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Real Analysis And Foundations, Second Edition (Textbooks In Mathematics)

Steven G. Krantz

Real Analysis and Foundations

Second Edition

STUDIES IN ADVANCED MATHEMATICS

CHAPMAN & HALL/CRC
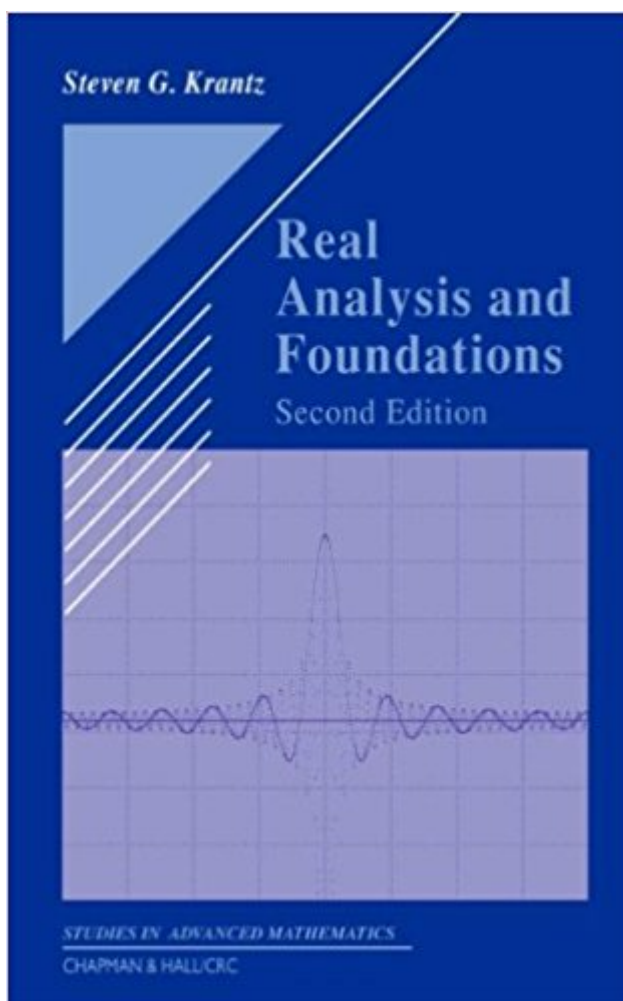
Synopsis

Students preparing for courses in real analysis often encounter either very exacting theoretical treatments or books without enough rigor to stimulate an in-depth understanding of the subject. Further complicating this, the field has not changed much over the past 150 years, prompting few authors to address the lackluster or overly complex dichotomy existing among the available texts.The enormously popular first edition of Real Analysis and Foundations gave students the appropriate combination of authority, rigor, and readability that made the topic accessible while retaining the strict discourse necessary to advance their understanding. The second edition maintains this feature while further integrating new concepts built on Fourier analysis and ideas about wavelets to indicate their application to the theory of signal processing. The author also introduces relevance to the material and surpasses a purely theoretical treatment by emphasizing the applications of real analysis to concrete engineering problems in higher dimensions. Expanded and updated, this text continues to build upon the foundations of real analysis to present novel applications to ordinary and partial differential equations, elliptic boundary value problems on the disc, and multivariable analysis. These qualities, along with more figures, streamlined proofs, and revamped exercises make this an even more lively and vital text than the popular first edition.

Book Information

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Customer Reviews

The book is recommended as a source for middle-level mathematical courses. It can be used not

only at mathematical department, but also by physicists, engineers, economists and other experts in applied sciences who want to understand the main ideas of Analysis in order to use them at the study of mathematical models of different type processes.-Zentralblatt MATHThe book contains many well-chosen examples and each of the fifteen chapters is followed by almost 500 exercises. …Illustrative pictures are instructive and the design of the book makes reading it a real pleasure. The book can be recommended for university libraries, teachers, and students.-EMS Newsletter, Dec. 2005

The Krantz text- while it covers many of the topics of real analysis- its notation is not concise. I would look elsewhere.

