

510 Mathematics (27 clasificări)

- 510.1 Philosophy and theory
- 510.19 Mathematics – psychological aspects
- 510.2 Miscellany
- 510.22 Mathematics – illustrations, models, miniatures
- 510.23 Mathematics as a profession, occupation, hobby
- 510.25 Mathematics – directories of persons and organizations
- 510.28 Auxiliary techniques and procedures; apparatus, equipment, materials
- 510.284 Calculators – mathematics
- 510.285 Computer applications – mathematics
- 510.28541 Programmable calculators
- 510.29 Mathematics – commercial miscellany
- 510.3 Dictionaries, encyclopedias, concordances
- 510.6 Organizations and management
- 510.68 Mathematics – management
- 510.7 Education, research, related topics
- 510.71 Mathematics – education
- 510.72 Mathematics – research
- 510.724 Mathematics – experimental research
- 510.74 Mathematics – museums, collections, exhibits
- 510.75 Mathematics – museum activities and services
- 510.76 Mathematics – review and exercise
- 510.78 Mathematics – teaching aids (apparatus and equipment)
- 510.79 Mathematics – competitions, awards, financial support
- 510.8 Groups of people
- 510.9 Mathematics – history
- 510.92 Mathematicians

511 General principles of mathematics (36 clasificări)

- 511.1 Finite mathematics
- 511.3 Mathematical logic (Symbolic logic)
- 511.31 Nonclassical logic
- 511.312 Many-valued logic (Multiple-valued logic)
- 511.313 Fuzzy logic
- 511.314 Modal logic
- 511.317 Conditional logic
- 511.318 Probabilistic logic
- 511.32 Sets
- 511.322 Set theory
- 511.3223 Fuzzy sets
- 511.324 Set algebra
- 511.326 Functions and relations
- 511.33 Order, lattices, ordered algebraic structures
- 511.332 Partially ordered sets
- 511.34 Model theory

- 511.35 Recursion theory
- 511.352 Recursive functions
- 511.36 Proof theory and constructive mathematics
- 511.36028563 Automatic theorem proving
- 511.4 Approximations and expansions
- 511.42 Methods
- 511.422 Interpolation
- 511.4223 Splines
- 511.43 Error analysis
- 511.5 Graph theory
- 511.52 Trees
- 511.54 Directed graphs (Digraphs)
- 511.56 Coloring of graphs
- 511.6 Combinatorics (Combinatorial analysis)
- 511.62 Enumeration
- 511.64 Permutations and combinations
- 511.65 Choice
- 511.66 Extremal combinatorics
- 511.8 Mathematical models (Mathematical simulation)

512 Algebra (62 clasificări)

- 512.02 Abstract algebra
- 512.1 Algebra combined with other branches of mathematics
- 512.12 Algebra and Euclidean geometry
- 512.13 Algebra and trigonometry
- 512.14 Algebra and analytic geometry
- 512.15 Algebra and calculus
- 512.2 Groups and group theory
- 512.21 Permutation groups
- 512.22 Representations of groups
- 512.23 Finite groups
- 512.25 Abelian groups (Commutative groups)
- 512.27 Semigroups
- 512.28 Groupoids
- 512.3 Fields
- 512.32 Galois theory
- 512.4 Rings
- 512.42 Modules and ideals
- 512.44 Commutative rings
- 512.46 Associative rings
- 512.48 Nonassociative rings
- 512.482 Lie algebras and groups
- 512.5 Linear algebra
- 512.52 Vector spaces
- 512.55 Topological and related algebras and groups
- 512.554 Banach algebras
- 512.556 Self-adjoint operator algebras
- 512.56 Differential algebras

- 512.57 Factor algebras
- 512.6 Category theory, homological algebra, K-theory
- 512.62 Category theory
- 512.64 Homological algebra
- 512.66 K-theory
- 512.7 Number theory
- 512.72 Elementary number theory
- 512.723 Prime numbers
- 512.73 Analytic number theory
- 512.74 Algebraic number theory
- 512.75 Geometry of numbers
- 512.76 Probabilistic number theory
- 512.78 Specific fields of numbers
- 512.782 Rational numbers
- 512.784 Algebraic numbers
- 512.786 Real numbers
- 512.788 Complex numbers
- 512.9 Foundations of algebra
- 512.92 Algebraic operations
- 512.922 Exponents and logarithms
- 512.923 Root extraction
- 512.924 Approximation, ratio, proportion
- 512.94 Theory of equations
- 512.942 Specific types and systems of equations
- 512.9422 Polynomial equations
- 512.94222 Quadratic equations
- 512.9426 Simultaneous equations
- 512.943 Determinants and matrices
- 512.9432 Determinants
- 512.9434 Matrices
- 512.9436 Eigenvalues and eigenvectors
- 512.944 Theory of forms and algebraic invariant theory
- 512.96 Algebra of non-equation functions
- 512.97 Inequalities

