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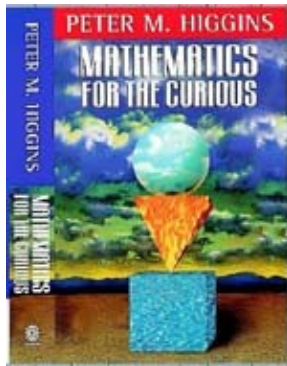
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May 2004

Reviews

'Mathematics for the curious'

reviewed by Cristina Escoda



Mathematics for the curious

After years of publications on popular science and mathematics, we all know that mathematics can provide answers to questions arising from everyday life. If we want to find out when the two hands of a clock will be in exactly the same position or to calculate the volume of a doughnut, we will certainly need to use some maths. But how difficult can this be? "Mathematics for the curious" manages to convince us that many of these questions can be explained using simple arguments and calculated within a few minutes using nothing more than pencil and paper.

In just over two hundred pages the author manages to discuss almost every fundamental field of mathematics. He answers common questions such as "what are your chances of winning the lottery?" and teaches us how at a party there must always be some pair of people who have the same number of friends. He spends time on some basics such as the commutative law and Pythagoras' Theorem, but he also explains more complicated problems such as the Goldbach Conjecture and Fermat's Last Theorem. And he provides brief insights into history and anthropology, going back to the Persians to motivate the study of series and mentioning the mathematics used by the Egyptians, Babylonian and Ethiopians.

If I was only allowed one word to describe this book, it would be "simplicity". Whenever possible, Higgins explains from first principles and, without skipping important steps in his arguments, he develops each new chapter starting from the most basic definitions.

'Mathematics for the curious'

The book is divided in eight sections focusing on different areas of mathematics and two chapters with some mathematical answers to questions from everyday life. Instead of using fancy names for each of the sections (we all know how disappointing it is to read an empty chapter with a promising title) he simply presents the contents as: the truth about fractions, some geometry, numbers, algebra, series, chance and games of chance, the golden ratio and networks.

You would already have to have a fair interest in mathematics in order to enjoy this book, so if you were thinking of giving it as a present to someone in order to stimulate their mathematical curiosity, perhaps you should think again. But if you are already interested, this is all that should be needed to enjoy the book. The author assures us that working through the explanations will be as easy as assembling a jigsaw puzzle of half a dozen pieces. This is probably the case, but a high level of attention will be needed to follow the explanations. The curious reader will find that mysteries from school mathematics will be clarified, while mathematicians, scientists and engineers will be nicely surprised when they realize some of the most basic ideas that we take for granted or unconsciously assume as postulates have simple explanations from the most basic principles.

But just like many other popular science books, "Mathematics for the Curious" tries to cover too many subjects in one volume. However, it does manage to provide sufficiently diverse material to satisfy the reader's interest. Since each chapter is independent from the rest, we don't have to rely on knowledge from previous sections to move on, which is indeed a very nice way of inviting our curiosity. As Higgins says in the introduction: "you might find it just as satisfying to read the book by travelling back and forth through it". He is right.

Book details:

Mathematics for the curious

Peter M. Higgins

paperback – 232 pages

Oxford Paperbacks

ISBN: 0192880721

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Cristina Escoda is a second year Phd student at the University of Cambridge working on the phenomenology of String Theory and Supersymmetry. Cristina is an enthusiastic writer and very interested in science communication.



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