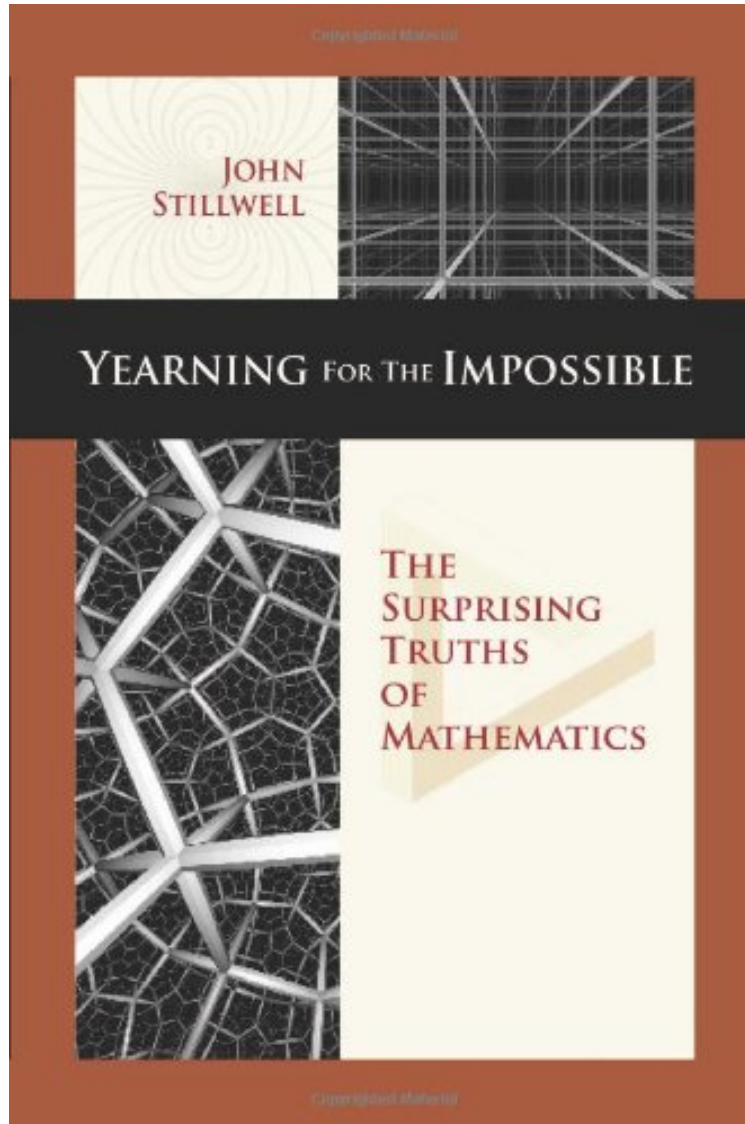


(Download) Yearning for the Impossible: The Surprising Truths of Mathematics

Yearning for the Impossible: The Surprising Truths of Mathematics

John C. Stillwell

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John C. Stillwell : Yearning for the Impossible: The Surprising Truths of Mathematics before purchasing it in order to gage whether or not it would be worth my time, and all praised Yearning for the Impossible: The Surprising Truths of Mathematics:

22 of 22 people found the following review helpful. Beyond Common SenseBy Lew. RobinsonI liked this book. I particularly liked Chapter 1, The Irrational, Chapter 5, Curved Space, and Chapter 6, The Fourth Dimension.Chapter 7, The Ideal, is also excellent and alone worth the purchase price, albeit the reader needs to follow closely the notational details and diagrams. In fact Chapter 7 is the reason I bought the book in the first place. I had always

struggled with this important concept and was pleasantly surprised upon finding a book--Stillwell's--that devoted a whole chapter to the subject at an introductory as well as historical level. The author follows the development of the notion of the ideal concept from Gauss, to Kummer, to Dedekind's final generalization, where the payoff comes in Section 7.8. "Ideals, or Unique Prime Factorization Regained". 0 of 1 people found the following review helpful. INFINITY By Kevin A. Brown Great work Stillwell 11 of 25 people found the following review helpful. Good but not super By Hugo Coolens If you look at the other reviews you'll see they are all full of praise. I really expected very much from this book, but the more I read in it the more I got disappointed. The material presented is indeed interesting, but the author's way of explaining things is quite often less than ideal. If this book had been written by someone like Paul Nahin, William Dunham or Adrian Paenza it would have been much better. Knowing much is one thing, explaining it the best way is another and unfortunately Stillwell isn't particularly good at the last thing.

