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	Nota di contenuto	Identification Numbers and Modular Arithmetic -- Error Correcting Codes -- Rings and Fields -- Linear Algebra and Linear Codes -- Quotient Rings and Field Extensions -- Ruler and Compass Constructions -- Cyclic Codes -- Groups and Cryptography -- The Structure of Groups -- Symmetry.
	Sommario/riassunto	This text seeks to generate interest in abstract algebra by introducing each new structure and topic via a real-world application. The down-to-earth presentation is accessible to a readership with no prior knowledge of abstract algebra. Students are led to algebraic concepts and questions in a natural way through their everyday experiences. Applications include: Identification numbers and modular arithmetic (linear) error-correcting codes, including cyclic codes ruler and compass constructions cryptography symmetry of patterns in the real plane Abstract Algebra: Structure and Application is suitable as a text for a first course on abstract algebra whose main purpose is to generate interest in the subject, or as a supplementary text for more

advanced courses. The material paves the way to subsequent courses that further develop the theory of abstract algebra and will appeal to students of mathematics, mathematics education, computer science, and engineering interested in applications of algebraic concepts.