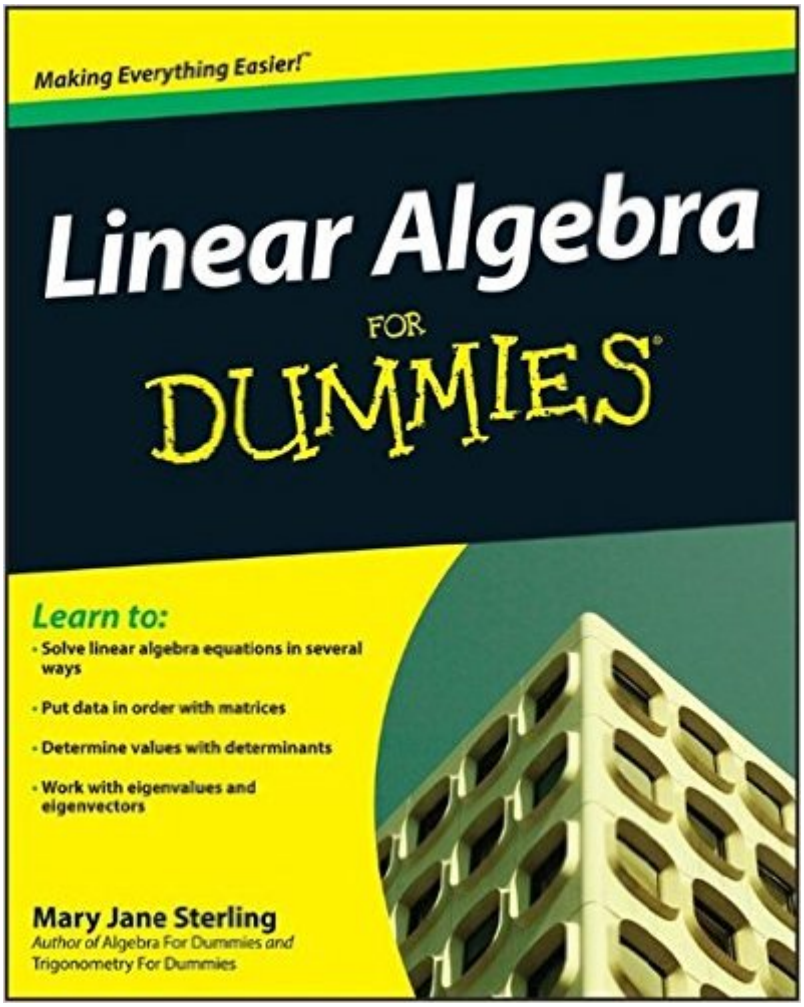
Linear Algebra For Dummies



Synopsis

Learn to: Solve linear algebra equations in several ways Put data in order with matrices Determine values with determinants Work with eigenvalues and eigenvectors Your hands-on guide to real-world applications of linear algebra Does linear algebra leave you feeling lost? No worries —this easy-to-follow guide explains the how and the why of solving linear algebra problems in plain English. From matrices to vector spaces to linear transformations, you'll understand the key concepts and see how they relate to everything from genetics to nutrition to spotted owl extinction. Line up the basics — discover several different approaches to organizing numbers and equations, and solve systems of equations algebraically or with matrices Relate vectors and linear transformations — link vectors and matrices with linear combinations and seek solutions of homogeneous systems Evaluate determinants — see how to perform the determinant function on different sizes of matrices and take advantage of Cramer's rule Hone your skills with vector spaces — determine the properties of vector spaces and their subspaces and see linear transformation in action Tackle eigenvalues and eigenvectors — define and solve for eigenvalues and eigenvectors and understand how they interact with specific matrices Open the book and find: Theoretical and practical ways of solving linear algebra problems Definitions of terms throughout and in the glossary New ways of looking at operations How linear algebra ties together vectors, matrices, determinants, and linear transformations Ten common mathematical representations of Greek letters Real-world applications of matrices and determinants

Book Information

Paperback: 384 pages

Publisher: For Dummies; 1 edition (July 7, 2009)

Language: English

ISBN-10: 0470430907

ISBN-13: 978-0470430903

Product Dimensions: 7.4 x 0.8 x 9.3 inches

Shipping Weight: 1.2 pounds (View shipping rates and policies)

Average Customer Review: 4.0 out of 5 starsÂ Â See all reviewsÂ (40 customer reviews)

Best Sellers Rank: #55,419 in Books (See Top 100 in Books) #26 inÂ Books > Science & Math > Mathematics > Pure Mathematics > Algebra > Linear #144 inÂ Books > Textbooks > Science & Mathematics > Mathematics > Algebra & Trigonometry

Customer Reviews

I really like the approach of this book, as it uses good analogies, examples, graphs, and figures that appeal to your intuition to give deeper meaning to the subtleties of linear algebra. But it is a shame there are typos and mistakes. One in particular blew my mind - on p. 51 she states " A square matrix is singular if it has a multiplicative inverse; a matrix is non-singular if it does not have a multiplicative inverse." This is exactly opposite of how everyone else defines "singular", but she uses this definition consistently throughout the book, so either it's a mistake or she has decided to rewrite the rules of linear algebra. Either way, it's not helpful!!!I hate having to make corrections on a book I just paid for, but for the price, what can you expect? Most textbooks on the subject are between two and ten times more expensive, and they have mistakes too. But the other books are dense, dry, and boring. At least this book attempts to make linear algebra interesting, if not fun.