513 Arithmetic (23 clasificări)

- 513.0284 Abacus
- 513.1 Arithmetic combined with other branches of mathematics
- 513.12 Arithmetic and algebra
- 513.13 Arithmetic and geometry
- 513.14 Arithmetic, algebra, geometry
- 513.2 Arithmetic operations
- 513.21 Basic operations
- 513.211 Addition
- 513.212 Subtraction
- 513.213 Multiplication
- 513.214 Division
- 513.22 Exponents and logarithms

513.23	Root extraction
513.24	Ratio and proportion
513.245	Percentage
513.26	Fractions
513.265	Decimal fractions
513.5	Numeration systems
513.52	Binary system (Base 2 system)
513.55	Decimal system (Base 10 system)
513.6	Modular arithmetic
513.9	Rapid calculations

514 Topology (20 clasificări)

514.2	Algebraic topology
514.22	Combinatorial topology
514.223	Combinatorial elements
514.224	Structures and spaces
514.2242	Knots
514.23	Homology and cohomology theories
514.24	Homotopy theory
514.3	Topology of spaces
514.32	Systems and spaces
514.322	Point set topology (General topology)
514.323	Proximity spaces
514.325	Metric spaces
514.34	Topological manifolds
514.7	Analytic topology
514.72	Differential topology
514.74	Global analysis
514.742	Fractals
514.744	Catastrophes
514.746	Singularity theory

515 Analysis (86 clasificări)

515.1	Analysis and calculus combined with other branches of mathematics
515.13	Analysis and topology
515.14	Analysis and linear algebra
515.15	Calculus and analytic geometry
515.16	Calculus and trigonometry
515.2	General aspects of analysis
515.22	Properties of functions
515.222	Continuity, dimension, limit
515.23	Operations on functions
515.24	Sequences and series
515.243	Series
515.2432	Power series
515.2433	Fourier and harmonic analysis

- 515.25 Equations and functions
- 515.252 Equations and functions by degree
- 515.253 Equations and functions by property
- 515.26 Inequalities
- 515.3 Differential calculus and equations
- 515.33 Differential calculus
- 515.35 Differential equations
 - 515.352 Ordinary differential equations
 - 515.353 Partial differential equations
 - 515.3533 Elliptic equations
 - 515.3534 Parabolic equations
 - 515.3535 Hyperbolic equations
 - 515.354 Linear differential equations
 - 515.355 Nonlinear differential equations
- 515.357 Inverse problems
- 515.36 Differential inequalities
- 515.37 Differential forms
- 515.38 Mixed equations
- 515.39 Dynamical systems
 - 515.392 Stability theory
- 515.4 Integral calculus and equations
 - 515.42 Theory of measure and integration
 - 515.43 Integral calculus
 - 515.45 Integral equations
 - 515.46 Integral inequalities
 - 515.48 Ergodic theory
- 515.5 Special functions
 - 515.52 Eulerian integrals
 - 515.53 Harmonic functions
 - 515.54 Mathieu functions
 - 515.55 Orthogonal polynomials
 - 515.56 Zeta function
- 515.6 Other analytic methods
 - 515.62 Calculus of finite differences
 - 515.625 Difference equations
 - 515.63 Vector, tensor, spinor analysis
 - 515.64 Calculus of variations
 - 515.642 Control theory
- 515.7 Functional analysis
 - 515.72 Operational calculus
 - 515.722 Spectral and representation theories
 - 515.7222 Spectral theory
 - 515.7223 Representation theory
 - 515.723 Transforms (Integral operators, integral transforms)
 - 515.724 Operator theory
 - 515.7242 Differential operators
 - 515.7246 Linear operators
 - 515.7248 Nonlinear operators

515.73	Topological vector spaces
515.732	Banach spaces
515.733	Hilbert spaces
515.75	Functional equations
515.78	Special topics of functional analysis
515.782	Distribution theory
515.785	Abstract harmonic analysis
515.8	Functions of real variables
515.82	General aspects of functions of real variables
515.83	Functions of one real variable
515.84	Functions of several real variables
515.88	Specific types of real variable functions
515.882	Convex functions
515.9	Functions of complex variables
515.92	General aspects of functions of complex variables
515.93	Functions of one complex variable
515.94	Functions of several complex variables
515.942	Analytic spaces
515.946	Complex manifolds
515.96	Potential theory
515.98	Specific types of complex variable functions
515.982	Meromorphic functions
515.983	Elliptic functions
515.984	Theta function

