

<<域论>>

图书基本信息

书名：<<域论>>

13位ISBN编号：9787510037634

10位ISBN编号：7510037638

出版时间：2011-7

出版时间：世界图书出版公司

作者：罗曼

页数：332

版权说明：本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问：<http://www.tushu007.com>

<<域论>>

内容概要

《域论(第2版)(英文版)》是一部研究生水平的域论的入门书籍。

每节后面都有不少练习,使得本书既是一本很好的教程,也是一本不错的参考书。

本书从头开始阐述了域基本理论,如果具备本科生水平的抽象代数知识将对学习本书具有很大的帮助。

本书是第二版,作者基于第一版及在运用第一版在教学过程中的经验,又将本书中的基本内容进行了改进。

增加了新的练习和新的一章从历史展望角度讲述了

Galois理论,通书不断涌现新话题,包括代数基本理论的证明、不可约情形的讨论、 Z_p 上多项式因式分解的Berlekamp代数等。

目次:基础;(第一部分)域扩展:多项式;域扩展;嵌入和可分性;代数独立性;(第二部分) Galois理论,历史回顾;Galois理论,理论;Galois理论,多项式的Galois群;域扩展作为向量空间;有限域,基本性质;有限域,附加性质;单位根;循环扩张;可解性扩张;(第三部分)二项式;二项式族。

书籍目录

- preface
- contents
- 0 preliminaries
 - 0.1 lattices
 - 0.2 groups
 - 0.3 the symmetric group
 - 0.4 rings
 - 0.5 integral domains
 - 0.6 unique factorization domains
 - 0.7 principal ideal domains
 - 0.8 euclidean domains
 - 0.9 tensor products
- exercises
- part i-field extensions
- 1 polynomials
 - 1.1 polynomials over a ring
 - 1.2 primitive polynomials and irreducibility
 - 1.3 the division algorithm and its consequences
 - 1.4 splitting fields
 - 1.5 the minimal polynomial
 - 1.6 multiple roots
 - 1.7 testing for irreducibility
- exercises
- 2 field extensions
 - 2.1 the lattice of subfields of a field
 - 2.2 types of field extensions
 - 2.3 finitely generated extensions
 - 2.4 simple extensions
 - 2.5 finite extensions
 - 2.6 algebraic extensions
 - 2.7 algebraic closures
 - 2.8 embeddings and their extensions.
 - 2.9 splitting fields and normal extensions
- exercises
- 3 embeddings and separability
 - 3.1 recap and a useful lemma
 - 3.2 the number of extensions: separable degree
 - 3.3 separable extensions
 - 3.4 perfect fields
 - 3.5 pure inseparability
 - 3.6 separable and purely inseparable closures
- exercises
- 4 algebraic independence
 - 4.1 dependence relations
 - 4.2 algebraic dependence

<<域论>>

- 4.3 transcendence bases
- 4.4 simple transcendental extensions
- exercises
- part ii---galois theory
- 5 galois theory i: an historical perspective
 - 5.1 the quadratic equation
 - 5.2 the cubic and quartic equations
 - 5.3 higher-degree equations
 - 5.4 newton's contribution: symmetric polynomials
 - 5.5 vandermonde
 - 5.6 lagrange
 - 5.7 gauss
 - 5.8 back to lagrange
 - 5.9 galois
 - 5.10 a very brief look at the life of galois
- 6 galois theory i1: the theory
 - 6.1 galois connections
 - 6.2 the galois correspondence
 - 6.3 who's closed?
 - 6.4 normal subgroups and normal extensions
 - 6.5 more on galois groups
 - 6.6 abelian and cyclic extensions
 - 6.7 linear disjointness
- exercises
- 7 galois theory iii: the galois group of a polynomial
 - 7.1 the galois group of a polynomial
 - 7.2 symmetric polynomials
 - 7.3 the fundamental theorem of algebra.
 - 7.4 the discriminant of a polynomial
 - 7.5 the galois groups of some small-degree polynomials
- exercises
- 8 a field extension as a vector space
 - 8.1 the norm and the trace
 - *8.2 characterizing bases
 - *8.3 the normal basis theorem
- exercises
- 9 finite fields i: basic properties
 - 9.1 finite fields redux
 - 9.2 finite fields as splitting fields
 - 9.3 the subfields of a finite field.
 - 9.4 the multiplicative structure of a finite field
 - 9.5 the galois group of a finite field
 - 9.6 irreducible polynomials over finite fields
 - *9.7 normal bases
 - *9.8 the algebraic closure of a finite field
- exercises
- 10 finite fields i1: additional properties

<<域论>>

10.1 finite field arithmetic
 10.2 the number of irreducible polynomials
 10.3 polynomial functions
 10.4 linearized polynomials
 exercises
 11 the roots of unity
 11.1 roots of unity
 11.2 cyclotomic extensions
 11.3 normal bases and roots of unity
 11.4 wedderburn's theorem
 11.5 realizing groups as galois groups
 exercises
 12 cyclic extensions
 12.1 cyclic extensions
 12.2 extensions of degree $\text{char}(f)$
 exercises
 13 solvable extensions
 13.1 solvable groups
 13.2 solvable extensions
 13.3 radical extensions
 13.4 solvability by radicals
 13.5 solvable equivalent to solvable by radicals
 13.6 natural and accessory irrationalities
 13.7 polynomial equations
 exercises
 part iii--the theory of binomials
 14 binomials
 14.1 irreducibility
 14.2 the galois group of a binomial
 14.3 the independence of irrational numbers
 exercises
 15 families of binomials
 15.1 the splitting field
 15.2 dual groups and pairings
 15.3 kummer theory
 exercises
 appendix: mobius inversion
 partially ordered sets
 the incidence algebra of a partially ordered set
 classical mobius inversion
 multiplicative version of mobius inversion
 references
 index

版权说明

本站所提供下载的PDF图书仅提供预览和简介，请支持正版图书。

更多资源请访问:<http://www.tushu007.com>