Good explanations, but a disappointing number of substantive typos that make the examples confusing.I would recommend this book, particularly as a review for those of us who had the subject in college but have forgotten most of it. Just be careful of those typos and keep a pencil handy to make corrections while the details are fresh in your mind.

The book gives a general good overview. However, there are several errors in the examples provided. For example in page 196, the matrices format does not match the example given with the coordinates in the form of x, y and z.

I'm amazed at the low reviews some people have posted of this book. I have had an interest in self-studying linear algebra for years but have had a lot of trouble getting comfortable with it. I tried Khan Academy's videos and found them great, but still didn't feel comfortable with the material. I tried MIT's course but stopped watching it because it moved a little too quickly for me (or felt too dry; I don't remember, it was years ago). I bought a few different books and started them, but gave up after spending a few weeks making only a page or two of progress per day (also the writing style was very dry / formal). I'm not saying the MIT course and other books were bad, I'm just saying they probably weren't the best resource for a total beginner who is doing self-study.I love the Dummies / Complete Idiot's Guide books. I have used Dummies books to get intros to C, C++, Java, Calculus, Bridge (the card game), and probably other things I can't remember. I like the clear organization, I like the focus on writing in plain-English, I like the examples, I like the attempts at humor (even when it falls flat I appreciate the attempt), I like the feeling of accomplishment I get when I finish each ~20-page chapter, I like the feeling of accomplishment that I get when I finish the books.If

you’re serious about trying to self-study linear algebra I recommend that you get all the books with top ratings on and then hop between them depending on which one you feel most comfortable with. You should probably start with the easier-looking ones (ie this one, the Manga one, the Straum one). I also recommend you check out Khan Academy, Andrew Ng’s Machine Learning Coursera course, and the Brown University course "Coding the Matrix". I personally find it easier to watch video lectures first as a first-pass at the material and a way to get interested and motivated, and then make an attempt at the books afterwards.

I just finished the text. It is a nice easy review. The amount of theory and proofs is kept to a minimum which should please those who are less gifted mathematically. The major issues as stated elsewhere are the number of typos and errors which were not caught in the editing process. Many are obvious and easy to fix. I would encourage the editors of this series to be more careful in the proofing. Perhaps it is too expensive given the low purchase price of the texts. Maybe we should all send in a list of errata and they could print a new edition.

I have just finished this. I bought it as a refresher, as I had basically not done any linear algebra since first year university subjects 35 years ago. For dusting off cobwebs on the major topics of linear algebra, matrices, it was useful, easy to read and clear. I also wanted an intro to vector spaces as I have this hankering, even at my age, to take on some abstract algebra, and needed to get a handle on the basics. So, as I said, useful.However, the book - as various other reviewers have said - has far too many errors. This is a serious flaw in any work, but is critically harmful in a volume for dummies. Because obviously, we don’t know enough often to pick them up so end up learning the wrong things. Fortunately my cobwebs dusted off sufficiently for me to pick up the ones I saw. But being a dummy, how do I know now what other things I have absorbed that are in fact wrong? This is a very worrying situation. It is not good enough.

I’ve been all the way through this book once. I knew some linear algebra before, but also learned some new things here. I’ve also been watching a lot of videos at Khan Academy, as well as for an MIT course available on youtube. So this has not been my only resource.I think that, if you know nothing at all about linear algebra, and start reading this book, you will reach a point somewhere before the one-third way that you’ll be utterly confused. Linear algebra is a very abstract topic, and a book of this brevity just doesn’t have the opportunity to hammer topics home and cement them firmly before moving on.However, I think this book is very good in addition to other learning

materials. It helped to reinforce them, and they helped to reinforce it. (I strongly recommend a book that has lots of exercises in addition to this one.) The book has some content devoted to real-world applications, to try to demonstrate why linear algebra is important, but don't expect too much along that line. A lot of ground is covered, so most of the material is devoted to getting concepts across, rather than showing how to apply them to real-world problems.As far as the "humor" associated with Dummies books, there really isn't any here. Instead, there's plenty of what I might call "quirky" phrasing, which is unfortunate, because if you're already confused by the topic, you might wonder whether a given phrase is significant, or just another lame attempt to make the book "fun."Overall, I'm glad I got the book. It helped to move me along. I won't say it made me an expert on the subject, but now I can easily define all kinds of terms, linear independence, a vector space, a basis, a dimension, a determinant, orthogonality, orthonormalization, eigenvectors--these and more are finally anchored firmly in my mind.