

## Carus Mathematical Monographs

The Carus Mathematical Monographs are an expression of the desire of Mrs. Mary Hegeler Carus and of her son, Dr. Edward H. Carus, to contribute to the dissemination of mathematical knowledge by making accessible a series of expository presentations of the best thoughts and keenest research in pure and applied mathematics. The publication of the first four of these monographs was made possible by Mrs. Carus as sole trustee of the Edward C. Hegeler Trust Fund. The sales from these have resulted in the Carus Monograph Fund, and the Mathematical Association of America has used this as a revolving book fund to publish the succeeding monographs.

The expositions of mathematical subjects that the monographs contain are set forth in a manner comprehensible not only to teachers and students specializing in mathematics, but also to scientific workers in other fields. More generally, the monographs are intended for the wide circle of thoughtful people familiar with basic graduate or advanced undergraduate mathematics encountered in the study of mathematics itself or in the context of related disciplines who wish to extend their knowledge without prolonged and critical study of the mathematical journals and treatises.

The following Monographs have been published:

1. *Calculus of Variations*, by G. A. Bliss (out of print)
2. *Analytic Functions of a Complex Variable*, by D. R. Curtiss (out of print)
3. *Mathematical Statistics*, by H. L. Rietz (out of print)
4. *Projective Geometry*, by J. W. Young (out of print)
5. *A History of Mathematics in America before 1900*, by D. E. Smith and Jekuthiel Ginsburg (out of print)
6. *Fourier Series and Orthogonal Polynomials*, by Dunham Jackson (out of print)
7. *Vectors and Matrices*, by C. C. MacDuffee (out of print)
8. *Rings and Ideals*, by N. H. McCoy (out of print)
9. *The Theory of Algebraic Numbers*, second edition, by Harry Pollard and Harold G. Diamond
10. *The Arithmetic Theory of Quadratic Forms*, by B. W. Jones (out of print)
11. *Irrational Numbers*, by Ivan Niven
12. *Statistical Independence in Probability, Analysis and Number Theory*, by Mark Kac
13. *A Primer of Real Functions*, third edition, by Ralph P. Boas, Jr.
14. *Combinatorial Mathematics*, by Herbert J. Ryser
15. *Noncommutative Rings*, by I. N. Herstein (out of print)
16. *Dedekind Sums*, by Hans Rademacher and Emil Grosswald

17. *The Schwarz Function and its Applications*, by Philip J. Davis
18. *Celestial Mechanics*, by Harry Pollard
19. *Field Theory and its Classical Problems*, by Charles Robert Hadlock
20. *The Generalized Riemann Integral*, by Robert M. McLeod
21. *From Error-Correcting Codes through Sphere Packings to Simple Groups*, by Thomas M. Thompson
22. *Random Walks and Electric Networks*, by Peter G. Doyle and J. Laurie Snell
23. *Complex Analysis: The Geometric Viewpoint*, by Steven G. Krantz
24. *Knot Theory*, by Charles Livingston
25. *Algebra and Tiling: Homomorphisms in the Service of Geometry*, by Sherman Stein and Sándor Szabó
26. *The Sensual (Quadratic) Form*, by John H. Conway assisted by Francis Y. C. Fung
27. *A Panorama of Harmonic Analysis*, by Steven G. Krantz
28. *Inequalities from Complex Analysis*, John P. D'Angelo
29. *Ergodic Theory of Numbers*, Karma Dajani and Cor Kraaikamp
30. *A Tour through Mathematical Logic*, Robert S. Wolf
31. *Randomness and Recurrence in Dynamical Systems: A Real Analysis Approach*, Rodney Nilsen
32. *Linear Inverse Problems and Tikhonov Regularization*, Mark Gockenbach
33. *Near the Horizon: An Invitation to Geometric Optics*, Henk Broer

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