

## CONTENTS

### CHAPTER I: DIFFERENTIABLE QUASICONFORMAL MAPPINGS

Introduction . . . . .	1
A. <i>The Problem and Definition of Grötzsch</i> . . . . .	2
B. <i>Solution of Grötzsch's Problem</i> . . . . .	6
C. <i>Composed Mappings</i> . . . . .	8
D. <i>Extremal Length</i> . . . . .	10
E. <i>A Symmetry Principle</i> . . . . .	16
F. <i>Dirichlet Integrals</i> . . . . .	17

### CHAPTER II: THE GENERAL DEFINITION

A. <i>The Geometric Approach</i> . . . . .	21
B. <i>A <math>1-q</math>-c. map is Conformal</i> . . . . .	23

### CHAPTER III: EXTREMAL GEOMETRIC PROPERTIES

A. <i>Three Extremal Problems</i> . . . . .	35
B. <i>Elliptic and Modular Functions</i> . . . . .	40
C. <i>Mori's Theorem</i> . . . . .	47
D. <i>Quadruplets</i> . . . . .	53

### CHAPTER IV: BOUNDARY CORRESPONDENCE

A. <i>The <math>M</math>-condition</i> . . . . .	63
B. <i>The Sufficiency of the <math>M</math>-condition</i> . . . . .	69
C. <i>Quasi-isometry</i> . . . . .	73
D. <i>Quasiconformal Reflection</i> . . . . .	74
E. <i>The Reverse Inequality</i> . . . . .	81

## *Quasiconformal Mappings*

### **CHAPTER V: THE MAPPING THEOREM**

A. <i>Two Integral Operators</i> . . . . .	85
B. <i>Solution of the Mapping Problem</i> . . . . .	90
C. <i>Dependence on Parameters</i> . . . . .	100
D. <i>The Calderón-Zygmund Inequality</i> . . . . .	106

### **CHAPTER VI: TEICHMÜLLER SPACES**

A. <i>Preliminaries</i> . . . . .	117
B. <i>Beltrami Differentials</i> . . . . .	120
C. $\Delta$ is Open . . . . .	128
D. <i>The Infinitesimal Approach</i> . . . . .	137