I have studied Real Analysis from both this book and Bartle and Sherbert. Personally, I like both for different reasons and could recommend both.Krantz, in my opinion is very good at providing a means to developing a geometric intuition, as he introduces basic point set topology very early and uses it throughout the text (this is a strength of Baby Rudin as well). I feel that Krantz's proofs are not as complicated as those in Bartle and Sherbert, and thus are much easier to follow. I feel that this book is easy to understand and includes a helping or two of complex analysis as a bonus.Now, I would not be an honest person if I did not mention the mistakes in this book. Yeah, Krantz makes a few significant errors. They are sprinkled around so, just watch for them. I don't recall Bartle and Sherbert having as many.Now, to contrast with Bartle and Sherbert. I feel that Krantz is lacking in its teaching of analysis techniques- Bartle and Sherbert achieve this well. Their proofs are much more complicated, but in that complication you learn a lot about how to DO analysis. Point set topology is mainly introduced in the last chapter so you lack that power through out the book (a poor choice of writing style in my opinion) but the machinery you develop in this book beats Krantz into the ground. Bartle and Sherbert is lacking a little on conceptual development in my opinion (but does have some strengths over Krantz even on this front).Neither book is perfect, both are incomplete. As I said before, I could easily recommend both without reservation. I do recommend getting a copy of Rudin's Principles of Real Analysis as a supplementary text to either book. Rudin's book is very difficult for most undergraduates (It was very hard for me the first time I looked through it) but EXCELLENT. Given the choice, personally, I would have chosen Krantz because I felt that I understood analysis better after working through it. But having read Bartle and Sherbert first well prepared me for Krantz! Moral of the story: read both (if time permits).To summarize:1) Go with Krantz for concepts and to UNDERSTAND analysis2) Go with Bartle and Sherbert for techniques

and to DO analysis3) Go with Walter Rudin to MASTER (undergraduate) real analysis after one of the other two! (Unless you go to Berkeley or Harvard and are really smart- then just jump straight to Rudin)

This book is an excellent text for understanding the foundations of Analysis. I have used this book as a suplement for several math classes. It is a good refrence tool for math majors.

Real Analysis and Foundations, Second Edition (Textbooks in Mathematics) Real Analysis and Foundations, Fourth Edition (Textbooks in Mathematics) Discrete Mathematics and Applications, Second Edition (Textbooks in Mathematics) Principles of Fourier Analysis, Second Edition (Textbooks in Mathematics) The Real Book of Real Estate: Real Experts. Real Stories. Real Life. Hawaii Real Estate Wholesaling Residential Real Estate Investor & Commercial Real Estate Investing: Learn to Buy Real Estate Finance Hawaii Homes & Find Wholesale Real Estate Houses in Hawaii Elements of Advanced Mathematics, Third Edition (Textbooks in Mathematics) Number Theory Through Inquiry (Maa Textbooks) (Mathematical Association of America Textbooks) Exploring the Infinite: An Introduction to Proof and Analysis (Textbooks in Mathematics) Differential Equations: Theory, Technique and Practice, Second Edition (Textbooks in Mathematics) Graph Theory and Its Applications, Second Edition (Textbooks in Mathematics) Measure and Integral: An Introduction to Real Analysis, Second Edition (Chapman & Hall/CRC Pure and Applied Mathematics) The Smart Real Estate Investor: Real Estate Book Bundle 3 Manuscripts Expert Strategies on Real Estate Investing, Finding and Generating Leads, Funding, Proven Methods for Investing in Real Estate Real Estate: 25 Best Strategies for Real Estate Investing, Home Buying and Flipping Houses (Real Estate, Real Estate Investing, home buying, flipping houses, ... income, investing, entrepreneurship) The Smart Real Estate Investor: Real Estate Book Bundle 2 Manuscripts Expert Strategies on Real Estate Investing, Starting with Little or No Money, Proven Methods for Investing in Real Estate Real Estate: 30 Best Strategies to Prosper in Real Estate - Real Estate Investing, Financing & Cash Flow (Real Estate Investing, Flipping Houses, Brokers, Foreclosure) Foundations of Comparative Politics: Democracies of the Modern World (Cambridge Textbooks in Comparative Politics) Introduction to the Foundations of Applied Mathematics (Texts in Applied Mathematics) Measure Theory and Fine Properties of Functions, Revised Edition (Textbooks in Mathematics) Graphs & Digraphs, Fifth Edition (Textbooks in Mathematics)