

Springer

2nd
edition

2nd ed. 2001, XXIV, 682 p.

Printed book

Hardcover

Printed book

Hardcover

ISBN 978-0-387-95070-9

\$ 119,99

Available

Discount group

Professional Books (2)

Product category

Graduate/advanced undergraduate textbook

Series

Universitext

Other renditions

Softcover

ISBN 978-1-4419-2870-2

Mathematics : Number Theory

Ribenboim, Paulo

Classical Theory of Algebraic Numbers

Gauss created the theory of binary quadratic forms in "Disquisitiones Arithmeticae" and Kummer invented ideals and the theory of cyclotomic fields in his attempt to prove Fermat's Last Theorem. These were the starting points for the theory of algebraic numbers, developed in the classical papers of Dedekind, Dirichlet, Eisenstein, Hermite and many others. This theory, enriched with more recent contributions, is of basic importance in the study of diophantine equations and arithmetic algebraic geometry, including methods in cryptography. This book has a clear and thorough exposition of the classical theory of algebraic numbers, and contains a large number of exercises as well as worked out numerical examples. The Introduction is a recapitulation of results about principal ideal domains, unique factorization domains and commutative fields. Part One is devoted to residue classes and quadratic residues. In Part Two one finds the study of algebraic integers, ideals, units, class numbers, the theory of decomposition, inertia and ramification of ideals. Part Three is devoted to Kummer's theory of cyclotomic fields, and includes Bernoulli numbers and the proof of Fermat's Last Theorem for regular prime exponents. Finally, in Part Four, the emphasis is on analytical methods and it includes Dirichlet's Theorem on primes in arithmetic progressions, the theorem of Chebotarev and class number formulas. A careful study of this book will provide a solid background to the learning of more recent topics.

Order online at [springer.com/booksellers](https://www.springer.com/booksellers)**Springer Nature Customer Service Center LLC**

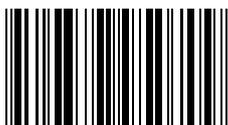
233 Spring Street

New York, NY 10013

USA

T: +1-800-SPRINGER NATURE

(777-4643) or 212-460-1500

customerservice@springernature.com

ISBN 978-0-387-95070-9 / BIC: PBH / SPRINGER NATURE: SCM25001

Prices and other details are subject to change without notice. All errors and omissions excepted. Americas: Tax will be added where applicable. Canadian residents please add PST, QST or GST. Please add \$5.00 for shipping one book and \$ 1.00 for each additional book. Outside the US and Canada add \$ 10.00 for first book, \$5.00 for each additional book. If an order cannot be fulfilled within 90 days, payment will be refunded upon request. Prices are payable in US currency or its equivalent.

Part of **SPRINGER NATURE**