## Mathematical Reviews Sections

## ENJOY THE CONVENIENCE OF HAVING MATHEMATICAL REVIEWS AT YOUR DESK. HAVE YOU THOUGHT HOW REALLY HANDY IT WOULD BE TO HAVE THE SECTIONS RELEVANT TO YOUR RESEARCH RIGHT BEFORE YOU?

MR has been divided into 37 affordable Sets for individual subscribers. Each month you can receive the Section Sets you have chosen with an author index. With your December Sets you will receive an annual author and subject index (as with MR). Also available for Section subscribers are three-ring binders of sturdy quality in the familiar tangerine color of MR to hold your subscription. The binders have a two inch spine and are adequate to hold 400 pages.
Section Sets are divided into Class 1 and Class 2 according to the estimated number of pages per year.

| Set | Sections | Subjects | $\square 21$ | 42, 43, 44, 45 | Harmonic analysis, integral |
| :---: | :---: | :---: | :---: | :---: | :---: |
| $\square 1 \mathrm{~A}$ | 00, 01 | General, history, biography (Class 1) | $\square 11$ | 46 | transforms/equations (Class 2) Functional analysis (Class 1) |
| $\square 1 \mathrm{~B}$ | 03, 04 | Logic, foundations, set theory (Class 1) | $\begin{aligned} & \square 1 K \\ & \square 2 \mathrm{~J} \end{aligned}$ | 47 | Operator theory (Class 1) Calculus of variations, optimiz- |
| $\square 1 \mathrm{C}$ | 05 | Combinatorics (Class 1) |  |  | ation (Class 2) |
| $\square 2 \mathrm{~A}$ | 06, 08 | Order, lattices, general systems (Class 2) | $\begin{aligned} & \square \mathbf{2 K} \\ & \square \mathbf{1 L} \end{aligned}$ | 51, 52 | Geometry, convex sets (Class 2) Differential geometry (Class 1) |
| $\square 1 \mathrm{D}$ | 10 | Number theory (Class 1) | $\square \mathbf{2 L}$ | 54 | General topology (Class 2) |
| $\square 2 \mathrm{~B}$ | 12 | Algebraic number theory, field theory, polynomials (Class 2) | $\square 1 \mathrm{M}$ | 55, 57 | See 1E $(18,55,57)$ <br> Global analysis, analysis on |
| $\square 2 \mathrm{C}$ | 13, 14 | Commutative rings and algebras, algebraic geometry (Class 2) | $\square 1 \mathrm{~N}$ | 60 | manifolds (Class 1) <br> Probability theory and stochas- |
| $\square 2 \mathrm{D}$ | 15 | Linear and multilinear algebra, matrix theory (Class 2) | $\square 1 P$ | 62 | tic processes (Class 1) Statistics (Class 1) |
| $\square 2 \mathrm{E}$ | 16, 17 | Associative/nonassociative rings, algebras (Class 2) | $\begin{aligned} & \square 1 Q \\ & \square 1 R \end{aligned}$ | 65 | Numerical analysis (Class 1) <br> Computer science (including |
| $\square 1 \mathrm{E}$ | 18, 55, 57 | Category theory, algebraic topology, manifolds (Class 1) | $\square \mathbf{2 M}$ | 70, 73 | automata) (Class 1) <br> Mechanics of particles, systems, |
| $\square 1 \mathrm{~F}$ | 20 | Group theory, generalizations (Class 1) | $\square \mathbf{2 N}$ | 76, 78, 80 | (Class 2) <br> Fluid mechanics, optics, elec- |
| $\square 2 \mathrm{~F}$ | 22 | Topological groups, Lie groups (Class 2) |  |  | tromagnetics, thermodynamics (Class 2) |
| $\square$ 2G | 26, 28 | Real functions, measure, integration (Class 2) | $\square 1 S$ $\square 2 P$ | 81 $82,83,85,86$ | Quantum mechanics (Class 1) Other physics, astronomy, astro- |
| $\square 1 \mathrm{G}$ | 30, 31, 32, 33 | Complex analysis, potential theory, special functions (Class 1) | $\square 1 \mathrm{~T}$ | 90 | physics, geophysics (Class 2) <br> Economics, operations re- <br> search, programming, games |
| $\square 1 \mathrm{H}$ | 34 | Ordinary differential equations (Class 1) | $\square 2 \mathrm{Q}$ | 92 | (Class 1) Biology and behavioral sci- |
| $\square 11$ | 35 | Partial differential equations (Class 1) | $\square 10$ | 93 | ences (Class 2) Systems theory; control (Class 1) |
| $\square \mathbf{2 H}$ | 39, 40, 41 | Finite differences, sequences, approximations (Class 2) | $\square 1 \mathrm{~V}$ | 94 | Information and communication, circuits (Class 1) |


