Why

Well, least squares, for instance.[1]

Definition

An *orthogonal rectangular decomposition* or *orthogonal rectangular factorization* or *QR decomposition* or *QR factorization* of a $A \in \mathbf{C}^{m \times n}$ with $m \geq n$ is an ordered pair of matrices (Q, R) where Q is orthogonal and R is upper triangular and

$$A = QR.$$

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[1]Future editions will expand this description.

Orthogonal Rectangular Decomposition

Matrices

Vectors Complex Numbers

N-Dimensional Space

Distance

Space Distance

Plane Distance

Interval Length

Intervals

Real Space Real Plane Real Line

Direct Products Real Order Geometry

Fields Real Numbers

Families Groups Rational Numbers

Integer Additive Inverse Integer Arithmetic

Inverse Elements Natural Multiplicative Identity Natural Additive Identity Integer Sums

Element Functions Identity Elements Arithmetic

Function Inverse Algebras Natural Exponents Integer Products

Function Image Function Composites Operations Natural Products

Functions Natural Sums Integer Numbers

Recursion Theorem Equivalence Relations

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

Set Inclusion

Standardized Accounts

Accounts

Deductions

Quantified Statements

Logical Statements

Statements

Identities Sets

Names

Letters Objects