The Moment of Proof: Mathematical Epiphanies

Donald C. Benson
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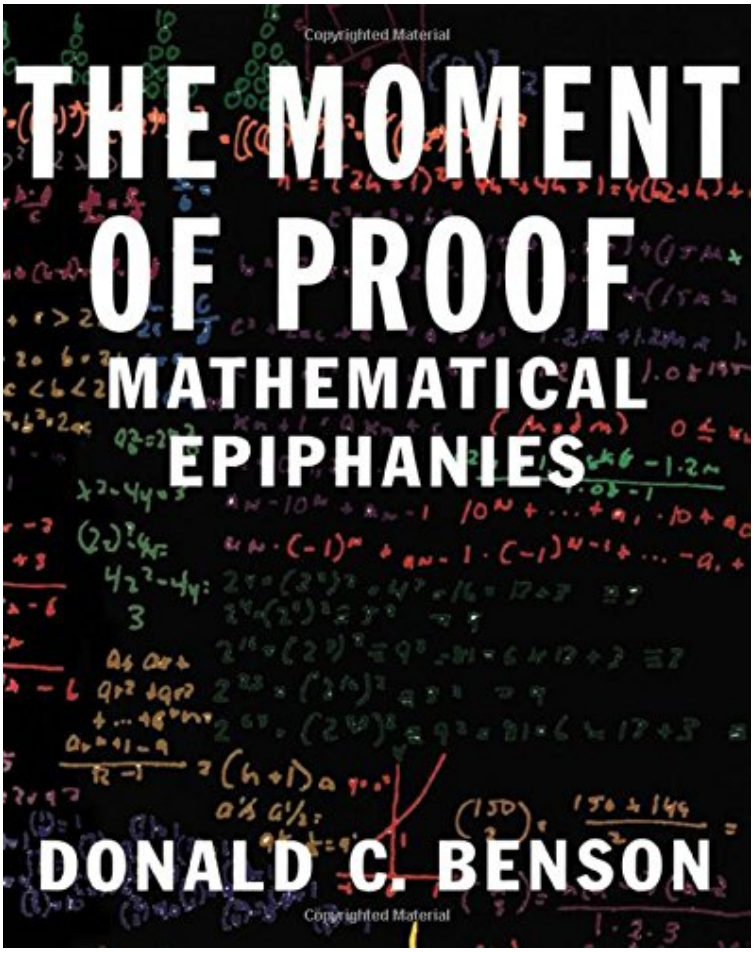

#2323547 in Books Donald C Benson 2000-12-14Original language:EnglishPDF # 1 7.20 x 1.10 x 8.90l, 1.30 #File Name: 0195139194352 pagesThe Moment of Proof Mathematical Epiphanies | File size: 30.Mb

Donald C. Benson : The Moment of Proof: Mathematical Epiphanies before purchasing it in order to gage whether or not it would be worth my time, and all praised The Moment of Proof: Mathematical Epiphanies:

0 of 0 people found the following review helpful. Good book for mathematical buffs who like interesting problems to solve, and who like proofs to be not overly rigorousBy dexter clemI knew what I was getting when I bought it, so it was no surprise. The book was in good shape and worth the price. I can handle higher (or more abstract) mathematics if I want to study and understand the reasoning involved; but I prefer a book like this for recreational reading and for thinking about interesting (or amusing) problems that are not too far fetched from the real world.1 of 1 people found the following review helpful. Delivers on the promise of the titleBy ERIK BRUNARA good mathematical proof can be better than sex.My definition of the joy of mathematics:You have a few facts, awkwardly arrayed. You have some idea of a new fact you think might be a logical consequence of those facts. You start finding ways of stating them more interestingly. This may lead you to defining new composite concepts. You play around with them for a while. Sometimes you have to throw them out and start over. Often if you are brilliant, once in a great while if you are me,

things start falling into place rather elegantly. Then you finally discover a snappy way of articulating all the pieces of a problem and the proof pops out.And it feels amazing.This book allows people like me, who wish they could have these moments more often, to live them vicariously through the great selection of theorems and demonstrations Donald Benson has put together. I didn't find this book particularly hard to read. In fact, I often read it while walking -- wishing I had a chalkboard, admittedly. It is written for laypersons who are not afraid to spend quite a bit of time on a page: all the knowledge you need is there, but seeing how it fits together to produce a given result can take some effort. The proofs are all some combination of elegant, surprising, and subtle, and always cause a few minutes of ecstasy.10 of 10 people found the following review helpful. An excellent summary of the BROAD Field of MathemeticsBy Alan K. JenningsThis is an EXCELLENT book on the broad subject of Mathematics - not just related to those topics that the general public understands as being Mathematics.I specifically commend the very broad coverage of the subject of Mathematics for readers who may even be struggling to recall some elementary algebra.Even most educated people do not realize that Mathematics includes such things as Probability Theory, Game Theory, Finding Optimal Strategies, The Study of Prime Numbers, Map Coloring with no more than four colors and designing and deciphering Secret Messages.I specifically appreciated the many excellent comments in marginal boxes and the frequent marginal notations of a "Dangerous curve" in many key areas that may not be obvious to the general reader.I also appreciated the comment near the end of the book of having "finished the main course, and even the dessert, of our mathematical banquet" and the comment on page 298 about there being no Nobel Prize in Mathematics.Clearly a book to remember and one to make you think!