This book explores the history of mathematics from the perspective of the creative tension between common sense and the "impossible" as the author follows the discovery or invention of new concepts that have marked mathematical progress: - Irrational and Imaginary Numbers - The Fourth Dimension - Curved Space - Infinity and others The author puts these creations into a broader context involving related "impossibilities" from art, literature, philosophy, and physics. By imbedding mathematics into a broader cultural context and through his clever and enthusiastic explication of mathematical ideas the author broadens the horizon of students beyond the narrow confines of rote memorization and engages those who are curious about the place of mathematics in our intellectual landscape.

Like the White Queen in Lewis Carroll's *Through the Looking-Glass*, mathematicians are called upon to believe in things that, at first glance, defy common sense and appear impossible. . . . As Stillwell puts it, 'Mathematics is a story of close encounters with the impossible because all its great discoveries are close to the impossible.' Ivars Peterson, *Science News*, July 2006 Stillwell weaves historical details into his writing seamlessly, helping to give the reader the true feeling that mathematics is more than just a bunch of people playing games with symbols, but rather a rich and rewarding intellectual endeavor important to the human enterprise. Marcus E. Barnes, *MAA s*, August 2006 *Yearning for the Impossible* is as much of a celebration of the greater understanding mathematics has brought to the world as it is a history and discussion of innovative concepts. and is highly recommended for library and personal reading shelves. Wisconsin Bookwatch, August 2006 Rises nobly to the challenge of describing these topics to a genuine novice... There is much to admire in Stillwell's attempt... he's accomplishing something very important and difficult here in demonstrating that there's some real struggle present in the process of mathematical discovery. Daniel Biss, *Notices*, June 2007 *Yearning for the Impossible* offers a fascinating, historical look at some popular mathematical concepts used in music, art and philosophy. . . This book is an interesting find and provides a readable approach to some higher-level mathematics. The chapters can be read independently, and the reader can dig deeper into textbooks and history books for additional problems and details. I give a high recommendation for this book! Lynn Godshall, *Convergence Magazine (MAA)*, June 2007 A wonderful journey through mathematical discoveries... this book is an excellent vehicle for giving mathematics students new research ideas and, most important, for planting the seed in their minds to 'yearn for the impossible' as they investigate new truths. *Mathematics Teacher*, August 2007 Stillwell has achieved what many might well have come to believe to be nearly impossible in mathematical exposition for the masses... [he] succeeds, in every topic treated, in bringing a fresh eye to questions even mathematicians might think have been mined in the past to boring exhaustion [and] shows there is still a lot of gold to be found, if one only thinks about things in a new way. Stillwell brings new, unorthodox insights to his writing that will stimulate readers (from high schoolers to emeritus professors) to think about old topics in new, nonstale ways... *Yearning for the Impossible* will be a treat for teachers, too, who are looking for new ways to bring stimulating, fresh examples into their courses. *SIAM*, May 2007 Stillwell does an excellent job laying the historical foundations for these discoveries; he is to be commended for his historical accuracy. *Recreational Math*, March 2007 Mathematics may be described as a story of close encounters with the impossible because all great discoveries are close to the impossible. The aim of this book is to tell this story, briefly and with few prerequisites, by presenting some representative encounters across the breadth of mathematics. *CMS Notes*, May 2007 This book explores history through a lens focused on the creative tension between common sense and the 'impossible' . . . Drawing connections to art, literature, philosophy, and physics, this book examines the place of mathematics in our intellectual landscape. *L'Enseignement Mathématique*, January 2006 2009 Alpha Sigma Nu Book Award in the Discipline of Mathematics/Computer Science The Association of Jesuit Colleges Universities, November 2009 About the Author John Stillwell, originally from Melbourne, Australia, is a Professor of Mathematics at the University of San Francisco. He earned his MSc in 1965 from the University of Melbourne and his PhD from MIT in 1970. His writing covers a wide spectrum of mathematics, including translations of classic texts by Dirichlet, Dedekind, Poincaré, and Dehn. He is also the author of *Mathematics and Its History*, *The Four Pillars of Geometry*, and *Elements of Number Theory*, among others. In 2005, he was awarded the Chauvenet Prize of the Mathematical Association of America for his expository writing