1. Record Nr. UNISA996418182803316 Autore **Bordelles Olivier** Titolo Arithmetic tales: advanced edition / / Olivier Bordelles Pubbl/distr/stampa Cham, Switzerland:,: Springer,, [2020] ©2020 **ISBN** 3-030-54946-1 Edizione [2nd ed. 2020.] 1 online resource (XIX, 782 p. 8 illus., 5 illus. in color.) Descrizione fisica Universitext, , 0172-5939 Collana Disciplina 512.7 Soggetti Number theory Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia 1 Basic Tools -- 2 Linear Diophantine Equations -- 3 Prime Numbers Nota di contenuto -- 4 Arithmetic Functions -- 5 Lattice Points -- 6 Exponential Sums --7 Algebraic Number Fields. Hints and Answers to Exercises -- Index. This textbook covers a wide array of topics in analytic and Sommario/riassunto multiplicative number theory, suitable for graduate level courses. Extensively revised and extended, this Advanced Edition takes a deeper dive into the subject, with the elementary topics of the previous edition making way for a fuller treatment of more advanced topics. The core themes of the distribution of prime numbers, arithmetic functions, lattice points, exponential sums and number fields now contain many more details and additional topics. In addition to covering a range of classical and standard results, some recent work on a variety of topics is discussed in the book, including arithmetic functions of several variables, bounded gaps between prime numbers à la Yitang Zhang, Mordell's method for exponential sums over finite fields, the resonance method for the Riemann zeta function, the Hooley divisor function, and many others. Throughout the book, the emphasis is on explicit results. Assuming only familiarity with elementary number theory and analysis at an undergraduate level, this textbook provides an accessible gateway to a rich and active area of number theory. With an abundance of new

topics and 50% more exercises, all with solutions, it is now an even

better guide for independent study.