Why[1]

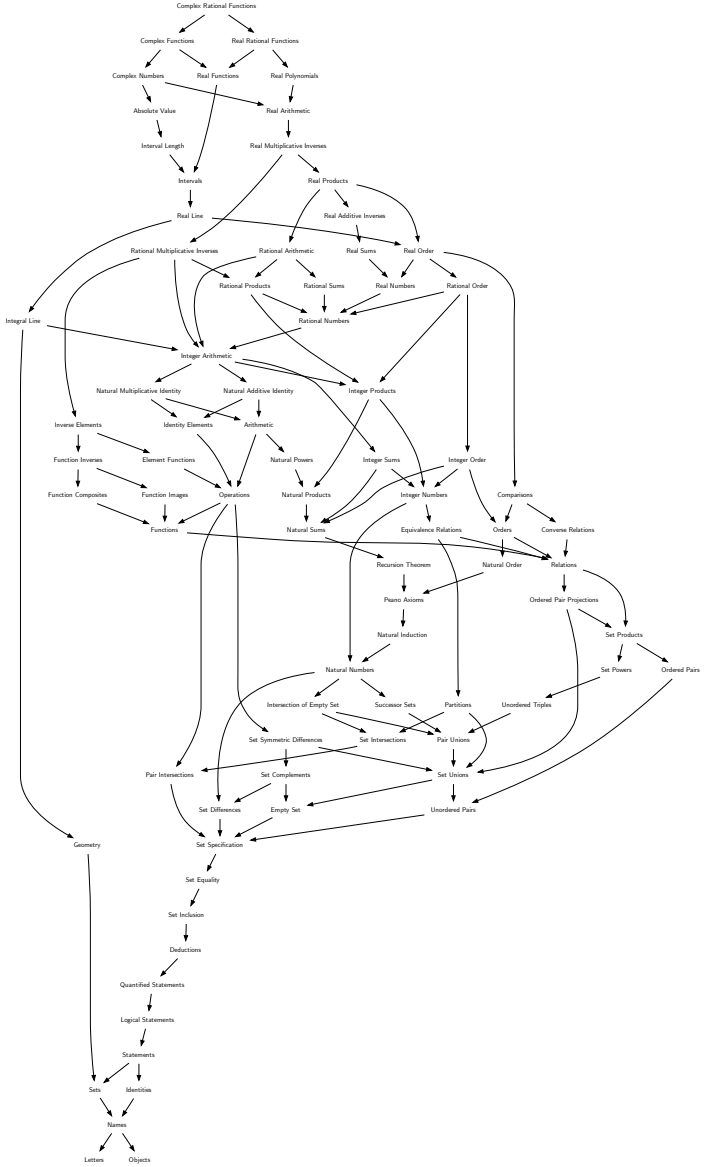
Definition

A *complex rational function* (or *rational function*, or *fractional function*) in $\mathbf{C}$ is a function $f : \mathbf{C} \to \mathbf{C}$ for which there exists polynomials $p : \mathbf{C} \to \mathbf{C}$ and $q : \mathbf{C} \to \mathbf{C}$ in $\mathbf{C}$ so that

$$f(z) = \frac{p(z)}{q(z)},$$

for all $z \in \mathbf{C}$. In other words, a rational function is a "quotient" (see Complex Products) of two polynomials in $\mathbf{C}$.

[1] Future editions will include.


Complex Rational Functions
Complex Functions
Real Rational Functions
Complex Numbers
Real Functions
Real Polynomials
Absolute Value
Real Arithmetic
Interval Length
Real Multiplicative Inverses
Intervals
Real Products
Real Line
Real Additive Inverses
Rational Multiplicative Inverses
Rational Arithmetic
Real Sums
Real Order
Rational Products
Rational Sums
Real Numbers
Rational Order
Integral Line
Rational Numbers
Integer Arithmetic
Natural Multiplicative Identity
Natural Additive Identity
Integer Products
Inverse Elements
Identity Elements
Arithmetic
Function Inverses
Element Functions
Natural Powers
Integer Sums
Integer Order
Function Composites
Function Images
Operations
Natural Products
Integer Numbers
Companions
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
Intersection of Empty Set
Successor Sets
Partitions
Unordered Triples
Set Symmetric Differences
Set Intersections
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