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Elementary Analysis: The Theory Of Calculus (Undergraduate Texts In Mathematics)

Undergraduate Texts in Mathematics UTM

Kenneth A. Ross

Elementary Analysis

The Theory of Calculus

Second Edition

Springer
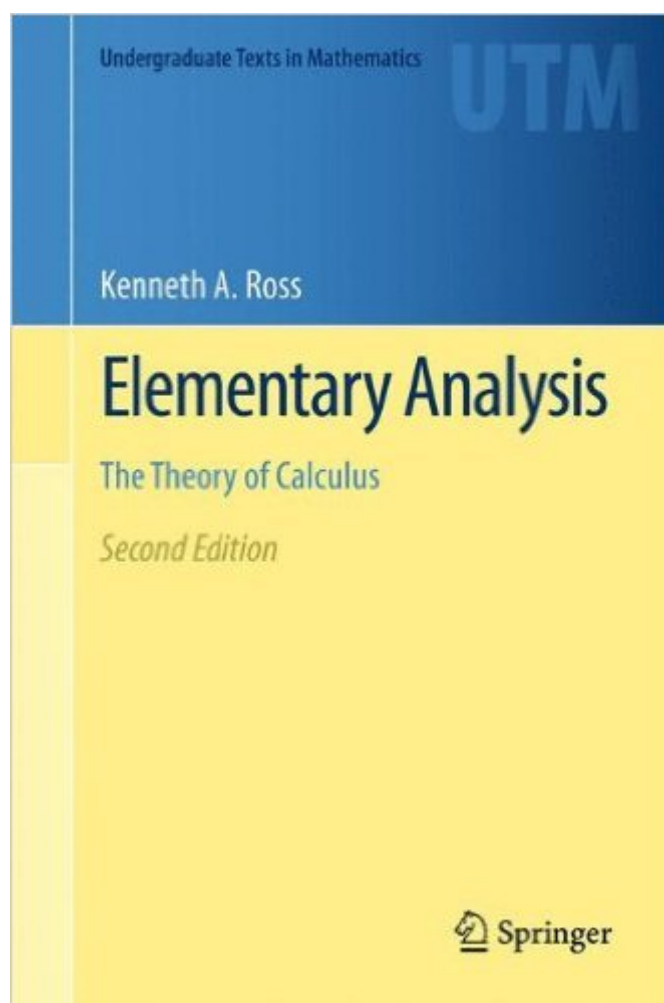
Synopsis

For over three decades, this best-selling classic has been used by thousands of students in the United States and abroad as a must-have textbook for a transitional course from calculus to analysis. It has proven to be very useful for mathematics majors who have no previous experience with rigorous proofs.Ã Â Its friendly style unlocks the mystery of writing proofs, while carefully examining the theoretical basis for calculus.Ã Â Proofs are given in full, and the large number of well-chosen examples and exercises range from routine to challenging.The second edition preserves the bookÃ¢â¬â„¢s clear and concise style, illuminating discussions, and simple, well-motivated proofs.Ã Â New topics include material on the irrationality of pi, the Baire category theorem, Newton's method and the secant method, and continuous nowhere-differentiable functions.

Book Information

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Customer Reviews

From the reviews of the first edition:"This book is intended for the student who has a good, but naÃƒÂ ve, understanding of elementary calculus and now wishes to gain a thorough understanding of a few basic concepts in analysis, such as continuity, convergence of sequences and series of numbers, and convergence of sequences and series of functions. There are many nontrivial examples and exercises, which illuminate and extend the material. The author has tried to write in an informal but precise style, stressing motivation and methods of proof, and, in this

reviewerÃ¢â¬â„¢s opinion, has succeeded admirably."Ã¢â¬â¢MATHEMATICAL REVIEWS"This book occupies a niche between a calculus course and a full-blown real analysis course. Ã¢â¬Â¦ I think the book should be viewed as a text for a bridge or transition course that happens to be about analysis Ã¢â¬Â¦. Lots of counterexamples. Most calculus books get the proof of the chain rule wrong, and Ross not only gives a correct proof but gives an example where the common mis-proof fails." Ã¢â¬â¢Allen Stenger (The Mathematical Association of America, June, 2008)

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Although this book omits certain basic steps in many proofs, it still does a fantastic job in explaining the concept. Try not to read line by line. Use it as a reference.

As the professor for the introduction to analysis (advanced calculus) course I have required this textbook multiple times. While the students do not rave about the book, they do not complain about it either. I'm quite happy when a textbook supports a course so well it doesn't become the center of conversation (good or bad). I like Ross's approach and writing style very much. He's a solid analyst and writes like one, unlike some other authors of introductory analysis texts. The only fault one might find with the book is the treatment of epsilon-delta. Ross has cleverly taken the need for epsilon-delta arguments out of the course. It is the hardest part for many students but it is also a very traditional part of the subject. I usually supplement the book on this topic just so that my

students will be well prepared to read analysis in other classes or books.

Disconnected presentation

This book is in my bathroom for re-reading purposes xD I know, I am a nerd.

A good analysis textbook, for sure.

it's okay, a little confusing to work with, has a lot more information than my class had intended for its use.

Love

Awesome book. Haven't used any other books for Real Analysis, but honestly I don't know why I would need to for a first level course.

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