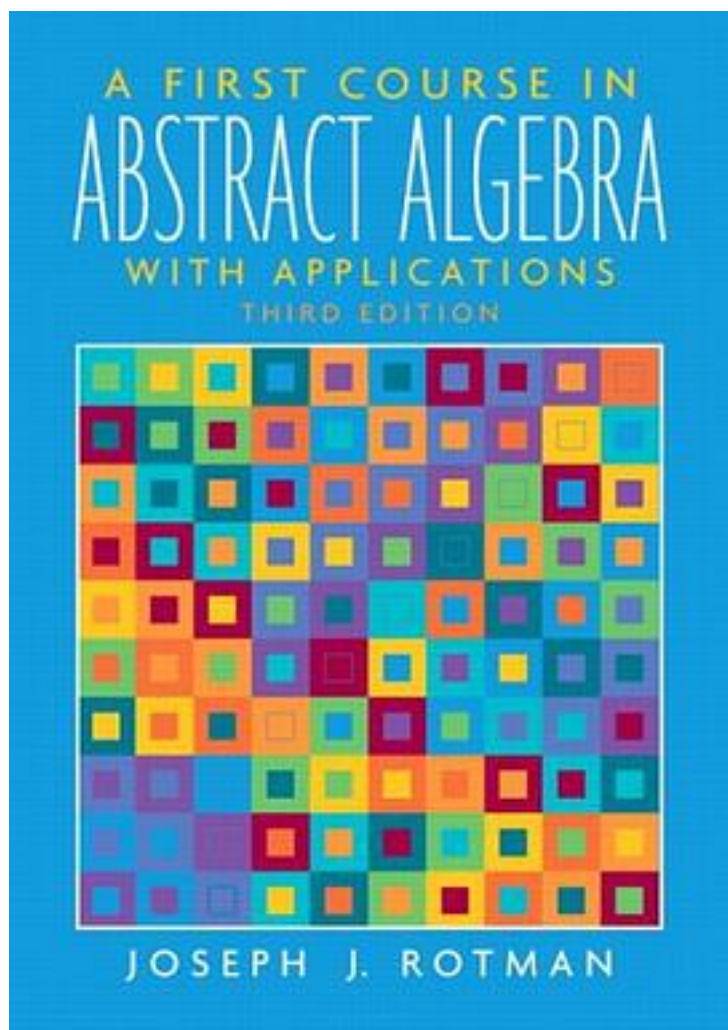


A First Course in Abstract Algebra



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This text introduces readers to the algebraic concepts of group and rings, providing a

comprehensive discussion of theory as well as a significant number of applications for each. Number Theory: Induction; Binomial Coefficients; Greatest Common Divisors; The Fundamental Theorem of Arithmetic Congruences; Dates and Days. Groups I: Some Set Theory; Permutations; Groups; Subgroups and Lagrange's Theorem; Homomorphisms; Quotient Groups; Group Actions; Counting with Groups. Commutative Rings I: First Properties; Fields; Polynomials; Homomorphisms; Greatest Common Divisors; Unique Factorization; Irreducibility; Quotient Rings and Finite Fields; Officers, Magic, Fertilizer, and Horizons. Linear Algebra: Vector Spaces; Euclidean Constructions; Linear Transformations; Determinants; Codes; Canonical Forms. Fields: Classical Formulas; Insolvability of the General Quintic; Epilog. Groups II: Finite Abelian Groups; The Sylow Theorems; Ornamental Symmetry. Commutative Rings III: Prime Ideals and Maximal Ideals; Unique Factorization; Noetherian Rings; Varieties; Grobner Bases. For all readers interested in abstract algebra.

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University of Illinois at Urbana-Champaign.

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标签

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书评

这本书写的有点繁琐，但是作者往往能够把几个概念和定理联系起来分析一番，不至于只见树木不见森林。另外作者还考究了很多代数术语的词源，比如说 \mathbb{Q} 代表有理数(rational number)，是因为起源于quotient(商)的第一个字母，表示 q/p ，商的概念也就是对于乘法有了逆元，而且也在代数...

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