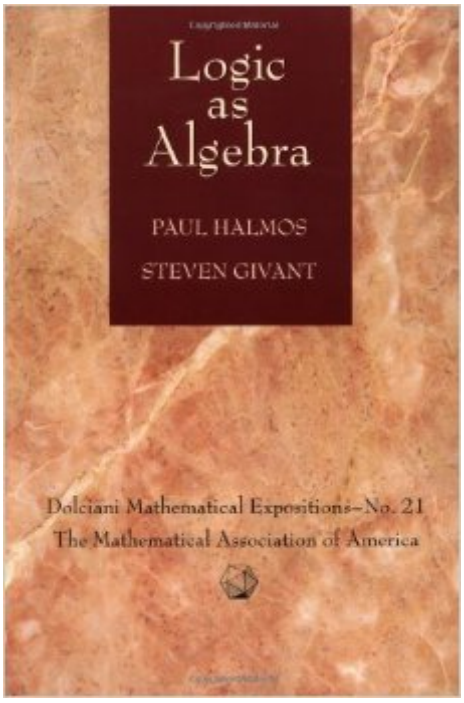
Logic As Algebra (Dolciani Mathematical Expositions)



Synopsis

Here is an introduction to modern logic that differs from others by treating logic from an algebraic perspective. What this means is that notions and results from logic become much easier to understand when seen from a familiar standpoint of algebra. The presentation, written in the engaging and provocative style that is the hallmark of Paul Halmos, from whose course the book is taken, is aimed at a broad audience, students, teachers and amateurs in mathematics, philosophy, computer science, linguistics and engineering; they all have to get to grips with logic at some stage. All that is needed to understand the book is some basic acquaintance with algebra.

Book Information

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Average Customer Review: 4.3 out of 5 starsÂ Â See all reviewsÂ (3 customer reviews)

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Customer Reviews

I found the first two or three chapters of the book to be a great introduction to logic and algebraic reasoning. From there, the reader should probably have some familiarity with modern algebra to fully appreciate the ideas being introduced (e.g., kernals, ideals, morphisms, lattices). The first few chapters are easy to read, and unlike other introductions to logic, the tedium of proofs doesn’t drown out the concepts. Due to space, the presentations are brief, but none of the concepts are difficult: sit down and iron out the proofs in your head or sit down with a pencil and paper. Nevertheless, they give quick work of the main properties of the propositional calculus, building it up from 6 symbols, 4 axioms, and one rule of inference. Rigor isn’t always practiced, but mathematicians should be comfortable with that!The book is definitely pleasing to a mathematician that wants to refine their

understanding and perception of logic, and it is good for the logician that could benefit from a mathematical mindset. The first chapters develop a propositional calculus genetically, but then branch off into approaching it structurally from a representative algebra. This book lays the path to take that algebraic approach to monadic (single variable) predicate calculus, and prepares the student to look at Halmos' continuing work presented in "Algebraic Logic", a collection of papers on polyadic (more than one variable) predicate calculus from the (Boolean) algebraic perspective.I give a rating of 4 out of 5 stars because this book lacks the "wow" factor that makes it a 5 star book. There's little to complain about in the book that is of any seriousness. Minor flaws are to individual tastes. Nevertheless, this isn't a comprehensive analysis with great insights or major contributions.