Why

Is the sum of two differentiable functions differentiable? What is the derivative of the function which is their sum?

Result

Proposition 1. *Suppose $I \subset \mathbf{R}$ is an interval and $f, g : I \to \mathbf{R}$ are differentiable. Then $f + g$ is a differentiable function whose derivative is $f' + g'$*

Derivatives of Sums

Real Differentiable Functions

Real Functions

Intervals

Real Line

Real Order

Real Numbers

Rational Order

Integral Line

Rational Numbers

Integer Arithmetic

Natural Multiplicative Identity

Natural Additive Identity

Natural Fractions

Identity Elements

Natural Arithmetic

Integer Products

Natural Powers

Integer Sums

Integer Order

Operations

Natural Products

Integer Numbers

Comparisons

Functions

Natural Sums

Equivalence Relations

Orders

Converse Relations

Recursion Theorem

Natural Order

Relations

Peano Axioms

Ordered Pair Projections

Natural Induction

Set Products

Natural Numbers

Set Powers

Ordered Pairs

Set Partitions

Intersection of Empty Set

Successor Sets

Unordered Triples

Set Intersections

Set Symmetric Differences

Pair Unions

Pair Intersections

Set Complements

Set Unions

Set Differences

Empty Set

Unordered Pairs

Geometry

Set Specification

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Sets

Identities

Names

Letters

Objects