CONTENTS

Foreword vii

Plenary Sessions

Socio-Cultural Bases for Mathematical Education — *Ubiratan D'Ambrosio* 1
Reflection and Recursion — *Jeremy Kilpatrick* 7
Discrete Mathematics — *Renfrey Potts* 31

Action Groups

1. Early Childhood Years 49
2. Elementary School (Ages 7–12) 57
3. Junior Secondary School (Ages 11–16) 73
4. Senior Secondary School (Ages 15–19) 84
5. Tertiary (Post-Secondary) Institutions (18+) 95
6. Pre-Service Teacher Education 111
7. Mathematics in Adult, Technical and Vocational Education 124

Theme Groups

1. Mathematics For All 133
2. The Professional Life of Teachers 146
3. The Role of Technology 159
4. Theory, Research and Practice in Mathematical Education 177
5. Curriculum Development 187
6. Applications and Modelling 197
7. Problem Solving 212

Topic Areas

1. Evaluation, Examinations and Assessment 227
2. Competitions 243
3. The Teaching of Geometry 254
4. Relationship Between the History and Pedagogy of Mathematics 256
5. Language and Mathematics 261
6. Psychology of Mathematics Education 273
7. Research and Teaching 284
8. Theory of Mathematics Education 293
9. Teaching of Statistics 300
10. Women and Mathematics 306

Invited Addresses

Presidential Address — *Jean-Pierre Kahane* 315
Public Forum 328

The Effects of Technology on Mathematics Education 346
The Nature of Proof 352
Debate: The Microcomputer: Miracle or Menace in Mathematics Education? 359
Specially Invited Presentations 373
The Work of ICMI 380

List of Participants 382