Techniques of Problem Solving

Steven G. Krantz

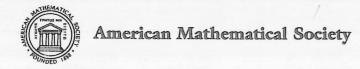


TABLE OF CONTENTS

Preface	
Acknowledgements	ix
Acknowledgements	xiii
CHAPTER 1: Basic Concepts	
Introductory Remarks	1
A First Problem	3
How to Count	14
The Use of Induction	20
Problems of Logic	30
Issues of Parity	35
Exercises	43
CHAPTER 2: A Deeper Look at Geometry	
Classical Planar Geometry	49
Analytic Geometry	71
Miscellaneous and Exotic Geometry Problems	81
Solid Geometry	103
Exercises	121
CHAPTER 3: Problems Involving Counting	
Elementary Problems in Probability	129
More Sophisticated Problems in Probability	139
More on Counting	155
The Classical Marriage Problem and Related Ideas	163
Exercises	167

CHAPTER 4: Problems of Logic

Games Tracing Routes, and Learning from Parity Mysterious Arithmetic Problems Surprises Exercises	177 183 191 201 214 219
CHAPTER 5: Recreational Math	
Magic Squares and Related Ideas Problems Involving Weighings Exercises CHAPTER 6: Algebra and Analysis	235 246 257
A Little Algebra Inequalities Trigonometry and Related Ideas Exercises	263 271 279 286
CHAPTER 7: A Miscellany	
Crossing the River and Similar Exercises Things That Are Impossible Exercises	295 299 309
CHAPTER 8: Real Life	
Introductory Remarks Everyday Objects Some Case Studies Statistics Exercises	315 315 336 341 347

	vii
BIBLIOGRAPHY	361
INDEX	365
SOLUTIONS TO ODD-NUMBERED PROBLEMS	369