Why

If we have a norm, then we have a metric.

Motivating Result

Let R be the set of real numbers.

Prop. 1. *Let (V, F) be a vector space. Let $f : V \to R$ be a norm. Let $g : V \times V \to R$ such that*

$$g(x, y) = \|x - y\|.$$

Then g is a metric.[1]

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[1] Future editions will include an account.

Norm Metrics

Norms

Metrics Functionals

Absolute Value Vectors

N-Dimensional Space

Distance

Space Distance

Plane Distance

Interval Length

Intervals

Real Line Real Space Real Plane

Integral Line Real Order

Geometry Real Numbers Fields

Rational Numbers Groups

Integer Arithmetic Integer Additive Inverse Sequences

Natural Additive Identity Natural Multiplicative Identity Integer Sums Inverse Elements Set Numbers

Arithmetic Identity Elements Element Functions Finite Sets Direct Products

Integer Products Natural Exponents Algebra Equivalent Sets Family Unions and Intersections

Natural Products Integer Numbers Operations Function Inverses Families

Natural Sums Equivalence Relations Function Composites Function Images

Recursion Theorem Natural Order Functions

Peano Axioms Relations

Natural Induction Cartesian Products

Natural Numbers Set Powers Generalized Set Dualities

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

Set Intersections Pair Unions Ordered Pairs Set Complements

Set Differences Set Unions Pair Intersections

Unordered Pairs Empty Set

Set Specification

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Sets Identities

Names

Letters Objects

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