Why

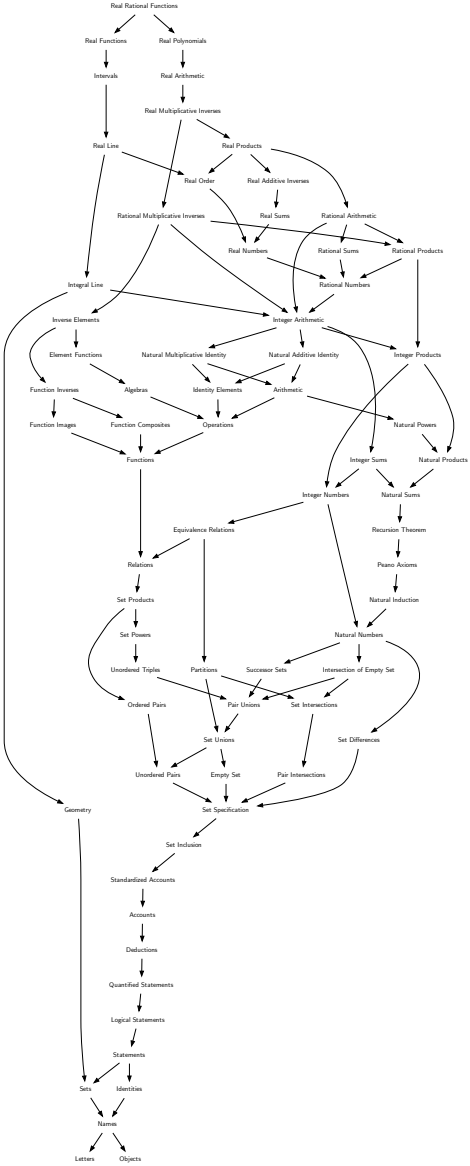
[1]

Definition

A *real rational function* (or *rational function* or *fractional function*) is a function $f : \mathbf{R} \to \mathbf{R}$ for which there exists polynomials $p : \mathbf{R} \to \mathbf{R}$ and $q : \mathbf{R} \to \mathbf{R}$ so that $f(x) = p(x)/q(x)$ for all $x \in \mathbf{R}$.

In this case we call p the *numerator polynomial* (and p the *numerator function*) and q the *denominator polynomial* (and q the *denominator function*). Of course, the language *rational* is in reference to the fact that if p and q are integer-valued functions, then the function f is a rational-valued function (see Rational Numbers).

[1] Future editions will include.


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