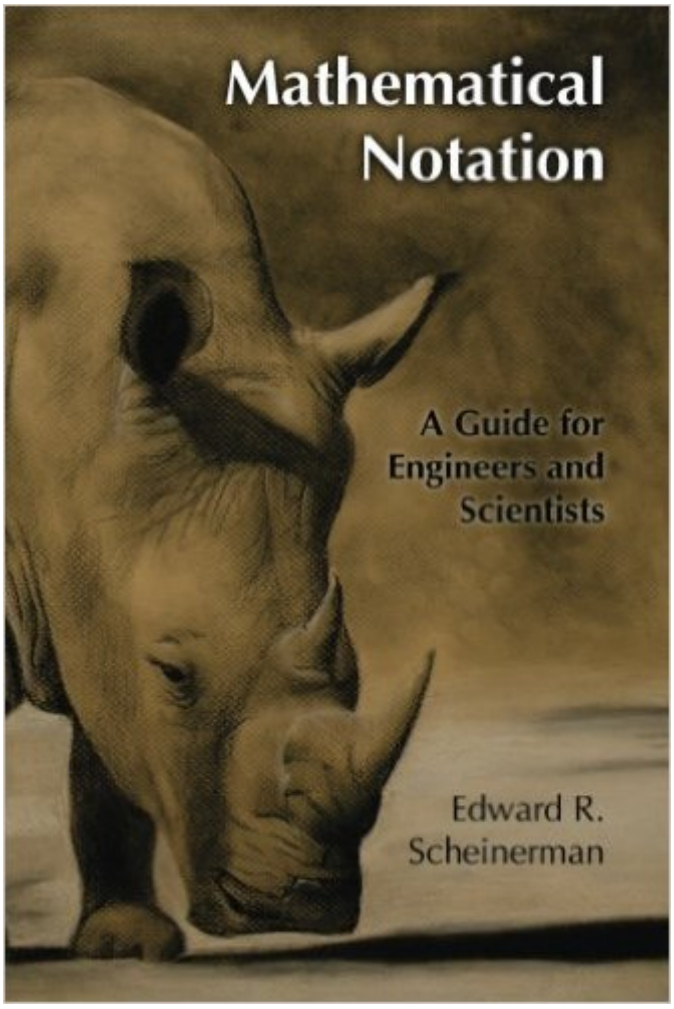
Mathematical Notation: A Guide For Engineers And Scientists



Synopsis

Mathematics is a language with a unique vocabulary, written with a dizzying array of often incomprehesnible symbols. If we are unsure of the meaning or usage of a mathematical word, a quick internet search is invaluable. But what are we to do when confronted with some strange mathematical hieroglyph? What does one type into the search bar? This book is the answer! Our goal is to cover mathematical notation commonly used by engineers and scientists---notation a university student is likely to encounter. We make no attempt to teach the mathematics behind these symbols. Rather, our goal is to give reminders of what these symbols mean; from there, we can consult textbooks or resources on the web. The book is organized by mathematical topic, but multiple indices steer the reader to each symbol's explanation. We also show how to produce the symbols in LaTeX and give guidance on their mathematical usage.

Book Information

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Customer Reviews

When I look at the patterns, I can hear the wheels turning. When I look at the math, I find out the hamsters have died.Since I got this book, the hamsters have been healthy.

Highly recommended for anyone with a programming background who occasionally needs to dip into academic / mathematical articles. You can't really type mathematical symbols into a Google or Wikipedia search if you come across one that you don't recognize - this little book solves that problem perfectly, and explains enough of the mathematics that you can often piece together an understanding of the subject without looking further. Great book.

Good book to have if you are writing tech stuff.I would welcome a more detailed and advanced version. Here are some pointers for anyone thinking of writing one.1. Discuss pros and cons of common alternative systems. For example, notation for matrices, vectors, and scalars: there are a couple of systems used at different levels. In elementary books bold letters for vectors might make sense. For advanced work, the "Householder system": uppercase Latin for matrices, lowercase Latin for vectors, and lowercase Greek for scalars, is the way to go.2. Discuss misunderstandings. For example, lately I have seen a couple of Computer books with something like "Big Oh of n squared" in them, or maybe "Oh(n^2)". This is a disaster. Big O is short for both Landau's Order symbol, and Knuth's Omicron symbol, and there is no way anyone should use "Oh" rather than "O". Oh is for "OMG", "Oh, Calcutta", etc.3. Discuss lesser known symbols that ought to be widely used, such as3.1: Knuth's rising and falling powers. (Too hard to write here)3.2: For selecting k items from a population of n things, C(n,k) for combinations (No repeats, Order does not matter) and P(n,k) (No repeats, Order does matter) are standard (although usually written as nCk and nPk, with the n and k subscripts). These should be supplemented with S(n,k) for strings (repeats allowed, order matters) and R(n,k) for "r-combinations" (repeats allowed, order does not matter). This convention unifies the basic tools of combinatorics, and is a no brained once you see it.

First, this book is not an endless guide to all things math symbols and there are some limitations. Though it does provide a useful guide for students.One of the major limits of this book is that it is limited to math. So if you are reading an equation in your Calculus book and want to look up a symbol in this book you may not find it. Because it is a physics symbol. Like angular veloctiy (lower case omega) won't be found here, but it is covered in the book from a pure mathematical standpoint.Also this book does not cover every usage since math books were written.one minor thing I notice missing was epsilon defined for Calculus limits in this book.He does a great job with the standard greek usage for functions, like Euler totient and such. And he provides the same for constants that everyone should probably know.Also he does a great job of clarifying when multiple symbols are used for the same notation, and how to use them without mixing and matching. So there is some elements of style in this book.The index by Greek letter is not totally complete, since it does not include the numerical constants. (kind of odd). But it is very helpful that the book has and index by symbols, both greek and otherwise, and an topical index.The latex chart is a nice bonus.Overall for the novice student this is better than trying to search a website, and it is informational. For the advanced student, it might not be the book for you.All in all it is still worth the price.

Great book, especially if your like me and sometimes forget the meaning behind the numerous amount of engineering and mathematical symbols. I would highly recommend this book to any engineer or anyone studying mathematics.

If you are math lover like I am (for over 50 years) you will always find a symbol that you forgot what it meant. This book is then "a must have". I think it covers all the math themes. Also, It is cheap. My recommendation is that you buy it now. You won't be sorry you did.

Amazing reference. This book is on my desk at all times for when I need to go over more detailed books or academic papers and my terrible math study doesn't hold up. I would especially recommend this book for artists or creative coders who need to dip in to linear algebra from time to time. That said, this is definitely a reference book; if you don't already understand the concepts, you'll find the going a little rough.

Awesome. Is like the google translate for math notation, highly recommended if you have some doubts of what a mathematical function or process means in a paper, textbook, etc.Concise and precise, I love it.

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