1. Record Nr. UNINA9910975421003321 Autore Ireland Kenneth Titolo A Classical Introduction to Modern Number Theory / / by Kenneth Ireland, Michael Rosen New York, NY:,: Springer New York:,: Imprint: Springer,, 1990 Pubbl/distr/stampa **ISBN** 1-4757-2103-X Edizione [2nd ed. 1990.] Descrizione fisica 1 online resource (XIV, 394 p.) Collana Graduate Texts in Mathematics, , 2197-5612;; 84 Classificazione 12-01 10-01 Disciplina 512.7 Soggetti Number theory **Number Theory** Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Bibliographic Level Mode of Issuance: Monograph Nota di bibliografia Includes bibliographical references and index. Nota di contenuto 1 Unique Factorization -- 2 Applications of Unique Factorization -- 3 Congruence -- 4 The Structure of U(?/n?) -- 5 Quadratic Reciprocity --6 Quadratic Gauss Sums -- 7 Finite Fields -- 8 Gauss and Jacobi Sums -- 9 Cubic and Biquadratic Reciprocity -- 10 Equations over Finite Fields -- 11 The Zeta Function -- 12 Algebraic Number Theory -- 13 Quadratic and Cyclotomic Fields -- 14 The Stickelberger Relation and the Eisenstein Reciprocity Law -- 15 Bernoulli Numbers -- 16 Dirichlet L-functions -- 17 Diophantine Equations -- 18 Elliptic Curves -- 19 The Mordell-Weil Theorem -- 20 New Progress in Arithmetic Geometry -- Selected Hints for the Exercises. Bridging the gap between elementary number theory and the Sommario/riassunto systematic study of advanced topics, A Classical Introduction to Modern Number Theory is a well-developed and accessible text that requires only a familiarity with basic abstract algebra. Historical development is stressed throughout, along with wide-ranging coverage of significant results with comparatively elementary proofs, some of them new. An extensive bibliography and many challenging exercises are also included. This second edition has been corrected and contains two new chapters which provide a complete proof of the Mordell-Weil theorem for elliptic curves over the rational numbers, and an overview of recent

progress on the arithmetic of elliptic curves.