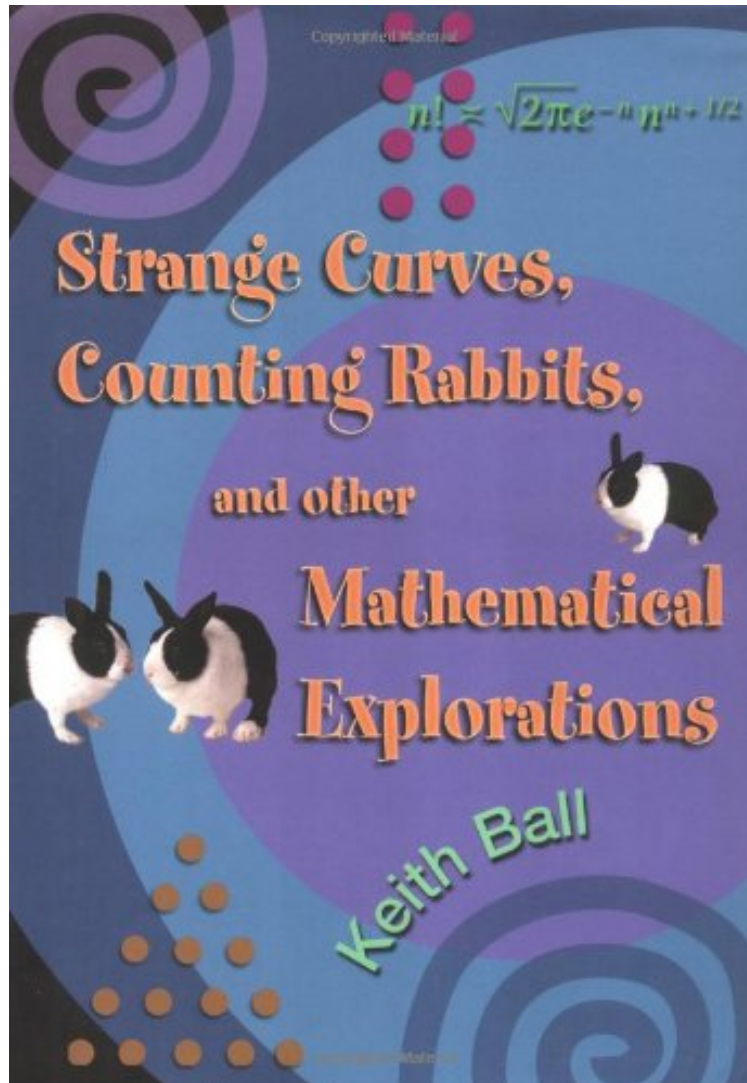


# Strange Curves, Counting Rabbits, Other Mathematical Explorations

Keith Ball

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**Keith Ball : Strange Curves, Counting Rabbits, Other Mathematical Explorations** before purchasing it in order to gage whether or not it would be worth my time, and all praised Strange Curves, Counting Rabbits, Other Mathematical Explorations:

2 of 2 people found the following review helpful. Stretches your mathematical imagination By Kent Professor Ball poses some interesting mathematical puzzles and solves them in interesting ways, with clear explanations throughout. If you don't like puzzles, it probably won't change your mind. If you're already a puzzle-solving ace, you might find

the style too casual. But it's a great book for stretching your mathematical muscles gently in new directions.<sup>11</sup> of 12 people found the following review helpful. Just about as good as it gets

By Martin P. Cohen  
 It should be easy for a mathematician to write a book on recreational mathematics, right? Ha! You can look through my reviews for some godawful examples of this genre. It is not enough to know mathematics. The writer has to write well and to have an understanding of the mindset of those of us who are strictly amateurs. The material has to have intrinsic interest and the explanations have to be clear and well motivated but not condescending. The problems should be challenging but not impossible and they should serve to gain insight into the material. And they should come with answers! All of this Ball accomplishes. The quality of the writing reminds me of Martin Gardner. There is one thing that I need to emphasize. This book contains proofs, because proofs are the heart and soul of mathematics. The proofs are exceptionally clear, but if mathematical proofs are not your thing then go elsewhere. If you are not intimidated by proofs and have a knowledge of high school mathematics up through calculus then you are in for a real treat. I particularly liked the chapter on continued fractions. This is the first time that I have seen a treatment of the matrix approach. I do have one very small quibble. The matrix approach allows for a very simple derivation of the formula for convergents, which I was able to discover for myself but which is not presented in the book. All of the other proofs I have seen for the formula do not provide a derivation, but instead do a proof by induction. I hope that future editions of the book include the derivation of the convergents formula.

