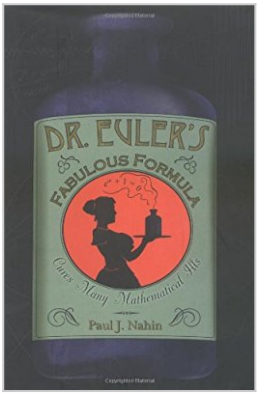

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills

By Paul J. Nahin

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin

I used to think math was no fun
'Cause I couldn't see how it was done
Now Euler's my hero
For I now see why zero
Equals $e^{[pi]\,i}+1$
--Paul Nahin, electrical engineer

In the mid-eighteenth century, Swiss-born mathematician Leonhard Euler developed a formula so innovative and complex that it continues to inspire research, discussion, and even the occasional limerick. *Dr. Euler's Fabulous Formula* shares the fascinating story of this groundbreaking formula--long regarded as the gold standard for mathematical beauty--and shows why it still lies at the heart of complex number theory.

This book is the sequel to Paul Nahin's *An Imaginary Tale: The Story of I [the square root of -1]*, which chronicled the events leading up to the discovery of one of mathematics' most elusive numbers, the square root of minus one. Unlike the earlier book, which devoted a significant amount of space to the historical development of complex numbers, Dr. Euler begins with discussions of many sophisticated applications of complex numbers in pure and applied mathematics, and to electronic technology. The topics covered span a huge range, from a never-before-told tale of an encounter between the famous mathematician G. H. Hardy and the physicist Arthur Schuster, to a discussion of the theoretical basis for single-sideband AM radio, to the design of chase-and-escape problems.

The book is accessible to any reader with the equivalent of the first two years of college mathematics (calculus and differential equations), and it promises to inspire new applications for years to come. Or as Nahin writes in the book's preface: To mathematicians ten thousand years hence, "Euler's formula will still be beautiful and stunning and untarnished by time."

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills

By Paul J. Nahin

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin

I used to think math was no fun
'Cause I couldn't see how it was done
Now Euler's my hero
For I now see why zero
Equals $e^{[pi]\ i}+1$
--Paul Nahin, electrical engineer

In the mid-eighteenth century, Swiss-born mathematician Leonhard Euler developed a formula so innovative and complex that it continues to inspire research, discussion, and even the occasional limerick. *Dr. Euler's Fabulous Formula* shares the fascinating story of this groundbreaking formula--long regarded as the gold standard for mathematical beauty--and shows why it still lies at the heart of complex number theory.

This book is the sequel to Paul Nahin's *An Imaginary Tale: The Story of I [the square root of -1]*, which chronicled the events leading up to the discovery of one of mathematics' most elusive numbers, the square root of minus one. Unlike the earlier book, which devoted a significant amount of space to the historical development of complex numbers, Dr. Euler begins with discussions of many sophisticated applications of complex numbers in pure and applied mathematics, and to electronic technology. The topics covered span a huge range, from a never-before-told tale of an encounter between the famous mathematician G. H. Hardy and the physicist Arthur Schuster, to a discussion of the theoretical basis for single-sideband AM radio, to the design of chase-and-escape problems.

The book is accessible to any reader with the equivalent of the first two years of college mathematics (calculus and differential equations), and it promises to inspire new applications for years to come. Or as Nahin writes in the book's preface: To mathematicians ten thousand years hence, "Euler's formula will still be beautiful and stunning and untarnished by time."

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin Bibliography

- Sales Rank: #791424 in Books

- Brand: Brand: Princeton University Press
- Published on: 2006-04-30
- Original language: English
- Number of items: 1
- Dimensions: 1.33" h x 6.58" w x 9.22" l, 1.06 pounds
- Binding: Hardcover
- 416 pages

Editorial Review

Review
"Nahin includes gems from all over mathematics, ranging from engineering applications to beautiful pure-mathematical identities. Most of his topics lie just beyond the periphery of a typical mathematics course: they are facts, such as the irrationality of pi, that you may have heard of but never had explained in detail. It would be good to have more books like this."**--Timothy Gowers,*Nature***

"Nahin's tale of the formula $e^{[pi]}$ i+1=0, which links five of the most important numbers in mathematics, is remarkable. With a plethora of historical and anecdotal material and a knack for linking events and facts, he gives the reader a strong sense of what drove mathematicians like Euler."**--Matthew Killeya, *New Scientist***