516 Geometry (50 clasificări)

516.02	Classical geometry
516.04	Modern geometry
516.07	Manifolds
516.08	Convex sets
516.1	General aspects of geometry
516.11	Finite geometry
516.12	Incidence geometry
516.13	Combinatorial geometry
516.132	Tilings
516.15	Geometric configurations
516.152	One-dimensional configurations
516.154	Two-dimensional configurations
516.156	Three-dimensional configurations
516.158	Four-dimensional and higher-dimensional configurations
516.16	Coordinate systems
516.18	Nonpoint base geometries
516.182	Vector geometry
516.183	Line geometry
516.2	Euclidean geometry
516.200284	Euclidean geometry – equipment
516.204	Famous problems

- 516.21 General aspects of Euclidean geometry
- 516.2132 Tessellations (Mathematics) – Euclidean geometry
- 516.2152 Conic sections – Euclidean geometry
- 516.2154 Polygons – Euclidean geometry
- 516.22 Plane geometry
- 516.23 Solid geometry
- 516.24 Trigonometry
- 516.242 Plane trigonometry
- 516.244 Spherical trigonometry
- 516.246 Trigonometric functions
- 516.3 Analytic geometries
- 516.32 Plane analytic geometry
- 516.33 Solid analytic geometry
- 516.34 Analytic trigonometry
- 516.35 Algebraic geometry
- 516.352 Curves and surfaces on projective and affine planes
- 516.353 Algebraic varieties of higher dimensions
- 516.36 Differential and integral geometry
- 516.362 Integral geometry (Global differential geometry)
- 516.37 Metric differential geometries
- 516.373 Riemannian geometry
- 516.374 Minkowski geometry
- 516.375 Finsler geometry
- 516.376 Cartan geometry
- 516.4 Affine geometry
- 516.5 Projective geometry
- 516.6 Abstract descriptive geometry
- 516.9 Non-Euclidean geometries

517 *nu este alocată*

518 **Numerical analysis** (20 clasificări)

- 518.1 Algorithms
- 518.2 Specific numerical methods
- 518.23 Graphic methods
- 518.25 Finite element analysis
- 518.26 Iterative methods
- 518.28 Probabilistic methods
- 518.282 Monte Carlo method
- 518.4 Numerical methods in algebra, arithmetic, number theory
- 518.42 Numerical methods in algebra
- 518.43 Numerical linear algebra
- 518.45 Numerical methods in arithmetic
- 518.47 Numerical methods in number theory
- 518.5 Numerical approximation
- 518.53 Numerical differentiation
- 518.54 Numerical integration

- 518.6 Numerical methods in analysis
- 518.63 Numerical solutions of ordinary differential equations
- 518.64 Numerical solutions of partial differential equations
- 518.66 Numerical solutions of integral equations

519 Probabilities and applied mathematics (51 clasificări)

- 519.2 Probabilities
 - 519.22 Stochastic analysis
 - 519.23 Random processes (Stochastic processes)
 - 519.232 Stationary processes
 - 519.233 Markov processes
 - 519.234 Branching processes
 - 519.236 Martingales
 - 519.24 Probability distribution
 - 519.27 Games of chance (Stochastic games)
 - 519.28 Special topics of probabilities
 - 519.282 Random walks
 - 519.287 Expectation and prediction
- 519.3 Game theory
 - 519.32 Differential games
- 519.5 Statistical mathematics
 - 519.5071 Statistical mathematics – education
 - 519.52 Theory of sampling
 - 519.53 Descriptive statistics, multivariate analysis, analysis of variance and covariance
 - 519.532 Frequency distributions
 - 519.533 Measures of central tendency
 - 519.534 Measures of deviation
 - 519.535 Multivariate analysis
 - 519.5354 Factor analysis
 - 519.536 Regression analysis
 - 519.537 Correlation analysis (Association analysis)
 - 519.538 Analysis of variance and covariance
 - 519.54 Statistical inference
 - 519.542 Decision theory
 - 519.544 Estimation theory
 - 519.546 Survival analysis
 - 519.55 Time-series analysis
 - 519.56 Hypothesis testing
 - 519.57 Design of experiments
- 519.6 Mathematical optimization
 - 519.62 Stochastic optimization
 - 519.623 Stochastic approximation
 - 519.625 Genetic algorithms
 - 519.64 Combinatorial optimization
- 519.7 Programming
 - 519.702 Single-stage programming
 - 519.703 Multistage programming
 - 519.72 Linear programming

519.76	Nonlinear programming
519.77	Integer programming
519.8	Special topics of applied mathematics
519.82	Queuing
519.83	Inventory and storage
519.84	Success runs
519.85	Epidemics and fluctuations
519.86	Quality control