|  | First Set |  |
| :--- | :---: | :---: |
|  | Class 1 | Class 2 |
| Individual | $\$ 42$ | $\$ 30$ |
| Reviewer | 28 | 20 |


| Each Add'I Set |  | Optional Binder |
| :---: | :---: | :---: |
| Class 1 | Class 2 | $\$ 5.00$ each |
| $\$ 36$ | $\$ 24$ |  |
| 24 | 16 | (1984 Subscription prices) |

USE THIS PAGE OR A PHOTOCOPY TO ORDER.
Date
$\$ \ldots$ enclosed for subscriptions selected and marked above.
$\square \quad \$ 5.00$ enclosed for $2^{\prime \prime}$ tangerine binder stamped MATHEMATICAL. REVIEWS SECTIONS on spine and front cover. (It is not required that one buy a binder.)
$\qquad$ Total prepaid order. (New subscribers may charge to Visa or MasterCard)

Name Your AMS code $\qquad$
Address

AMERICAN MATHEMATICAL SOCIETY
P. O. Box 1571, Annex Station, Providence, Rhode Island 02901
H. C. Williams and G. W. Dueck, An Analogue of the Nearest Integer Con- tinued Fraction for Certain Cubic Irrationalities ..... 683
H. J. Godwin, On Quartic Fields of Signature One With Small Discrimi- nant. II ..... 707
Reviews and Descriptions of Tables and Books ..... 713
Ciarlet 5, van de Lune, te Riele and Winter 6
Author Index ..... 715

# MATHEMATICS OF COMPUTATION TABLE OF CONTENTS 

## April 1984

Kenneth Eriksson and Vidar Thomée, Galerkin Methods for Singular BoundaryValue Problems in One Space Dimension.345David L. Brown, A Note on the Numerical Solution of the Wave Equation With Piecewise Smooth Coefficients ..... 369
Tunc Geveci, On the Convergence of Galerkin Approximation Schemes for Second-Order Hyperbolic Equations in Energy and Negative Norms ..... 393
Mitsuhiro Nakao, A Collocation- $H^{-1}$-Galerkin Method for Some Elliptic Equations ..... 417
Eugene C. Gartland, Jr., Accurate Approximation of Eigenvalues and Zeros of Selected Eigenfunctions of Regular Sturm-Liouville Problems ..... 427
Ewa Weinmüller, A Difference Method for a Singular Boundary Value Problem of Second Order ..... 441
Alan E. Berger, Houde Han and R. Bruce Kellogg, A Priori Estimates and Analysis of a Numerical Method for a Turning Point Problem ..... 465
Zhong-ci Shi, On the Convergence Properties of the Quadrilateral Elements of Sander and Beckers ..... 493
Dietrich Braess, The Convergence Rate of a Multigrid Method with Gauss- Seidel Relaxation for the Poisson Equation ..... 505
Trond Steihaug, On the Sparse and Symmetric Least-Change Secant Update ..... 521
Tony F. Chan, On the Existence and Computation of $L U$-Factorizations with Small Pivots ..... 535
Garry Rodrigue and Donald Wolitzer, Preconditioning By Incomplete Block Cyclic Reduction ..... 549
Youcef Saad, Chebyshev Acceleration Techniques for Solving Nonsymmetric Eigenvalue Problems ..... 567
Luciano Misici, Numerical Solution of Two Transcendental Equations ..... 589
Andrea Laforgia, Further Inequalities for the Gamma Function ..... 597
Arne Fransén and Staffan Wrigge, Calculation of the Moments and the Moment Generating Function for the Reciprocal Gamma Distribution ..... 601
Staffan Wrigge, A Note on the Moment Generating Function for the Reciprocal Gamma Distribution ..... 617
Richard Mansfield, A Complete Axiomatization of Computer Arithmetic ..... 623
Joachim von zur Gathen, Hensel and Newton Methods in Valuation Rings.. ..... 637
C. J. Smyth, The Mean Values of Totally Real Algebraic Integers ..... 663

