

## CONTENTS

### CHAPTER I: DIFFERENTIABLE QUASICONFORMAL MAPPINGS

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

### CHAPTER II: THE GENERAL DEFINITION

A. The Geometric Approach . . . . .	21
B. A $l\text{-}q\text{-}c$ . map is Conformal . . . . .	23

### CHAPTER III: EXTREMAL GEOMETRIC PROPERTIES

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

### CHAPTER IV: BOUNDARY CORRESPONDENCE

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

# Quasiconformal Mappings

## CHAPTER V: THE MAPPING THEOREM

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

## CHAPTER VI: TEICHMÜLLER SPACES

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