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Nota di contenuto	Cover; Title Page; Copyright; Chapter 0: Preliminaries; 0.1 Proofs; 0.2 Sets; 0.3 Mappings; 0.4 Equivalences; Chapter 1: Integers and Permutations; 1.1 Induction; 1.2 Divisors and Prime Factorization; 1.3 Integers Modulo n; 1.4 Permutations; Chapter 2: Groups; 2.1 Binary Operations; 2.2 Groups; 2.3 Subgroups; 2.4 Cyclic Groups and the Order of an Element; 2.5 Homomorphisms and Isomorphisms; 2.6 Cosets and Lagrange's Theorem; 2.7 Groups of Motions and Symmetries; 2.8 Normal Subgroups; 2.9 Factor Groups; 2.10 The Isomorphism Theorem; 2.11 An Application to Binary Linear Codes; Chapter 3: Rings 3.1 Examples and Basic Properties 3.2 Integral Domains and Fields; 3.3 Ideals and Factor Rings; 3.4 Homomorphisms; 3.5 Ordered Integral Domains; Chapter 4: Polynomials; 4.1 Polynomials; 4.2 Factorization of Polynomials over a Field; 4.3 Factor Rings of Polynomials over a Field; 4.4 Partial Fractions; 4.5 Symmetric Polynomials; Chapter 5: Factorization in Integral Domains; 5.1 Irreducibles and Unique Factorization; 5.2 Principal Ideal Domains; Chapter 6: Fields; 6.1 Vector Spaces; 6.2 Algebraic Extensions; 6.3 Splitting Fields; 6.4 Finite Fields; 6.5 Geometric Constructions 6.7 An Application to Cyclic and BCH Codes Chapter 7: Modules over Principal Ideal Domains; 7.1 Modules; 7.2 Modules over a Principal Ideal

Domain; Chapter 8: p-Groups and the Sylow Theorems; 8.1 Products and Factors; 8.2 Cauchy's Theorem; 8.3 Group Actions; 8.4 The Sylow Theorems; 8.5 Semidirect Products; 8.6 An Application to Combinatorics; Chapter 9: Series of Subgroups; 9.1 The Jordan-Holder Theorem; 9.2 Solvable Groups; 9.3 Nilpotent Groups; Chapter 10: Galois Theory; 10.1 Galois Groups and Separability; 10.2 The Main Theorem of Galois Theory; 10.3 Insolvability of Polynomials 10.4 Cyclotomic Polynomials and Wedderburn's TheoremChapter 11: Finiteness Conditions for Rings and Modules; 11.1 Wedderburn's Theorem; 11.2 The Wedderburn-Artin Theorem; Appendices; Appendix A: Complex Numbers; Appendix B: Matrix Arithmetic; Appendix C: Zorn's Lemma

Sommario/riassunto

Praise for the Third Edition " . . . an expository masterpiece of the highest didactic value that has gained additional attractivity through the various improvements . . ."-Zentralblatt MATH The Fourth Edition of Introduction to Abstract Algebra continues to provide an accessible approach to the basic structures of abstract algebra: groups, rings, and fields. The book's unique presentation helps readers advance to abstract theory by presenting concrete examples of induction, number theory, integers modulo n , and permutations before the abstract structures a
