CONTENTS

2. Ray sets and star bodies 3. Lattices 4. Algebraic Number fields SUPPLEMENT TO CHAPTER 1 i. Preliminaries. CHAPTER 2. CONVEX BODIES AND LATTICE POINTS 5. The fundamental theorem of Minkowski 6. Generalizations of the theorem of Blichfeldt 7. Generalizations of the theorem of Minkowski 8. A theorem of Rédei and Hlawka 9. Successive minima of a convex body 10. Reduction theory 11. Successive minima of non-convex sets 12. Extremal bodies 13. The inhomogeneous minimum 14. Polar reciprocal convex bodies 15. Compound convex bodies 16. Convex bodies and arbitrary lattices SUPPLEMENT TO CHAPTER 2 ii. Fundamental theorems iii. Lattice polytopes iv. Large convex bodies 1. Reduction theory 1. Reducti	CHAPTER 1. PRELIMINARIES						
i. Preliminaries. CHAPTER 2. CONVEX BODIES AND LATTICE POINTS 5. The fundamental theorem of Minkowski 6. Generalizations of the theorem of Blichfeldt 7. Generalizations of the theorem of Minkowski 8. A theorem of Rédei and Hlawka 9. Successive minima of a convex body 10. Reduction theory 11. Successive minima of non-convex sets 12. Extremal bodies 13. The inhomogeneous minimum 14. Polar reciprocal convex bodies 15. Compound convex bodies 16. Convex bodies and arbitrary lattices SUPPLEMENT TO CHAPTER 2 ii. Fundamental theorems iii. Lattice polytopes iv. Large convex bodies 1. V. Reduction theory 1.	2. Ray sets and star bodies						1 14 17 24
CHAPTER 2. CONVEX BODIES AND LATTICE POINTS 5. The fundamental theorem of Minkowski 6. Generalizations of the theorem of Blichfeldt 7. Generalizations of the theorem of Minkowski 8. A theorem of Rédei and Hlawka 9. Successive minima of a convex body 10. Reduction theory 11. Successive minima of non-convex sets 12. Extremal bodies 13. The inhomogeneous minimum 14. Polar reciprocal convex bodies 15. Compound convex bodies 16. Convex bodies and arbitrary lattices SUPPLEMENT TO CHAPTER 2 ii. Fundamental theorems iii. Lattice polytopes iv. Large convex bodies 1. Large convex bodies 1. Large convex bodies 1. V. Reduction theory 1.	SUPPLEMENT TO CHAPTER 1						
5. The fundamental theorem of Minkowski 6. Generalizations of the theorem of Blichfeldt 7. Generalizations of the theorem of Minkowski 8. A theorem of Rédei and Hlawka 9. Successive minima of a convex body 10. Reduction theory 11. Successive minima of non-convex sets 12. Extremal bodies 13. The inhomogeneous minimum 14. Polar reciprocal convex bodies 15. Compound convex bodies 16. Convex bodies and arbitrary lattices 17. Supplement To Chapter 2 18. Fundamental theorems 19. Lattice polytopes 10. Large convex bodies 11. Large convex bodies 12. Large convex bodies 13. The inhomogeneous minimum 14. Polar reciprocal convex bodies 15. Compound convex bodies 16. Convex bodies and arbitrary lattices 17. Supplement To Chapter 2	i. Preliminaries						32
6. Generalizations of the theorem of Blichfeldt 7. Generalizations of the theorem of Minkowski 8. A theorem of Rédei and Hlawka 9. Successive minima of a convex body 10. Reduction theory. 11. Successive minima of non-convex sets 12. Extremal bodies 13. The inhomogeneous minimum 14. Polar reciprocal convex bodies 15. Compound convex bodies 16. Convex bodies and arbitrary lattices SUPPLEMENT TO CHAPTER 2 ii. Fundamental theorems iii. Lattice polytopes iv. Large convex bodies 1 v. Reduction theory 1	CHAPTER 2. CONVEX BODIES AND LATTICE POINTS						
10. Reduction theory. 11. Successive minima of non-convex sets 12. Extremal bodies 13. The inhomogeneous minimum 14. Polar reciprocal convex bodies. 15. Compound convex bodies. 16. Convex bodies and arbitrary lattices. 17. Supplement to Chapter 2 18. Fundamental theorems. 19. Lattice polytopes. 10. Large convex bodies. 10. Large convex bodies. 11. V. Reduction theory. 12. Large convex bodies. 13. The inhomogeneous minimum. 14. Polar reciprocal convex bodies. 15. Compound convex bodies. 16. Convex bodies and arbitrary lattices. 17. Large convex bodies. 18. Large convex bodies. 19. Large convex bodies. 19. Reduction theory. 19. Reduction theory. 19. Reduction theory.	6. Generalizations of the theorem of Blichfeldt7. Generalizations of the theorem of Minkowski						39 47 50 54
14. Polar reciprocal convex bodies	10. Reduction theory		 		 	•	58 64 78 82
ii. Fundamental theorems	14. Polar reciprocal convex bodies		 				98 107 114 123
iii. Lattice polytopes	Supplement to Chapter 2						
vi Tiling	iii. Lattice polytopes		 		•		126 135 140 147

CONTENTS

Chapter 3. The critical determinant, the covering constant and the inhomogeneous determinant of a set

17.	Manier's selection theorem. Critical determinant and absolute homoge-	
	neous minimum. Critical lattices	177
18.	The successive minima and the determinant of a set	188
19.	The theorem of Minkowski-Hlawka	199
	Packing of convex bodies	218
21.	Covering constant of a set. Covering by sets	228
	Packings and coverings in the plane	241
23	Inhomogeneous determinant of a set	250
	A theorem of Mordell-Siegel-Hlawka-Rogers.	254
24.	A theorem of worden-sieger-mawka-kogers	254
SUPPLE	ement to Chapter 3	
vii.	Suprema and infima over lattices	259
viii.	Packing	266
	Covering	279
	v	
	er 4. Star bodies	
	The functionals $\Delta(S)$, $\Gamma(S)$, $f(A)$, $g(A)$	290
	Points of critical lattices on the boundary. Automorphic star bodies	300
27.	Reducible and irreducible star bodies	309
28.	Reduction of automorphic star bodies	316
Suppli	ement to Chapter 4	
x.	Boundary lattice points	323
Снарт	TER 5. SOME METHODS	
29.	The critical determinant of a two-dimensional star body. Methods of	
	Mahler and Mordell	330
30.	Some special two-dimensional domains	338
	The critical determinant of an <i>n</i> -dimensional domain	340
32.	Some special domains	348
33.	A method of Blichfeldt. Density functions	352
34.	A method of Blichfeldt and Mordell	357
35.	A theorem of Macbeath	367
36.	Comparison of star bodies in spaces of unequal dimensions	372
	i and a second in space of unequal unitensions	J , _

CONTENTS

CHAPTER 6. HOMOGENEOUS FORMS

381
385
393
411
422
432
441
465
474
7/7
499
528
530
535
549
552
567
578
595
599
3//
613
619
627
629
632
636
723
726