DE GRUYTER GRADUATE

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ABSTRACT ALGEBRA

APPLICATIONS TO GALOIS THEORY, ALGEBRAIC GEOMETRY, REPRESENTATION THEORY AND CRYPTOGRAPHY

2ND EDITION

Contents

A new approach to conveying abstract algebra, the area that studies algebraic structures, such as groups, rings, fields, modules, vector spaces, and algebras, that is essential to various scientific disciplines such as particle physics and cryptology. It provides a well written account of the theoretical foundations and subtly explains the mathematical notions on a phenomological basis accompanied with many examples and a problem section at the end of each chapter that helps the reader with accessing the subjects. It also includes a chapter on algebraic cryptography.

- Covering topics not found in competing works: Free groups and group presentations, modules and algebras, extension of rings and algebraic geometry, representations of groups, cryptographic protocols
- Extended Chapter about the hot topic combinatorial and geometric group theory
- New chapter about groups, algebras and representations

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