Why

We want to discuss angles with vectors.

Setup

We have a vector x in the plane, and a vector y. We want to find the angle between x and y. [Future editions will include a figure here.]

Plane Inner Product

Right Triangle Sides Relation

Plane Vectors

Real Squares

Plane Distance

Real Arithmetic

Interval Length

Real Multiplicative Inverse

Intervals

Real Products

Real Additive Inverse

Real Line

Real Plane

Square Numbers

Squares

Integral Line

Rational Multiplicative Inverses

Rational Arithmetic

Real Sums

Real Order

Geometry

Rational Products

Rational Order

Rational Sums

Real Numbers

Rational Numbers

Natural Fractions

Lists

Integer Arithmetic

Set Numbers

Direct Products

Integer Products

Natural Multiplicative Identity

Natural Additive Identity

Finite Sets

Natural Powers

Integer Sums

Integer Order

Identity Elements

Natural Arithmetic

Equivalent Sets

Inverse Elements

Family Unions and Intersections

Natural Products

Integer Numbers

Orders

Operations

Element Functions

Function Inverses

Comparisons

Natural Sums

Equivalence Relations

Natural Order

Relations

Function Composite

Function Images

Families

Functions

Converse Relations

Recursion Theorem

Ordered Pair Projections

Peano Axioms

Set Products

Natural Induction

Generalized Set Dualities

Set Powers

Natural Numbers

Set Symmetric Differences

Partitions

Intersection of Empty Set

Successor Sets

Set Dualities

Unordered Triples

Set Unions and Intersections

Set Complements

Set Intersections

Pair Unions

Ordered Pairs

Set Differences

Set Unions

Pair Intersections

Empty Set

Unordered Pairs

Set Specification

Set Equality

Set Inclusion

Deductions

Quantified Statements

Logical Statements

Statements

Sets

Identities

Names

Letters

Objects