Why

What is the multiplicative inverse of $[(a, b)]$ in the rationals?

Result

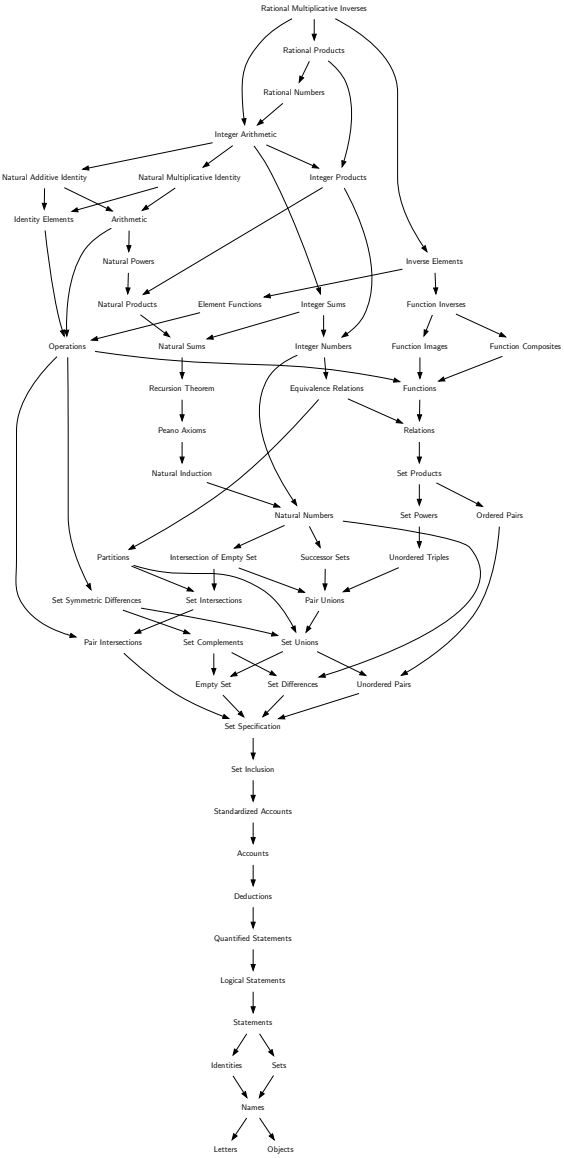
Proposition 1. *The multiplicative inverse of* $[(a, b)] \in \mathbf{Q}$ *if* $b \neq 0_{\mathbf{Z}}$ *is* $[(b, a)]$.

Notation

We denote the multiplicative inverse of $q \in \mathbf{Q}$ by q^{-1}. We denote $q \cdot (r^{-1})$ by q/r.

Division

We call the operation $(a, b) \mapsto a/b$ *rational division*.


Rational Multiplicative Inverses
Rational Products
Rational Numbers
Integer Arithmetic
Natural Additive Identity
Natural Multiplicative Identity
Integer Products
Identity Elements
Arithmetic
Natural Powers
Inverse Elements
Natural Products
Element Functions
Integer Sums
Function Inverses
Operations
Natural Sums
Integer Numbers
Function Images
Function Composites
Recursion Theorem
Equivalence Relations
Functions
Peano Axioms
Relations
Natural Induction
Set Products
Natural Numbers
Set Powers
Ordered Pairs
Partitions
Intersection of Empty Set
Successor Sets
Unordered Triples
Set Symmetric Differences
Set Intersections
Pair Unions
Pair Intersections
Set Complements
Set Unions
Empty Set
Set Differences
Unordered Pairs
Set Specification
Set Inclusion
Standardized Accounts
Accounts
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects