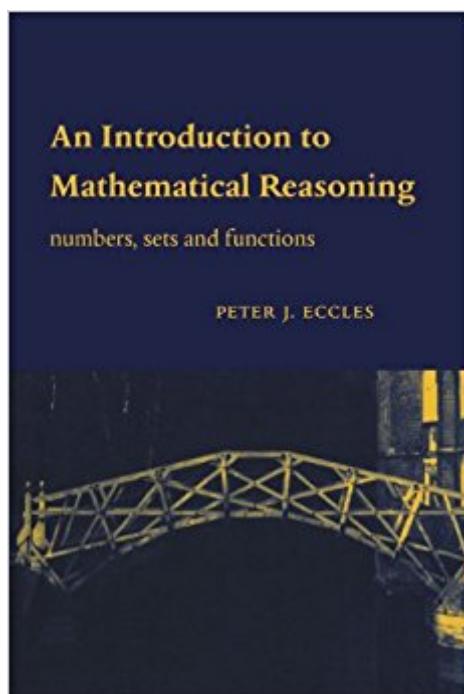


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# An Introduction To Mathematical Reasoning: Numbers, Sets And Functions



## Synopsis

This book eases students into the rigors of university mathematics. The emphasis is on understanding and constructing proofs and writing clear mathematics. The author achieves this by exploring set theory, combinatorics, and number theory, topics that include many fundamental ideas and may not be a part of a young mathematician's toolkit. This material illustrates how familiar ideas can be formulated rigorously, provides examples demonstrating a wide range of basic methods of proof, and includes some of the all-time-great classic proofs. The book presents mathematics as a continually developing subject. Material meeting the needs of readers from a wide range of backgrounds is included. The over 250 problems include questions to interest and challenge the most able student but also plenty of routine exercises to help familiarize the reader with the basic ideas.

## Book Information

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## Customer Reviews

"A student planning to study advanced mathematics would be well served by first mastering the material in this book...a rigorous study of several fundamental topics pervasive in mathematics, including sets, functions, cardinality, combinatorics, and modular arithmetic." D.S. Larson, Choice

The purpose of this book is to introduce the basic ideas of mathematical proof to students embarking on university mathematics. The emphasis is on helping the reader in understanding and constructing proofs and writing clear mathematics. Over 250 problems include questions to interest

and challenge the most able student but also plenty of routine exercises to help familiarize the reader with the basic ideas.

This is an excellent text, and perfect for my needs, with clear prose and lots of example problems and puzzles to work through. However, the binding on my copy is simply atrocious. A large amount of force is needed to keep the book open, making it hard to use pen and paper while looking at the open book. Extremely heavy weights would be needed to hold it open. Worse, several pages have fallen out of the front and back within the first few days. At this price, the publisher has truly done an embarrassingly bad job with this excellent book.

This online version was about half the price of the hard copy, but the formulas were inserted as graphics which did not enlarge, making them very tiny and hard to read sometimes. Also, there were some significant typos (some minus signs instead of  $=$ , a 6 instead of a b), that were confusing. This book needs a good proofread, and get the formulas inserted with equation editor.

Just as the other reviews describe, this is an excellent book that introduces proofs and mathematical reasoning. The major advantage of this book is the excellent writing, which provides some entertainment and keeps your interest high. Most of the proofs must of course be read carefully, and followed with a pen and paper. The problems with solutions are moderately difficult. I have a mediocre math background, a little exposure to formal math but was able to do most of the problems from the first three units with effort. If you don't get a proof or a problem, put it aside for awhile and look at it again.

Does a great job of introducing an inexperienced reader to the language of mathematical proofs. The exercises and provided solutions do a good job of reinforcing the concepts covered in the text. The author provides numerous examples throughout the text.

New with one or two marks!

I needed a book that covered fundamental background information behind mathematical proof techniques for an undergraduate university level linear algebra class. With this book, I was able to truly learn and understand the major concepts behind mathematical logic and proof. This text brings a whole new meaning to teaching the reader about being precise; and I mean the author does an

extremely terrific job of doing just that. Wow! Seriously, the focus here is on content so you won't find any sexy graphs or anything. The content is so good that I often felt that just by reading it I was propelled into a quasi- pseudo-lecture meeting. After following this text, I can say that I now appreciate the act of being precise to the point that is required for mathematical proof. If you want to extend the knowledge of your 'white board' then just buy this thing. I am so glad I did. BTW, I only needed the content from the first five chapters, I can't say much about the rest of the text. However, taking an inductive approach, I must assume that the other chapters are also very excellent. Yess, see it worked!

The condition of the book was amazing, it was like brand new! Really enjoyed learning from this book :)

Got this book for a class and really enjoyed working on it. I strongly recommend for those who are learning how to write proofs and getting into higher level mathematics.

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