"What a treasure of a book this is! This is the fourth enthusiastic, informative, and delightful book Paul Nahin has written about the beauties of various areas of mathematics. . . . This book is a marvelous tribute to Euler's genius and those who built upon it and would make a great present for students of mathematics, physics, and engineering and their professors. Paul Nahin's name has been added to my list of those with whom I wouldn't mind being stranded on a desert island--not only would he be informative and entertaining, but he would probably be able to rig a signaling device from sea water and materials strewn along the beach."**--Henry Ricardo, *MAA Reviews***

"The heart and soul of the book are the final three chapters on Fourier series, Fourier integrals, and related engineering. One can recommend them to all applied math students for their historical development and sensible content."**--Robert E. O'Malley, Jr., *SIAM Review***

"It is very difficult to sum up the greatness of Euler. . . . This excellent book goes a long way to explaining the kind of mathematician he really was."**--*Mathematics Today***

"The author conducts a fascinating tour through pure and applied mathematics, physics, and engineering, from the ethereal heights of number theory to the earthiness of constructing speech scramblers. . . . [T]his is a marvelous book that will illuminate the mathematical landscape of complex numbers and their many applications."**--Henry Ricardo, *Mathematics Teacher***

"This is a book for mathematicians who enjoy historically motivated mathematical explanations on a high mathematical level."**--Eberhard Knobloch, *Mathematical Reviews***

"It is a 'popular' book, written for a general reader with some mathematical background equivalent to a first-year undergraduate course in the UK."**--Robin Wilson, *London Mathematical Society Newsletter***

From the Back Cover

"If you ever wondered about the beauties and powers of mathematics, this book is a treasure trove. Paul Nahin uses Euler's formula as the magic key to unlock a wealth of surprising consequences, ranging from number theory to electronics, presented clearly, carefully, and with verve."**--Peter Pesic, St. John's College**

"The range and variety of topics covered here is impressive. I found many little gems that I have never seen before in books of this type. Moreover, the writing is lively and enthusiastic and the book is highly readable."**--Des Higham, University of Strathclyde, Glasgow**

About the Author
Paul J. Nahin is Professor Emeritus of Electrical Engineering at the University of New Hampshire. He is the author of Duelling Idiots and Other Probability Puzzlers, When Least Is Best: How Mathematicians Discovered Many Clever Ways to Make Things as Small (or as Large) as Possible, and An Imaginary Tale: The Story of!-1 (all Princeton). Nahin is Professor Emeritus of Electrical Engineering at the University of New Hampshire. He and his wife Pat live with three enormous tabby cats in a country cape in Lee, New Hampshire.

Users Review

From reader reviews:

Tasha Page:

Information is provisions for people to get better life, information presently can get by anyone at everywhere. The information can be a information or any news even a concern. What people must be consider while those information which is from the former life are challenging to be find than now is taking seriously which one is acceptable to believe or which one the resource are convinced. If you have the unstable resource then you have it as your main information you will see huge disadvantage for you. All those possibilities will not happen within you if you take Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills as the daily resource information.

Kristy Douglas:

Spent a free time for you to be fun activity to accomplish! A lot of people spent their spare time with their family, or their own friends. Usually they carrying out activity like watching television, gonna beach, or picnic from the park. They actually doing same every week. Do you feel it? Do you need to something different to fill your own free time/ holiday? Can be reading a book is usually option to fill your cost-free time/ holiday. The first thing that you'll ask may be what kinds of guide that you should read. If you want to try look for book, may be the guide untitled Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills can be great book to read. May be it could be best activity to you.

Laura Dumas:

The actual book Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills has a lot of knowledge on it. So when you check out this book you can get a lot of help. The book was published by the very famous author. This articles author makes some research previous to write this book. This specific book very easy to read you will get the point easily after reading this book.

William McCown:

Your reading sixth sense will not betray you actually, why because this Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills guide written by well-known writer we are excited for well how to make book that can be understand by anyone who all read the book. Written inside good manner for you, still dripping wet every ideas and publishing skill only for eliminate your own hunger then you still uncertainty Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills as good book not only by the cover but also with the content. This is one publication that can break don't evaluate book by its protect, so do you still needing an additional sixth sense to pick this particular!? Oh come on your examining sixth sense already told you so why you have to listening to an additional sixth sense.

Read Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin for online ebook

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin Free PDF d0wnl0ad, audio books, books to read, good books to read, cheap books, good books, online books, books online, book reviews epub, read books online, books to read online, online library, greatbooks to read, PDF best books to read, top books to read Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin books to read online.

Online Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin ebook PDF download

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin Doc

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin Mobipocket

Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin EPub

WPK1ZCA4QY3: Dr. Euler's Fabulous Formula: Cures Many Mathematical Ills By Paul J. Nahin