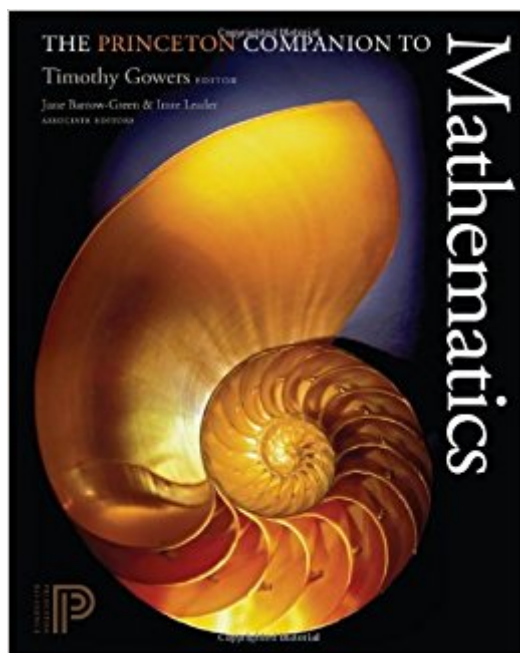The book was found

The Princeton Companion To Mathematics

Synopsis

This is a one-of-a-kind reference for anyone with a serious interest in mathematics. Edited by Timothy Gowers, a recipient of the Fields Medal, it presents nearly two hundred entries, written especially for this book by some of the world's leading mathematicians, that introduce basic mathematical tools and vocabulary; trace the development of modern mathematics; explain essential terms and concepts; examine core ideas in major areas of mathematics; describe the achievements of scores of famous mathematicians; explore the impact of mathematics on other disciplines such as biology, finance, and music--and much, much more.Unparalleled in its depth of coverage, The Princeton Companion to Mathematics surveys the most active and exciting branches of pure mathematics. Accessible in style, this is an indispensable resource for undergraduate and graduate students in mathematics as well as for researchers and scholars seeking to understand areas outside their specialties.Features nearly 200 entries, organized thematically and written by an international team of distinguished contributorsPresents major ideas and branches of pure mathematics in a clear, accessible styleDefines and explains important mathematical concepts, methods, theorems, and open problemsIntroduces the language of mathematics and the goals of mathematical researchCovers number theory, algebra, analysis, geometry, logic, probability, and moreTraces the history and development of modern mathematicsProfiles more than ninety-five mathematicians who influenced those working todayExplores the influence of mathematics on other disciplinesIncludes bibliographies, cross-references, and a comprehensive indexContributors incude:Graham Allan, Noga Alon, George Andrews, Tom Archibald, Sir Michael Atiyah, David Aubin, Joan Bagaria, Keith Ball, June Barrow-Green, Alan Beardon, David D. Ben-Zvi, Vitaly Bergelson, Nicholas Bingham, BÃƒÂ©la BollobÃƒÂ¡s, Henk Bos, Bodil Branner, Martin R. Bridson, John P. Burgess, Kevin Buzzard, Peter J. Cameron, Jean-Luc Chabert, Eugenia Cheng, Clifford C. Cocks, Alain Connes, Leo Corry, Wolfgang Coy, Tony Crilly, Serafina Cuomo, Mihalis Dafermos, Partha Dasgupta, Ingrid Daubechies, Joseph W. Dauben, John W. Dawson Jr., Francois de Gandt, Persi Diaconis, Jordan S. Ellenberg, Lawrence C. Evans, Florence Fasanelli, Anita Burdman Feferman, Solomon Feferman, Charles Fefferman, Della Fenster, JosÃƒÂ© FerreirÃƒÂ s, David Fisher, Terry Gannon, A. Gardiner, Charles C. Gillispie, Oded Goldreich, Catherine Goldstein, Fernando Q. GouvÃƒÂªa, Timothy Gowers, Andrew Granville, Ivor Grattan-Guinness, Jeremy Gray, Ben Green, Ian Grojnowski, NiccolÃƒÂ² Guicciardini, Michael Harris, Ulf Hashagen, Nigel Higson, Andrew Hodges, F. E. A. Johnson, Mark Joshi, Kiran S. Kedlaya, Frank Kelly, Sergiu Klainerman, Jon Kleinberg, Israel Kleiner, Jacek Klinowski, Eberhard Knobloch, JÃƒÂ¡nos KollÃƒÂ¡r, T. W. KÃƒÂ¶rner, Michael Krivelevich, Peter D. Lax, Imre Leader, Jean-FranÃƒÂ§ois Le Gall, W. B. R.

