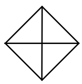


Why

Do the integer numbers correspond (in the sense *Homomorphisms*) to elements of the rationals.

Main Result

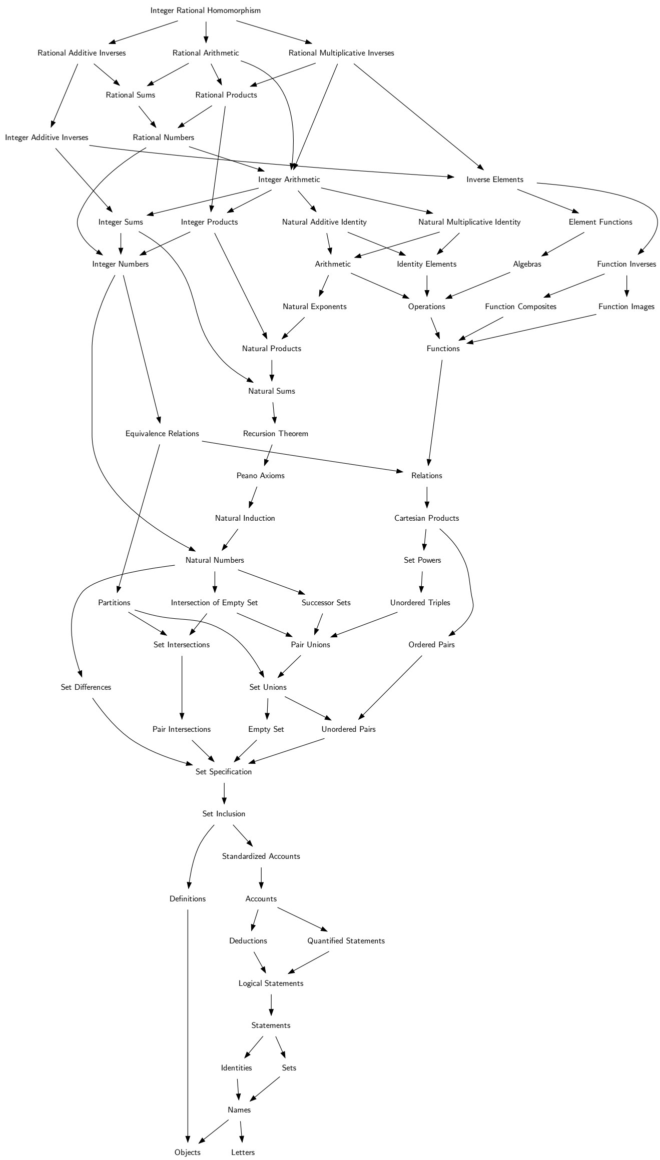
Indeed, roughly speaking the integers correspond to rationals whose denominator is 1. Denote by $\tilde{\mathsf{Q}}$ the set $\{[(a, b)] \in Q \mid b = 1_{\mathsf{Z}}\}$.

Proposition 1. *The rings* $(\tilde{\mathsf{Q}}, +_{\mathsf{Q}} \mid \tilde{\mathsf{Q}}, \cdot_{\mathsf{Q}} \mid \tilde{\mathsf{Q}})$ *and* $(Z, +_{\mathsf{Z}}, \cdot_{Z})$ *are homomorphic.*[1]

Proof. The function is $f : \mathsf{Z} \to \mathsf{Q}$ with $f(z) = [(z, 1)]$.[2] $\square$

[1] Indeed, more is true and will be included in future editions. There is an *order perserving* ring homomorphism.

[2] The full account will appear in future editions.


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