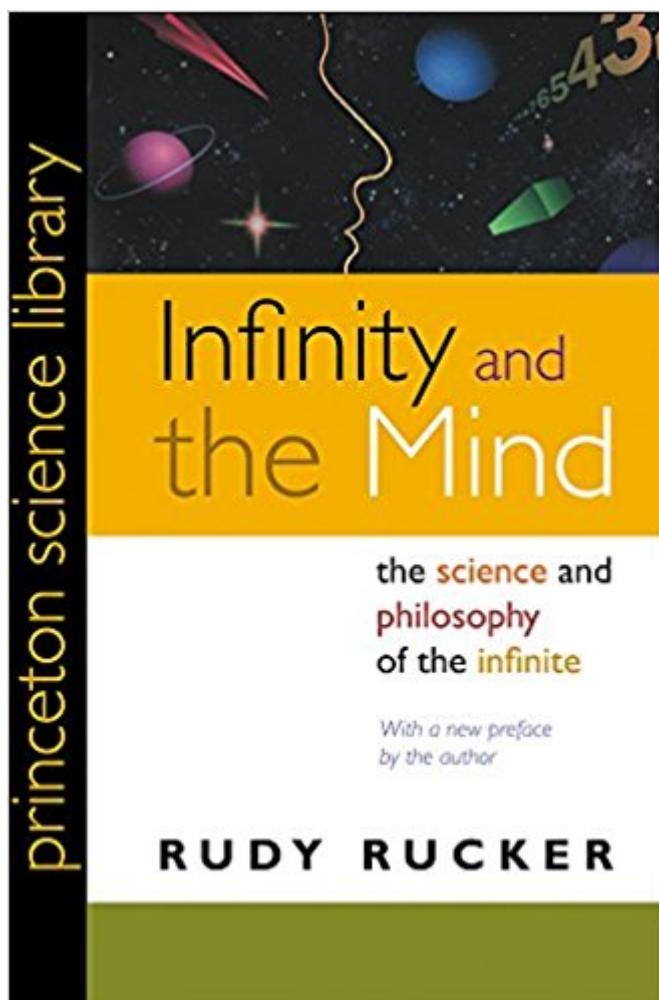The book was found

Infinity And The Mind: The Science And Philosophy Of The Infinite (Princeton Science Library)

Synopsis

In Infinity and the Mind, Rudy Rucker leads an excursion to that stretch of the universe he calls the "Mindscape," where he explores infinity in all its forms: potential and actual, mathematical and physical, theological and mundane. Rucker acquaints us with GÃƒÂ¶del's rotating universe, in which it is theoretically possible to travel into the past, and explains an interpretation of quantum mechanics in which billions of parallel worlds are produced every microsecond. It is in the realm of infinity, he maintains, that mathematics, science, and logic merge with the fantastic. By closely examining the paradoxes that arise from this merging, we can learn a great deal about the human mind, its powers, and its limitations. Using cartoons, puzzles, and quotations to enliven his text, Rucker guides us through such topics as the paradoxes of set theory, the possibilities of physical infinities, and the results of GÃƒÂ¶del's incompleteness theorems. His personal encounters with GÃƒÂ¶del the mathematician and philosopher provide a rare glimpse at genius and reveal what very few mathematicians have dared to admit: the transcendent implications of Platonic realism.

Book Information

Series: Princeton Science Library

Paperback: 368 pages

Publisher: Princeton University Press (November 21, 2004)

Language: English

ISBN-10: 0691121273

ISBN-13: 978-0691121277

Product Dimensions: 1 x 6 x 9.2 inches

Shipping Weight: 1.1 pounds (View shipping rates and policies)

Average Customer Review: 3.9 out of 5 stars   28 customer reviews

Best Sellers Rank: #597,992 in Books (See Top 100 in Books)   #37 inÃ Â Books > Science & Math > Mathematics > Infinity   #287 inÃ Â Books > Science & Math > Mathematics > Pure Mathematics > Logic   #509 inÃ Â Books > Science & Math > Mathematics > History

Customer Reviews

"Rudy Rucker's Infinity and the Mind is a terrific study with real mathematical depth."--New Yorker"Rudy Rucker, set theorist and science-fiction author, has continued the tradition ... of making mathematics and computer science accessible to the intellectually minded layperson.... Infinity and the Mind is funny, provocative, entertaining, and profound."--Joseph Shipman, Journal of Symbolic Logic"Attempts to put GÃƒÂ¶del's theorems into sharper focus, or at least to explain them to the

nonspecialist, abound. My personal favorite is Rudy Rucker's Infinity and the Mind, which I recommend without reservation."--Craig Smorynski, The American Mathematical Monthly"[Rucker] leads his readers through these mental gymnastics in an easy, informal way."--San Francisco Chronicle"A captivating excursion through the mathematical approaches to the notions of infinity and the implications of that mathematics for the vexing questions on the mind, existence, and consciousness."--Mathematics Teacher"It is difficult to find any aspect of infinity that is not explored in this compelling book. . . . This memorable book is one to be kept on an accessible shelf after reading it: it will not leave the reader unaffected."--Journal for Research in Mathematics Education

"Infinity and the Mind can be read and enjoyed by experts and nonexperts alike. Rudy Rucker is a talented logician who draws on his talents as a science-fiction writer and cartoonist to convey his ideas. This makes for not only a solid, accurate, and informative book but also a good read."--Thomas Tymoczko, Smith College"Informal, amusing, witty, profound. . . . In an extraordinary burst of creative energy, Rudy Rucker has managed to bring together every aspect of mathematical infinity. . . . A dizzying glimpse into that boundless region of blinding light where the mysteries of transcendence shatter the clarity of logic, set theory, proof theory, and contemporary physics."--Martin Gardner

A gift -- the recipient was delighted.