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short-lived, this wide-ranging account should reward undergraduate and graduate students and anyone curious about math as well as help research mathematicians understand the work of their colleagues in other specialties. The editors note some advantages a carefully organized printed reference may enjoy over a collection of Web pages, and this impressive volume supports their claim."--Science"This impressive book represents an extremely ambitious and, I might add, highly successful attempt by Timothy Gowers and his coeditors, June Barrow-Green and Imre Leader, to give a current account of the subject of mathematics. It has something for nearly everyone, from beginning students of mathematics who would like to get some sense of what the subject is all about, all the way to professional mathematicians who would like to get a better idea of what their colleagues are doing. . . . If I had to choose just one book in the world to give an interested reader some idea of the scope, goals and achievements of modern mathematics, without a doubt this would be the one. So try it. I guarantee you'll like it!"--American Scientist"Accessible, technically precise and thorough account of all math's major aspects. Students of math will find this book a helpful reference for understanding their classes; students of everything else will find helpful guides to understanding how math describes it all."--Tom Siegfried, Science News"Once in a while a book comes along that should be on every mathematician's bookshelf. This is such a book. Described as a 'companion', this 1000-page tome is an authoritative and informative reference work that is also highly pleasurable to dip into. Much of it can be read with benefit by undergraduate mathematicians, while there is a great deal to engage professional mathematicians of all persuasions."--Robin Wilson, London Mathematical Society"Imagine taking an overview of elementary and advanced mathematics, a history of mathematics and mathematicians, and a mathematical encyclopedia and combining them all into one comprehensive reference book. That is what Timothy Gowers, the 1998 Fields Medal laureate, has successfully accomplished in compiling and editing The Princeton Companion to Mathematics. At more than 1,000 pages and with nearly 200 entries written by some of the leading mathematicians of our time and specialists in their fields, this book is a one-of-a-kind reference for all things mathematics."--Mathematics Teacher"Overall [The Princeton Companion to Mathematics] is an enormous achievement for which the authors deserve to be thanked. It contains a wealth of material, much of a kind one would not find elsewhere, and can be enjoyed by readers with man different backgrounds."--Simon Donaldson, Notices of the American Mathematical Society"This is an enormously ambitious book, full of beautiful things; I would wish to keep it on my bedside table, but that could only be possible relays, since of course it is far too large. . . . To sum up, [The Princeton Companion to Mathematics] is really excellent. I know of no book that will give a young student a better idea of what mathematics is about. I am certain that this is the only single

book that is likely to tell me what my colleagues are doing."--Bryan Birch, Notices of the American Mathematical Society"The book is so rich and yet it is well done. A rare achievement indeed!"--Gil Kalai, Notices of the American Mathematical Society"My advice to you, reader is to buy the book, open it to a random page, read, enjoy, and be enlightened."--Richard Kenyon, Notices of the American Mathematical Society"Massive . . . endlessly fascinating."--Gregory McNamee, Bloomsbury Review"This volume is an enormous, far-reaching effort to survey the current landscape of (pure) mathematics. Chief editor Gowers and associate editors Barrow-Green and Leader have enlisted scores of leading mathematicians worldwide to produce a gorgeous volume of longer essays and short, specific articles that convey some of the dense fabric of ideas and techniques of modern mathematics. . . . This volume should be on the shelf of every university and public library, and of every mathematician--professional and amateur alike."--S.J. Colley, Choice"The Princeton Companion to Mathematics is a friendly, informative reference book that attempts to explain what mathematics is about and what mathematicians do. Over 200 entries by a panel of experts span such topics as: the origins of modern mathematics; mathematical concepts; branches of mathematics; mathematicians that contributed to the present state of the discipline; theorems and problems; the influences of mathematics and some perspectives. Its presentations are selective, satisfying, and complete within themselves but not overbearingly comprehensive. Any reader from a curious high school student to an experienced mathematician seeking information on a particular mathematical subject outside his or her field will find this book useful. The writing is clear and the examples and illustrations beneficial."--Frank Swetz, Convergence"Every research mathematician, every university student of mathematics, and every serious amateur of mathematical science should own a least one copy of The Companion. Indeed, the sheer weight of the volume suggests that it is advisable to own two: one for work and one at home. . . . Even an academic sourpuss should be pleased with the attention to detail of The Companion's publishers, editors, and authors and with many judicious decisions about the level of exposition, level of detail, what to include and what to omit, and much more--which have led to a well-integrated and highly readable volume."--Jonathan M. Borwein, SIAM Review"Edited by Gowers, a recipient of the Fields Medal, this volume contains almost 200 entries, commissioned especially for this book from the world's leading mathematicians. It introduces basic mathematical tools and vocabulary, traces the development of modern mathematics, defines essential terms and concepts, and puts them in context. . . . Packed with information presented in an accessible style, this is an indispensable resource for undergraduate and graduate students in mathematics as well as for researchers and scholars seeking to understand areas outside their specialties."--Library Journal"The book I'm

