Contents

Preface to the second edition vii
Introduction 1

Part I. The foundations of mathematics

Symposium on the foundations of mathematics 41
1. The logicist foundations of mathematics 41
RUDOLF CARNAP
2. The intuitionist foundations of mathematics 52
AREND HEYTING
3. The formalist foundations of mathematics 61
JOHANN VON NEUMANN
Disputation 66
AREND HEYTING
Intuitionism and formalism 77
L. E. J. BROUWER
Consciousness, philosophy, and mathematics 90
L. E. J. BROUWER
The philosophical basis of intuitionistic logic 97
MICHAEL DUMMETT
The concept of number 130
GOTTLOB FREGE
Selections from *Introduction to Mathematical Philosophy* 160
BERTRAND RUSSELL
On the infinite 183
DAVID HILBERT
Remarks on the definition and nature of mathematics 202
HASKELL B. CURRY
Hilbert's programme 207
GEORG KREISEL

Part II. The existence of mathematical objects

Empiricism, semantics, and ontology 241
RUDOLF CARNAP

On platonism in mathematics 258
PAUL BERNAYS
What numbers could not be 272
PAUL BENACERRAF
Mathematics without foundations 295
HILARY PUTNAM

Part III. Mathematical truth

The *a priori* 315
ALFRED JULES AYER
Truth by convention 329
W. V. QUINE
Carnap and logical truth 355
W. V. QUINE
On the nature of mathematical truth 377
CARL G. HEMPEL
On the nature of mathematical reasoning 394
HENRI POINCARE
Mathematical truth 403
PAUL BENACERRAF
Models and reality 421
HILARY PUTNAM

Part IV. The concept of set

Russell's mathematical logic 447
KURT GÖDEL
What is Cantor's continuum problem? 470
KURT GÖDEL
The iterative concept of set 486
GEORGE BOOLOS
What is the iterative conception of set? 503
CHARLES PARSONS
The concept of set 530
HAO WANG

Bibliography 571