When Archimedes, while bathing, suddenly hit upon the principle of buoyancy, he ran wildly through the streets of Syracuse, stark naked, crying "eureka!" In The Moment of Proof, Donald Benson attempts to convey to general readers the feeling of eureka--the joy of discovery--that mathematicians feel when they first encounter an elegant proof. This is not an introduction to mathematics so much as an introduction to the pleasures of mathematical thinking. And indeed the delights of this book are many and varied. The book is packed with intriguing conundrums--Loyd's Fifteen Puzzle, the Petersburg Paradox, the Chaos Game, the Monty Hall Problem, the Prisoners' Dilemma--as well as many mathematical curiosities. We learn how to perform the arithmetical proof called "casting out nines" and are introduced to Russian peasant multiplication, a bizarre way to multiply numbers that actually works. The book shows us how to calculate the number of ways a chef can combine ten or fewer spices to flavor his soup (1,024) and how many people we would have to gather in a room to have a 50-50 chance of two having the same birthday (23 people). But most important, Benson takes us step by step through these many mathematical wonders, so that we arrive at the solution much the way a working scientist would--and with much the same feeling of surprise. Every fan of mathematical puzzles will be enthralled by The Moment of Proof. Indeed, anyone interested in mathematics or in scientific discovery in general will want to own this book.

.com The world described by mathematics might seem strange and daunting, but it is our world nonetheless. If you've ever experienced the pleasure of a sudden flash of mathematical insight--even while balancing your checkbook--then you know how miraculous a few digits and an equal sign can become at just the right time. Mathematician Donald C. Benson is intimately familiar with this phenomenon, and he has written The Moment of Proof: Mathematical Epiphanies to remind us that math can be as much fun as mountain climbing (and, of course, just as challenging). Part textbook, part puzzle book, it rewards our hard work with a steady flow of wide-eyed moments of clarity as we see how simple and elegant even the most frightening problem can be. Benson covers classic problems like the sliding-tile and birthday-matching puzzles, but also delves into abstractions: counting, sorting, and "interesting numbers" all jump into his spotlight. This is fascinating enough, but his explanations of Russian peasant math and the secrets of the abacus have just the right mix of concreteness and abstraction to please anyone but the terminally mathphobic. Benson does expect quite a bit from his readers; paper and pencil are essential for complete understanding. But with each new epiphany, each new glimpse into the workings of the world, the effort invested in The Moment of Proof is returned, with interest. --Rob LightnerFrom Library JournalBenson, a retired mathematics professor, is trying for something a bit different from the usual "mathematics for lay readers" book. He aims to give his readers a feel for the thrill of actual mathematical discovery when a researcher attains a new result or works out a more elegant proof. To do this, he leads the reader through the proof methods employed by professionals but uses an informal, conversational style, selecting his examples from a broad range of mathematical topics. The result is an accessible work that should accomplish Benson's stated goal, but the only readers likely to derive significant value from it are those who begin with a substantial interest in, and liking for, mathematics. A background including at least a course or two in undergraduate mathematics would also be helpful. Strongly recommended for public and academic libraries.?Jack W. Weigel, Univ. of Michigan Lib., Ann ArborCopyright 1999 Reed Business Information, Inc. "Rarely does one come across a mathematics book with such breadth and insight. Dr. Benson's book contains valuable information--not only for curious students and laypeople --but also for seasoned researchers. Particularly fascinating is the curious range of topics, from fractals and fiendishly difficult games to the mathematics of precariously-leaning brick towers! All the

topics are sure to stimulate readers' imagination and sense of wonder at the incredible vastness of our mathematical universe." --Dr. Clifford Pickover, author of Time: A Traveler's Guide"A useful book, offering a rich collection of interesting and enjoyable mathematics." --Reuben Hersh, author of What is Mathematics, Really?"Donald Benson shows what mathematicians mean when they speak of the beauty of mathematics -- an artistic beauty of logical elegance and occassionally surprise." --Keith Devlin, author of The Language of Mathematics: Making the Invisible Visible and Life by the Numbers