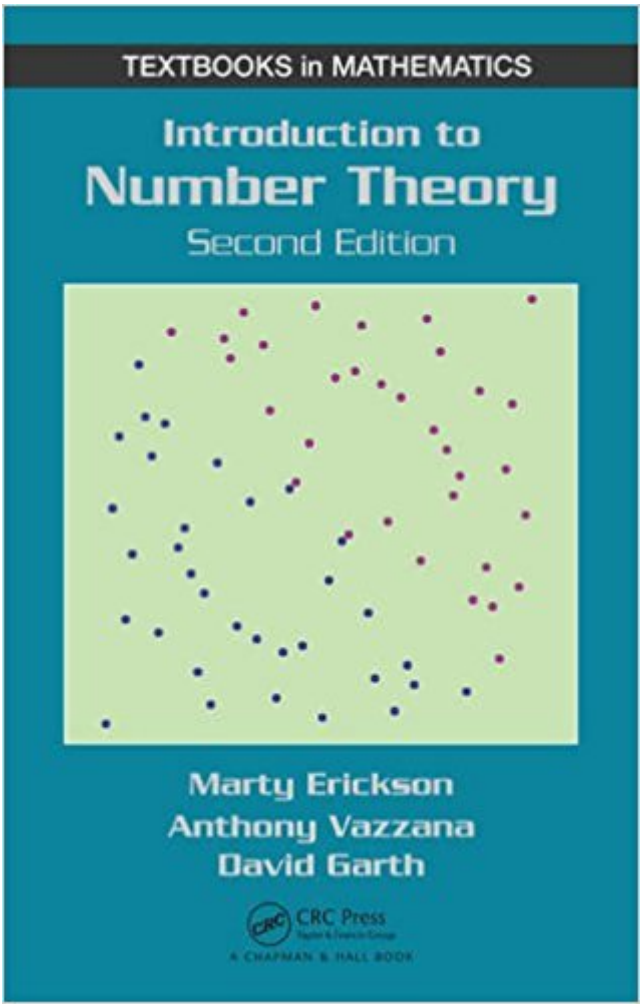
Introduction To Number Theory, 2nd Edition (Textbooks In Mathematics)



Synopsis

Introduction to Number Theory is a classroom-tested, student-friendly text that covers a diverse array of number theory topics, from the ancient Euclidean algorithm for finding the greatest common divisor of two integers to recent developments such as cryptography, the theory of elliptic curves, and the negative solution of HilbertÃ¢â ¬â„¢s tenth problem. The authors illustrate the connections between number theory and other areas of mathematics, including algebra, analysis, and combinatorics. They also describe applications of number theory to real-world problems, such as congruences in the ISBN system, modular arithmetic and EulerÃ¢â ¬â„¢s theorem in RSA encryption, and quadratic residues in the construction of tournaments. Ideal for a one- or two-semester undergraduate-level course, this Second Edition: Features a more flexible structure that offers a greater range of options for course design Adds new sections on the representations of integers and the Chinese remainder theorem Expands exercise sets to encompass a wider variety of problems, many of which relate number theory to fields outside of mathematics (e.g., music) Provides calculations for computational experimentation using SageMath, a free open-source mathematics software system, as well as MathematicaÃ Â® and MapleÃ¢â Â¢, online via a robust, author-maintained website Includes a solutions manual with qualifying course adoption By tackling both fundamental and advanced subjectsÃ¢â ¬â ¢and using worked examples, numerous exercises, and popular software packages to ensure a practical understandingÃ¢â ¬â ¢Introduction to Number Theory, Second Edition instills a solid foundation of number theory knowledge.

Book Information

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Customer Reviews

Praise for the Previous Edition "The authors succeed in presenting the topics of number theory in a very easy and natural way, and the presence of interesting anecdotes, applications, and recent problems alongside the obvious mathematical rigor makes the book even more appealing. Ã¢â ¬Â| a valid and flexible textbook for any undergraduate number theory course."Ã¢â ¬â ¢International Association for Cryptologic Research Book Reviews, May 2011 "Ã¢â ¬Â| a welcome addition to the stable of elementary number theory works for all good undergraduate libraries."Ã¢â ¬â ¢J. McCleary, Vassar College, Poughkeepsie, New York, USA, from CHOICE, Vol. 46, No. 1, August 2009 "Ã¢â ¬Â| a reader-friendly text. Ã¢â ¬Â| provides all of the tools to achieve a solid foundation in number theory."Ã¢â ¬â ¢LÃ¢â ¬â„¢Enseignement MathÃƒÂ©matique, Vol. 54, No. 2, 2008

Martin Erickson (1963-2013) received his Ph.D in mathematics in 1987 from the University of Michigan, Ann Arbor, USA, studying with Thomas Frederick Storer. He joined the faculty in the Mathematics Department of Truman State University, Kirksville, Missouri, USA, when he was twenty-four years old, and remained there for the rest of his life. Professor Erickson authored and coauthored several mathematics books, including the first edition of Introduction to Number Theory (CRC Press, 2007), Pearls of Discrete Mathematics (CRC Press, 2010), and A Student's Guide to the Study, Practice, and Tools of Modern Mathematics (CRC Press, 2010). Anthony Vazzana received his Ph.D in mathematics in 1998 from the University of Michigan, Ann Arbor, USA. He joined the faculty in the Mathematics Department of Truman State University, Kirksville, Missouri, USA, in 1998. In 2000, he was awarded the Governor's Award for Excellence in Teaching and was selected as the Educator of the Year. In 2002, he was named the Missouri Professor of the Year by the Carnegie Foundation for the Advancement of Teaching and the Council for Advancement and Support of Education. David Garth received his Ph.D in mathematics in 2000 from Kansas State University, Manhattan, USA. He joined the faculty in the Mathematics Department of Truman State University, Kirksville, Missouri, USA, in 2000. In 2005, he was awarded the Golden Apple Award from Truman State University's Theta Kappa chapter of the Order of Omega. His areas of research include analytic and algebraic number theory, especially Pisot numbers and their generalizations, and Diophantine approximation.

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