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# **Elementary Numerical Analysis**





### Synopsis

Offering a clear, precise, and accessible presentation, complete with MATLAB programs, this new Third Edition of Elementary Numerical Analysis gives students the support they need to master basic numerical analysis and scientific computing. Now updated and revised, this significant revision features reorganized and rewritten content, as well as some new additional examples and problems. The text introduces core areas of numerical analysis and scientific computing along with basic themes of numerical analysis such as the approximation of problems by simpler methods, the construction of algorithms, iteration methods, error analysis, stability, asymptotic error formulas, and the effects of machine arithmetic.

#### **Book Information**

Hardcover: 576 pages Publisher: Wiley; 3 edition (October 27, 2003) Language: English ISBN-10: 0471433373 ISBN-13: 978-0471433378 Product Dimensions: 7.7 x 0.9 x 9.5 inches Shipping Weight: 2.3 pounds (View shipping rates and policies) Average Customer Review: 2.8 out of 5 stars Â See all reviews (15 customer reviews) Best Sellers Rank: #126,502 in Books (See Top 100 in Books) #74 in Books > Science & Math > Mathematics > Mathematical Analysis #350 in Books > Textbooks > Science & Mathematics > Mathematics > Statistics #519 in Books > Science & Math > Mathematics > Applied > Probability & Statistics

#### **Customer Reviews**

Just so you know the source of this review and whether or not you should bother trusting me (hmm..maybe not?):Ph.D. student in Statistics at Iowa State University.B.S. Computer ScienceB.A. MathematicsResearch areas: numerical analysis, analysis of large data sets, stochastic processesFormer research areas: truth maintenance systems, microarray analysis, parallel computingNote: Not a plug. I like my job.First off, the book's title is very appropriate. It requires extensive knowledge of calculus and linear algebra, but it uses a fairly non-rigorous "easy" approach to numerical analysis. It's not advanced enough for use in a graduate level class, even for non-majors, but it is very useful and appropriate for sophomore/junior undergraduates. Even though the approach is somewhat non-rigorous, the book doesn't avoid proofs, and though a more

advanced mathematician or computer scientist would see holes, it's a book that surely feels complete to most undergraduate math/cs majors/minors. The explanations and proofs are definitely not perfect. The proofs leave out steps that they assume readers should find obvious. Academic types like Atkinson who have spent years of research in this field often forget just how difficult these concepts are to undergraduates, so some of these "obvious" steps are not going to be obvious to all readers and should not have been omitted. Mixed in with the proofs are some straightforward explanations, but often they are not in layman's terms and I remember scratching my head at times. So I would give the explanations and proofs a C-/D+. The author does a better job at the exercises.

## Numerical Techniques for Direct and Large-Eddy Simulations (Chapman & Hall/CRC Numerical Analysis and Scientific Computing Series) Elementary Numerical Analysis Spanish Reader for Beginners-Elementary 2-Short Paragraphs in Spanish: Spanish to English Translation (Spanish Reader for Beginners-Elementary 1, 2 & 3) (Spanish Edition) Subtraction Facts Math Practice Worksheet Arithmetic Workbook With Answers: Daily Practice guide for elementary students and other kids (Elementary Subtraction Series) (Volume 1) Selected Unsolved Problems in Coding Theory (Applied and Numerical Harmonic Analysis) Stochastic Models, Information Theory, and Lie Groups, Volume 2: Analytic Methods and Modern Applications (Applied and Numerical Harmonic Analysis) Numerical Analysis A Friendly Introduction to Numerical Analysis. An Introduction to Numerical Methods and Analysis Numerical Methods: Design, Analysis, and Computer Implementation of Algorithms Numerical Analysis for Engineers: Methods and Applications, Second Edition (Textbooks in Mathematics) Introduction to Numerical Analysis (Texts in Applied Mathematics) Statistics and Data Analysis: From Elementary to Intermediate Modern Fortran Explained (Numerical Mathematics and Scientific Computation) FORTRAN 77 and Numerical Methods for Engineers and Scientists Numerical Recipes Example Book (FORTRAN) 2nd Edition Traffic Flow Theory: Characteristics, Experimental Methods, and Numerical Techniques Introduction to the Numerical Modeling of Groundwater and Geothermal Systems: Fundamentals of Mass, Energy and Solute Transport in Poroelastic Rocks (Multiphysics Modeling) Number Sense Routines: Building Numerical Literacy Every Day in Grades K-3 A Student's Guide to Numerical Methods

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