1. Record Nr. UNINA9910133223003321 Autore Dixon Martyn R (Martyn Russell), <1955-> Titolo Algebra and number theory: an integrated approach / / Martyn R. Dixon, Leonid A. Kurdachenko, Igor Ya. Subbotin Hoboken, N.J., : Wiley, c2010 Pubbl/distr/stampa **ISBN** 1-283-20343-X 9786613203434 0-470-64054-5 0-470-64053-7 Descrizione fisica 1 online resource (538 p.) Altri autori (Persone) KurdachenkoL SubbotinIgor Ya. <1950-> Disciplina 512 Soggetti Number theory Algebra Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Includes index. Algebra and Number Theory: An Integrated Approach; CONTENTS: Nota di contenuto PREFACE: CHAPTER 1 SETS; 1.1 Operations on Sets; Exercise Set 1.1; 1.2 Set Mappings; Exercise Set 1.2; 1.3 Products of Mappings; Exercise Set 1.3; 1.4 Some Properties of Integers; Exercise Set 1.4; CHAPTER 2 MATRICES AND DETERMINANTS; 2.1 Operations on Matrices; Exercise Set 2.1; 2.2 Permutations of Finite Sets; Exercise Set 2.2; 2.3 Determinants of Matrices: Exercise Set 2.3; 2.4 Computing Determinants; Exercise Set 2.4; 2.5 Properties of the Product of Matrices; Exercise Set 2.5; CHAPTER 3 FIELDS; 3.1 Binary Algebraic Operations Exercise Set 3.13.2 Basic Properties of Fields; Exercise Set 3.2; 3.3 The Field of Complex Numbers: Exercise Set 3.3; CHAPTER 4 VECTOR SPACES; 4.1 Vector Spaces; Exercise Set 4.1; 4.2 Dimension; Exercise Set 4.2: 4.3 The Rank of a Matrix: Exercise Set 4.3: 4.4 Quotient Spaces: Exercise Set 4.4; CHAPTER 5 LINEAR MAPPINGS; 5.1 Linear Mappings; Exercise Set 5.1; 5.2 Matrices of Linear Mappings; Exercise Set 5.2; 5.3

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## Sommario/riassunto

Explore the main algebraic structures and number systems that play a central role across the field of mathematics. Algebra and number theory are two powerful branches of modern mathematics at the forefront of current mathematical research, and each plays an increasingly significant role in different branches of mathematics, from geometry and topology to computing and communications. Based on the authors' extensive experience within the field, Algebra and Number Theory has an innovative approach that integrates three disciplines-linear algebra, abstract algebra, and number the