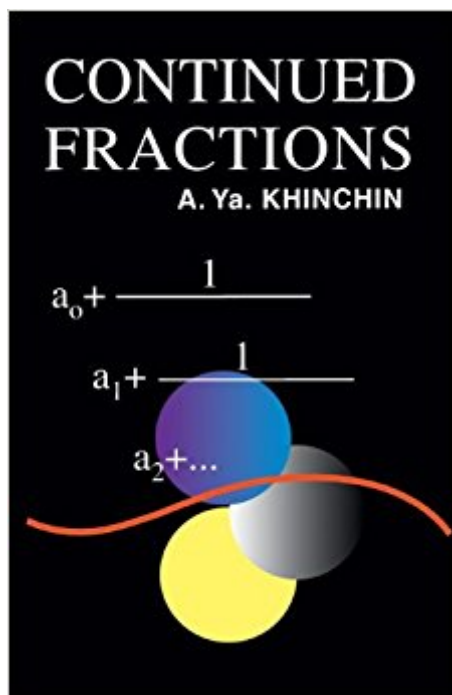


The book was found

Continued Fractions (Dover Books On Mathematics)



Synopsis

In this elementary-level text, eminent Soviet mathematician A. Ya. Khinchin offers a superb introduction to the positive-integral elements of the theory of continued functions, a special algorithm that is one of the most important tools in analysis, probability theory, mechanics, and, especially, number theory. Presented in a clear, straightforward manner, the book comprises three major chapters: the properties of the apparatus, the representation of numbers by continued fractions and the measure theory of continued fractions. The last chapter is somewhat more advanced and deals with the metric, or probability, theory of continued fractions, an important field developed almost entirely by Soviet mathematicians, including Khinchin. The present volume reprints an English translation of the third Russian edition published in 1961. It is not only an excellent introduction to the study of continued fractions, but a stimulating consideration of the profound and interesting problems of the measure theory of numbers.

Book Information

Series: Dover Books on Mathematics

Paperback: 112 pages

Publisher: Dover Publications (May 14, 1997)

Language: English

ISBN-10: 0486696308

ISBN-13: 978-0486696300

Product Dimensions: 5.4 x 0.2 x 8.5 inches

Shipping Weight: 4.8 ounces (View shipping rates and policies)

Average Customer Review: 4.5 out of 5 stars [See all reviews](#) (10 customer reviews)

Best Sellers Rank: #146,661 in Books (See Top 100 in Books) #6 in [Books > Science & Math > Mathematics > Infinity](#) #47 in [Books > Science & Math > Mathematics > Pure Mathematics > Number Theory](#) #76 in [Books > Science & Math > Mathematics > Popular & Elementary > Arithmetic](#)

Customer Reviews

Continued fractions are fractions with multiple denominators; e.g., the golden ratio = $1 + 1/(1 + 1/(1 + \dots))$, the square root of 2 = $1 + 1/(2 + 1/(2 + \dots))$. Indeed, all quadratic irrationals have repeating continued fractions, giving them a convenient and easily memorable algorithm. Continued fractions may be truncated at any point to give the best rational approximation. For example $1/\pi = 113/355$ -- something that is very easy to remember (note the doubles of the odd numbers up to five).

Therefore, an excellent approximation for π becomes $355/113$. The fraction approximates π to an error better than $3E-7$, more than accurate enough for any practical use including astronomy. Thus for both transcendental and analytical irrationals, continued fractions are enormously useful. Never heard of them? You're not alone. The first recorded instance of continued fractions was by Lord Brouncker in the 17th century which makes them a relatively new addition to mathematics. Nor are they taught in typical undergraduate scientific curricula. Notwithstanding, if they were discovered by the Pythagoreans, history may have been much different. The Pythagoreans were a mystical sect that believed that all things geometric could be described by rational numbers (i.e., wholes and fractions). Something like the square root of two was clearly geometric (the diagonal of the unit square) yet, irrational. Legend has it that Hippasus (5th century B.C.) was expelled from (or killed by) the Pythagorean school for proving the irrationality of a number such as the square root of 2 or the golden ratio. This ultimately destroyed the Pythagorean religion.

[Download to continue reading...](#)

Continued Fractions (Dover Books on Mathematics) Forerunner, The: Volume 1 (Continued) (v. 1)
 MATHadazzles Mind Stretch Puzzles Volume 4: Reasoning with Fractions Number Power 2:
 Fractions, Decimals, and Percents Jokes For Kids - Joke Books : Funny Books : Kids Books :
 Books for kids age 9 12 : Best Jokes 2016 (kids books, jokes for kids, books for kids 9-12, ... funny
 jokes, funny jokes for kids) (Volume 1) Mathematics and the Imagination (Dover Books on
 Mathematics) Curvature in Mathematics and Physics (Dover Books on Mathematics) The Historical
 Roots of Elementary Mathematics (Dover Books on Mathematics) Concepts of Modern Mathematics
 (Dover Books on Mathematics) Mathematics for the Nonmathematician (Dover Books on
 Mathematics) Foundations and Fundamental Concepts of Mathematics (Dover Books on
 Mathematics) LIST SERIES: JAMES ROLLINS: SERIES READING ORDER: SIGMA FORCE
 BOOKS, THE BANNED AND THE BANISHED BOOKS, GODSLAYER BOOKS, JAKE RANSOM
 BOOKS, TUCKER WAYNE BOOKS, STANDALONE NOVELS BY JAMES ROLLINS University of
 Toronto Mathematics Competition (2001-2015) (Problem Books in Mathematics) Vectors, Tensors
 and the Basic Equations of Fluid Mechanics (Dover Books on Mathematics) One Two Three . . .
 Infinity: Facts and Speculations of Science (Dover Books on Mathematics) Game Theory: A
 Nontechnical Introduction (Dover Books on Mathematics) Introduction to Graph Theory (Dover
 Books on Mathematics) An Introduction to Ordinary Differential Equations (Dover Books on
 Mathematics) A Second Course in Elementary Differential Equations (Dover Books on Mathematics)
 An Introduction to Differential Equations and Their Applications (Dover Books on Mathematics)

[Dmca](#)