Why

TODO

Definition

TODO

Notation

TODO

Let $A \in \mathbf{R}^{m \times n}$. Something something

$$A = QR.$$

QR Factorizations

Real Matrices   Orthonormal Matrices

Matrices   Orthonormal Vectors

Inner Product Norms

Inner Products   Norms

Functionals

Vectors

N-Dimensional Space   Absolute Value   Real Square Roots

Fields   Space   Length   Real Numbers

Groups   Rational Numbers   Natural Differences

Integer Additive Inverses   Integer Arithmetic

Inverse Elements   Integer Sums   Natural Additive Identity   Natural Multiplicative Identity

Element Functions   Identity Elements   Arithmetic   Natural Square Roots

Function Inverses   Algebras   Natural Exponents   Integer Products   Square Numbers

Function Composites   Function Images   Operations   Integer Numbers   Natural Products   Squares

Functions   Natural Sums

Equivalence Relations   Recursion Theorem

Relations   Peano Axioms

Cartesian Products   Natural Induction

Set Powers   Natural Numbers

Unordered Triples   Successor Sets   Intersection of Empty Set   Partitions

Ordered Pairs   Pair Unions   Set Intersections

Set Unions   Set Differences

Unordered Pairs   Empty Set   Pair Intersections

Set Specification   Equation Solutions

Set Inclusion

Standardized Accounts

Accounts   Definitions

Quantified Statements   Deductions

Logical Statements

Statements

Sets   Identities

Names

Letters   Objects