CONTENTS

	CHAPTER 1. Convex Figures	1
1.	Plane convex figures	ı
	Intersections and partitions of plane convex figures	5
	Supporting lines for two-dimensional convex figures	8
	Directed convex curves and directed supporting lines	10
	Vectors; external normals to plane convex figures	13
	Circuit of a polygon; length of a convex curve	14
	Convex solids	17
8.	Supporting planes and external normals for convex solids	20
	Central projection; cones	23
	Convex spherical figures	26
11.	Greatest and least widths of convex figures	28
	Ovals of constant width; Barbier's Theorem	34
	CHAPTER 2. Central-symmetric Convex Figures	39
13	Central symmetry and (parallel) translation	39
	Partitioning central-symmetric polyhedra	42
	The greatest central-symmetric convex figure in a lattice of integers;	
15.	Minkowski's Theorem	44
16.	Filling the plane and space with convex figures	51
	and the special section against	
	CHAPTER 3. Networks and Convex Polyhedra	58
17.	Vertices (nodes), faces (regions), and edges (lines); Euler's Theorem	58
18.	Proof of the theorem for connected networks	61
19.	Disconnected networks; inequalities	64
	Congruent and symmetric polyhedra; Cauchy's Theorem	66
21.	Proof of Cauchy's Theorem	71
22.	Steinitz' correction of Cauchy's proof	73
23.	Abstract and convex polyhedra; Steinitz' Theorem	81
24.	Development of a convex polyhedron; Aleksandrov's Theorem	95
	CHAPTER 4. Linear Systems of Convex Figures	97
25	Linear operations on points	97
	Linear operations on figures; "mixing" figures	100
	Linear systems of convex polygons; areas and "mixed areas"	106
	Applications	114
	Schwarz inequality; other inequalities	117
	Relation between areas of Q , Q_1 , and Q_8 : the Brunn-Minkowski	,
50.	inequality	122

31. Relation between areas of plane sections of convex solids	127
32. Greatest area theorems	130
CHAPTER 5. Theorems of Minkowski and Aleksandrov	
for Congruent Convex Polyhedra	132
33. Formulation of the theorems	132
34. A theorem about convex polygons	134
35. Mean polygons and polyhedra	141
36. Proof of Aleksandrov's Theorem	146
CHAPTER 6. Supplement	150
37. Precise definition of a convex figure	150
38. *Continuous mapping and functions	152
39. Regular networks; regular and semiregular polyhedra	153
40. The isoperimetric problem	164
41. Chords of arbitrary continua; Levi's Theorem	166
42. Figures in a lattice of integers; Blichfeldt's Theorem	172
43. Topological theorems of Lebesgue and Bol'-Brouwer	175
44. Generalization to n dimensions	182
45. Convex figures in normed spaces	185
Bibliography	191