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"This is a wonderful book. The content is overwhelming. Every practicing mathematician, everyone who uses mathematics, and everyone who is interested in mathematics must have a copy of their own."--Simon A. Levin, Princeton University"The Princeton Companion to Mathematics fills a vital need. It is the only book of its kind."--Victor J. Katz, professor emeritus, University of the District of Columbia"I think that this is a wonderful book, completely different from anything that has been written before about mathematics and mathematicians."--Endre SÃƒÂ li, University of Oxford"The Princeton Companion to Mathematics is a much needed--and will become a much used--reference work. In fact, it will stand alone as the reference work in mathematics."--John J. Watkins, Colorado College

Got my copy a week ago. What an exceptional book! Any of the random samples I read so far provides a informative, yet pleasant read. Gowers (Rouse Ball Professor of Mathematics in Cambridge) did a fantastic job in editing the many articles into a coherent and surprisingly accessible overview of modern mathematics. From inception to publication of this book took Gowers and his associate editors some 6 years. The amount of editorial attention given to this publication clearly shows and translated into a book that is - unlike any other math book I know of - easy to read and of high quality.This book provides lots of material that is of interest to non-mathematicians. As is mentioned in one of the other reviews here, this heavy volume does not contain a separate chapter on mathematical physics, yet as a physicist I found lots of material directly relevant to physics. There is a very interesting chapter on the general theory of relativity, and lots of material on quantum mechanics. Also fundamental concepts highly relevant in physics such as spherical harmonics, dynamical systems, deterministic chaotic behavior, phase transitions, Lie groups, etc. are covered in inviting shorter sections. Each of the subjects is introduced in such a way that the reader first gains an intuitive understanding of the concept, that subsequently gets deepened via a more rigorous approach.If only there was a similar 'companion' to modern physics! (The book of Oxford's Emeritus Rouse Ball professor Roger Penrose,Ã Â The Road to Reality: A Complete Guide to the Laws of the UniverseÃ Â comes close, but falls short of being truly PCM's equivalent in physics.)If you're interested in math, don't hesitate and buy this book. (And be quick: I bought it here at for just over US$71. In the meantime, the price has increased already by more than US$5... ;-)

As a Computer Scientist, I've found this book exceptionally useful over the years. I use it as a quick reference for mathematics, particularly in cases where I lack the need (or, more often, the desire) to pull a topic-specific book off of my shelf. The presentation is both practical and enjoyable; useful for both the appreciation and the application of mathematics.

This wonderful volume is one of four works I always keep in digital or desk drawer reach while reading/studying/ referencing any other math book or journal article, the complete list being:--Ã Â Encyclopedia Of Mathematics (Science Encyclopedia)--Ã Â The Princeton Companion to Mathematics--Ã Â Handbook of Mathematical Functions: with Formulas, Graphs, and Mathematical Tables (Dover Books on Mathematics)--Ã Â NIST Handbook of Mathematical FunctionsÃ Â (Being of course the 2010 update of the Abramowitz classic above).Given these four,

there is hardly a topic from among the current 495 math fields of study that isn't at least explained in enough detail to save LOTS of time on link expeditions. At minimum, these give head starts on alphabetized keywords that will quickly fill holes in any research project, class, or syllabus.

If you have a working math background and want to look at areas you never studied this is a great introduction. The preface says it was designed to introduce various areas of math to people with a math background in other areas. It works very well in that role. Although it displays only on my PC not on my paper-white the display is convenient and works very well. I am not a great typo hunter but have not found any.

This is an outstanding depiction of the mathematical landscape compiled by a team of subject matter experts. The beautifully written articles are easy to read and yet substantive. If you spend your days wading through the silos of specified texts, fragmented course handouts and assignments and wish that someone would make your life easier by describing the broader picture, this is a truly great book to buy.

I own both the hardbound and the Kindle versions of this book. I really like the breadth and consistency of coverage of mathematics and mathematicians. Sure there's a lot of wiki content on the net for each topic but the consistency and quality of content isn't generally found in a single resource such as The Princeton Companion.The real issue is the poor Kindle version. many graphic elements that don't resize with changes in font size in the reader, insertion of a graphic for such things as |R for the Reals instead of typesetting it, white backgrounds on images that don't work with the sepia and black backgrounds and so on.It is really terrifically annoying that time and again books with heavy mathematical content beautifully typeset in physical or print replica editions are foisted off on readers in inadequately executed eReader formats such as mobi and ePub.If you check my reviews you'll find many Kindle formatted math books reviewed of which only the print replica versions are acceptable.

I haven't seen the printed version of this book, but it must be huge. This books covers a lot of topics in depth and you can regard it as a complement to the online Wikipedia pages or the Mathworld pages on the same subjects. I'm very happy with it, but I can't say that I've read the whole thing. It's a reference: very few people will ever read the whole thing.I'm an ex-math major picking his way through Galois Theory thirty years after graduation (and I wander into a lot of other topics, too).

That's what I use this for. It would be interesting to hear what some research mathematicians think of it.

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