

## Two Applications of Logic to Mathematics (Paperback)

By Gaisi Takeuti

Princeton University Press, United States, 2015. Paperback. Book Condition: New. 226 x 150 mm. Language: English . Brand New Book \*\*\*\*\* Print on Demand \*\*\*\*\*. Using set theory in the first part of his book, and proof theory in the second, Gaisi Takeuti gives us two examples of how mathematical logic can be used to obtain results previously derived in less elegant fashion by other mathematical techniques, especially analysis. In Part One, he applies Scott- Solovay s Boolean-valued models of set theory to analysis by means of complete Boolean algebras of projections. In Part Two, he develops classical analysis including complex analysis in Peano s arithmetic, showing that any arithmetical theorem proved in analytic number theory is a theorem in Peano s arithmetic. In doing so, the author applies Gentzen s cut elimination theorem. Although the results of Part One may be regarded as straightforward consequences of the spectral theorem in function analysis, the use of Boolean- valued models makes explicit and precise analogies used by analysts to lift results from ordinary analysis to operators on a Hilbert space. Essentially expository in nature, Part Two yields a general method for showing that analytic proofs of theorems in number theory can be ...



## Reviews

Thorough manual for ebook fans. it had been writtern quite properly and valuable. It is extremely difficult to leave it before concluding, once you begin to read the book. -- Dr. Catherine Wehner

Absolutely among the best book I have possibly go through. I have go through and that i am certain that i am going to gonna read through once again again in the future. I am just delighted to tell you that this is basically the finest book i have got go through within my personal existence and could be he finest book for ever. -- Brian Bauch