3 of 3 people found the following review helpful. this book contains a lot of interesting aspects of mathematics not usually covered elsewhere

By Patrick Regan  
 Strange Curves, Counting Rabbits and other Mathematical Explorations contains a lot of interesting material but be prepared for some difficult problems as you read through the book. Strange Curves... is not light reading but rather a book you will want to spend some time digesting. The author's choice of material is somewhat unique; the author himself says he tried to cover material not found in other popular math books. I really enjoyed reading this book and attempting to solve the problems for which solutions are provided at the end of each chapter. I recommend Strange Curves.. for those interested in a book that is accessible but somewhat challenging and for those who have read many popular math books and feel they have read about all the topics there are to read about in the layperson mathematics press.

How does mathematics enable us to send pictures from space back to Earth? Where does the bell-shaped curve come from? Why do you need only 23 people in a room for a 50/50 chance of two of them sharing the same birthday? In *Strange Curves, Counting Rabbits, and Other Mathematical Explorations*, Keith Ball highlights how ideas, mostly from pure math, can answer these questions and many more. Drawing on areas of mathematics from probability theory, number theory, and geometry, he explores a wide range of concepts, some more light-hearted, others central to the development of the field and used daily by mathematicians, physicists, and engineers. Each of the book's ten chapters begins by outlining key concepts and goes on to discuss, with the minimum of technical detail, the principles that underlie them. Each includes puzzles and problems of varying difficulty. While the chapters are self-contained, they also reveal the links between seemingly unrelated topics. For example, the problem of how to design codes for satellite communication gives rise to the same idea of uncertainty as the problem of screening blood samples for disease. Accessible to anyone familiar with basic calculus, this book is a treasure trove of ideas that will entertain, amuse, and bemuse students, teachers, and math lovers of all ages.

One of Choice's Outstanding Academic Titles for 2004 "Keith Ball demonstrated that though math may not be laugh-out-loud hilarious, it is deeply and gloriously satisfying. . . . Ball's style is pacy and informal, and he does far more than just show off polished results. This is math with the hood up and the engine running."--Ben Longstaff, *New Scientist* "A recreational math book with enough heft to give its intended audience a series of mental workouts, ranging from the rough equivalent of a stroll to the corner mailbox to a hard mile run. The writing style is open and engaging."--Choice "A gem. . . . Each topic is taken up in a setting that immediately generates interest . . . Ball's achievement is to have come up with a selection of topics which are fresh and unusual. . . . It is a pleasure to report that the book is written in limpid, graceful, elegant English prose--nowadays a nearly vanished species."--Stacy G. Langton, *MAA Online* "The author's writing style is informal, inviting, and clear. . . . This book gives a lively and carefully written treatment of a number of interesting topics. . . . The range of topics is wide, so even the experienced mathematician may learn something new."--Harold R. Parks, *Notices of the American Mathematical Society* "[I]f you salivate at the thought of working those calculations, then run don't walk to the bookshop--for once they've produced a book just for you."--Peter Spitz, *Popular Science* From the Inside Flap "This book belongs on the shelf next to the classic *What is Mathematics?* as a resource for students who seek a broader view of mathematics and for teachers and professors who want to enrich their classes. A great addition to the books that spread the beauty and substance of mathematics to a wide audience."--Sherman Stein, author of *How the Other Half Thinks* "This book represents a good mix of topics, covering a range of classroom-tested material that is accessible to students. The author's presentation is lucid and flows well."--Adam McBride, University of Strathclyde "This book was a joy to read. In a relaxed and user friendly style, Keith Ball displays the relevance and beauty of a variety of mathematical topics that transcend the usual school syllabus. The level is elementary, but some of the material would not disgrace students in a university

undergraduate course (and even those at more advanced levels could learn a few things, too!)."--Julian Havil, author of *Gamma: Exploring Euler's Constant*

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