Why

Often the precepts and postcepts are elements of d-dimensional and m-dimensional space, respectively. Moreover, we often believe in the existence of a functional prelation between these two spaces.

Definition

We think a vector in d-dimensional space and a vector in m-dimensional space are approximately related by a function. We call the argument to the function the *independent variable* and we call the result of the function the *dependent variable*. If $m = 1$, the dependent variable is a single real number.

Data Fitting

N-Dimensional Space

Distance   Predictors

Space Distance

Plane Distance

Interval Length

Real Space   Intervals

Real Plane   Real Line

Integral Line   Real Order

Geometry   Rational Order   Real Numbers

Lists   Rational Numbers

Direct Products   Set Numbers   Integer Arithmetic

Finite Sets   Natural Multiplicative Identity   Natural Additive Identity

Equivalent Sets   Integer Products   Arithmetic   Identity Elements

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

Orders   Function Images   Function Composites   Families   Integer Numbers   Natural Products   Operations

Converse Relations   Natural Order   Functions   Equivalence Relations   Natural Sums

Relations   Recursion Theorem

Ordered Pair Projections   Peano Axioms

Set Products   Natural Induction

Set Powers   Natural Numbers   Generalized Set Dualities

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

Ordered Pairs   Set Intersections   Pair Unions   Set Complements

Set Unions   Pair Intersections   Set Differences

Unordered Pairs   Empty Set

Set Specification

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Sets   Identities

Names

Letters   Objects

4