Firstly, please ignore the silly one and two star reviews. They seems to be written bycranks. For reasons unknown to me Set Theory seems to attract cranks who get very upsetby the work of Georg Cantor and the "diagonal method" in particular.This book should be on all bookshelves of popular accounts of mathematics.Infinity and the Mind is a superb popular account of Set Theory as an approach toexploring the concept of infinity. I know of no other book like it. It is quite accessibleto anyone who has studied high school mathematics. The book tackles deep issues ofmathematics, logic and philosophy. Rudy Rucker explores topics such as Godel's Theorems,paradoxes of Set Theory, orders of infinity (large cardinals), artificial intelligence,the logical foundations of mathematics and much more. The maths is pretty rigorous toofor a popular work.The author is well qualified to write on the subject. As well as doing research inSet Theory he has, incredibly, interviewed Kurt Goedel himself shortly before he died.An account of his discussions with Goedel is included in the book.

As a university professor I read zillions of, frankly often quite dreadful, mathematics and physics and astronomy books. I read this one when it first came out in 1982. It really bowled [or Booled?] me over even then, and every time I've picked it up since I find something new and clever I hadn't given full thought to before. It is a MUCH better introduction to transfinite numbers than the also still quite good book by the late David Wallace Foster [if I've ordered names those correctly]. When I say it's one of the five best science books ever written, I am not exaggerating, provided, of course, that you have a basic grasp of Calculus and a touch of "naive set theory" and basic analysis under your belt, which if you got through high school or college you probably do. Rucker's non-fiction books are always excellent. His fiction doesn't interest me as much, but some of the stories have interesting conceptual leaps etc. Now what are the four OTHER TOP FIVE SCIENCE BOOKS? Well, George Gamow's "Mr. Tompkins" books are pretty darn good but a bit dated in presentations. Stan Ulam's auto?-biography is good as well, As are the two books on the making of the A and H bombs. It was Ulam BTW who really figured most of it out. But those are not top fiver. "A Primer of Real Functions" by Ralph Boaz is great, as is the old ? Thomas Very Complete "Calculus" book. [In fact it was so complete you couldn't really get through the work even teach a three quarter series of courses with it. [Ah, such a noble task!] I remember they used it at Macalester College when I was there in the early 70s. They were very proud of using such an advanced text too, as they should have been. Try using the same books these days, and the students would probably immediately haul you off to the Provost and try to get you fired for giving them "thinking headaches." ... but I'm not getting starting to get bitter after 30+ years of teaching ... am I? Oops, one last thing, as great as Rucker's book is, even he doesn't provide several intuitively helpful conceptual images of the deeply mysterious "measurable cardinal" first discovered by Ulam BTW. It still all "infinite intersections and unions of sets, ultra-filters etc., if he even goes that far down the road. Though he does say something mind-expanding like "they are so much larger than all the cardinals that come before them that they sort of stand to Aleph infinity as Aleph Nought does to a large finite," or something like that. And, even in the 28 years since my first read, I still haven't found anyone, online or off, who can conjure up an intuitive picture of measurable cardinal for me ... oh why, oh why, do I bother to go on? "Man by nature seeks to know" is all Aristotle would say.

I found most of the reviews on this book to be spot on. If you have an interest in infinity and a fairly good understanding of basic college level mathematics, you can get a lot out of it. I don't believe it is as accessible as most popular science books but the subject is a deep one and its hard to consider it properly without going deep into some tedious thought processes. I think I would have enjoyed

this book more if the author spent more time talking about the philosophical implications of the mathematics and how the mind reacts to the idea on infinity.

Where to begin? This is "GÃƒÂ¶del, Escher, Bach" for actual math people. You might call it instructions for a precise mysticism, though that barely touches what it really gets into.

Infinity and the Mind: The Science and Philosophy of the Infinite (Princeton Science Library) Manifesto for Philosophy: Followed by Two Essays: "the (Re)Turn of Philosophy Itself" and "Definition of Philosophy" (Suny Series, Intersections, Philosophy and Critical Theory) Infinity Lost (The Infinity Trilogy Book 1) Infinity Rises (The Infinity Trilogy Book 2) Infinity Reborn (The Infinity Trilogy Book 3) Understanding Infinity: The Mathematics of Infinite Processes (Dover Books on Mathematics) Master Your Mind: Achieve Greatness by Powering Your Subconscious Mind [mental power, mind control, thought control] (brain power, subconcious mind power, NLP, Neuro Linguistic Programming) Princeton Readings in Islamist Thought: Texts and Contexts from al-Banna to Bin Laden (Princeton Studies in Muslim Politics) The Princeton Field Guide to Prehistoric Mammals (Princeton Field Guides) The Princeton Field Guide to Dinosaurs: Second Edition (Princeton Field Guides) The Princeton Field Guide to Dinosaurs (Princeton Field Guides) Georg Cantor: His Mathematics and Philosophy of the Infinite Satan, Cantor and Infinity: Mind-Boggling Puzzles (Dover Recreational Math) Infinity and the Mind The New Science of Strong Materials or Why You Don't Fall through the Floor (Princeton Science Library) Healing Beyond the Body: Medicine and the Infinite Reach of the Mind The Scientist's Atom and the Philosopher's Stone: How Science Succeeded and Philosophy Failed to Gain Knowledge of Atoms (Boston Studies in the Philosophy and History of Science) Islam, Fundamentalism, and the Betrayal of Tradition, Revised and Expanded: Essays by Western Muslim Scholars (Library of Perennial Philosophy the Perennial Philosophy) Borders of Infinity (Three Miles Vorkosigan Adventures)(Library Edition) Uses of Infinity (New mathematical library)