Given a basis $e_1, \ldots, e_n$ of V,


Linear Representations of Groups
General Linear Groups
Vector Space Isomorphisms
Real General Linear Groups
Vector Space Dimension
Real Matrix Inverses
Vector Space Basis
Linearly Dependent Vectors
Real Matrix-Matrix Products
Span
Complex Matrices
Linear Transformations
Real Matrix-Vector Products
Subspaces
Complex Arithmetic
Matrices
Transformations
Linear Combinations
Vectors as Matrices
Real Subspaces
Complex Products
Real Matrices
Vectors
Real Inner Product
Real Vector Span
Complex Sums
Linear Equations
Real Norm
Space Inner Product
Real Linear Combinations
Linear Functions
Arrays
Real Vectors
Space Norm
Complex Numbers
N-Dimensional Space
Space Vectors
Plane Vector Sums and Differences
Plane Norm
Plane Inner Product
Absolute Value
Distance
Plane Vectors
Right Triangle Sides Relation
Real Squares
Space Distance
Real Arithmetic
Plane Distance
Real Multiplicative Inverses
Interval Length
Real Products
Intervals
Real Spans
Real Additive Inverses
Real Line
Real Plane
Square Numbers
Real Summation
Rational Multiplicative Inverses
Rational Arithmetic
Real Sums
Real Order
Lists
Integral Line
Squares
Geometry
Groups
Fields
Inverse Elements
Rational Products
Rational Sums
Real Numbers
Rational Order
Rings
Rational Numbers
Set Numbers
Direct Products
Finite Sets
Element Functions
Integer Arithmetic
Equivalent Sets
Natural Summation
Integer Products
Natural Additive Identity
Natural Multiplicative Identity
Natural Equations
Function Inverses
Family Operations
Identity Elements
Arithmetic
Integer Sums
Integer Order
Comparisons
Family Unions and Intersections
Equations
Function Composites
Function Images
Functions
Families
Natural Powers
Integer Numbers
Orders
Natural Order
Natural Products
Equivalence Relations
Converse Relations
Natural Sums
Relations
Recursion Theorem
Peano Axioms
Natural Induction
Set Products
Natural Numbers
Set Powers
Generalized Set Dualities
Set Symmetric Differences
Partitions
Intersection of Empty Set
Successor Sets
Unordered Triples
Set Dualities
Set Unions and Intersections
Set Complements
Ordered Pairs
Set Intersections
Pair Unions
Set Differences
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Equality
Set Inclusion
Deduction
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects