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图书基本信息

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前言

Algebra is used by virtually all mathematicians, be they analysts, combinatorists, computerscientists, geometers, logicians, number theorists, or topologists. Nowadays, everyoneagrees that some knowledge of linear algebra, groups, and commutative rings is necessary,and these topics are introduced in undergraduate courses. We continue their study.　This book can be used as a text for the first year of graduate algebra, but it is much morethan that. It can also serve more advanced graduate students wishing to learn topics ontheir own; while not reaching the frontiers, the book does provide a sense of the successesand methods arising in an area. Finally, this is a reference containing many of the standardtheorems and definitions that users of algebra need to know. Thus, the book is not only anappetizer, but a hearty meal as well.　Let me now address readers and instructors who use the book as a text for a beginninggraduate course. If I could assume that everyone had already read my book, A First Coursein Abstract Algebra, then the prerequisites for this book would be plain. But this is not arealistic assumption; different undergraduate courses introducing abstract algebra abound,as do texts for these comes. For many, linear algebra concentrates on matrices and vectorspaces over the real numbers, with an emphasis on computing solutions of linear systemsof equations; other courses may treat vector spaces over arbitrary fields, as well as Jordanand rational canonical forms. Some courses discuss the Sylow theorems; some do not;some comes classify finite fields; some do not.　To accommodate readers having different backgrounds, the first three chapters containmany familiar results, with many proofs merely sketched. The first chapter contains thefundamental theorem of arithmetic, congruences, De Moivre's theorem, roots of unity,cyclotomic polynomials, and some standard notions of set theory, such as equivalencerelations and verification of the group axioms for symmetric groups. The next two chap-ters contain both familiar and unfamiliar material. "New" results, that is, results rarelytaught in a first course, have complete proofs, while proofs of "old" results are usuallysketched. In more detail, Chapter 2 is an introduction to group theory, reviewing permuta-tions, Lagrange's theorem, quotient groups, the isomorphism theorems, and groups actingon sets.

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内容概要

这批教材普遍具有以下特点：(1)基本上是近3年出版的，在国际上被广泛使用，在同类教材中具有相当的权威性；(2)高版次，历经多年教学实践检验，内容翔实准确、反映时代要求；(3)各种教学资源配套整齐，为师生提供了极大的便利；(4)插图精美、丰富，图文并茂，与正文相辅相成；(5)语言简练、流畅、可读性强，比较适合非英语国家的学生阅读。

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