1. Record Nr. UNINA9910787126603321 Autore Dixon Martyn R (Martyn Russell), <1955-> Titolo An introduction to essential algebraic structures // Martyn R. Dixon, Leonid A. Kurdachenko, Igor Ya. Subbotin Pubbl/distr/stampa Hoboken, New Jersey:,: Wiley,, 2015 ©2015 **ISBN** 1-118-49775-9 1-118-49776-7 Descrizione fisica 1 online resource (243 p.) Disciplina 511.3/3 Soggetti Ordered algebraic structures Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Note generali Includes index. Nota di bibliografia Includes bibliographical references and index. An Introduction to Essential Algebraic Structures: Copyright: 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 and Permutations; Exercise Set 1.3; 1.4 Operations on Matrices; Exercise Set 1.4; 1.5 Binary Algebraic Operations and Equivalence Relations; Exercise Set 1.5; Chapter 2 Numbers; 2.1 Some Properties of Integers: Mathematical Induction; Exercise Set 2.1; 2.2 Divisibility; Exercise Set 2.2; 2.3 Prime Factorization: The Fundamental Theorem of Arithmetic: Exercise Set 2.3 2.4 Rational Numbers, Irrational Numbers, and Real NumbersExercise Set 2.4; Chapter 3 Groups; 3.1 Groups and Subgroups; Exercise Set 3.1; 3.2 Cosets and Normal Subgroups; Exercise Set 3.2; 3.3 Factor Groups and Homomorphisms; Exercise Set 3.3; Chapter 4 Rings; 4.1 Rings, Subrings, Associative Rings; Exercise Set 4.1; 4.2 Rings of Polynomials; Exercise Set 4.2; 4.3 Ideals and Quotient Rings; Exercise Set 4.3; 4.4 Homomorphisms of Rings; Exercise Set 4.4; Chapter 5 Fields; 5.1 Fields: Basic Properties and Examples; Exercise Set 5.1; 5.2 Some Field Extensions; Exercise Set 5.2 5.3 Fields of Algebraic Numbers Exercise Set 5.3; Hints and Answers to Selected Exercises; Chapter 1; Chapter 2; Chapter 3; Chapter 4; Chapter 5; Index; End User License Agreement

Sommario/riassunto

A reader-friendly introduction to modern algebra with important examples from various areas of mathematicsFeaturing a clear and concise approach, An Introduction to Essential Algebraic Structures presents an integrated approach to basic concepts of modern algebra and highlights topics that play a central role in various branches of mathematics. The authors discuss key topics of abstract and modern algebra including sets, number systems, groups, rings, and fields. The book begins with an exposition of the elements of set theory and moves on to cover the main ideas and branches of abstract alge