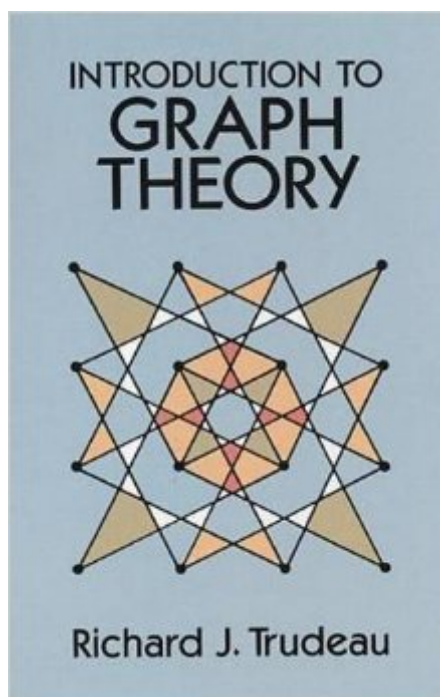


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# Introduction To Graph Theory (Dover Books On Mathematics)



## Synopsis

A stimulating excursion into pure mathematics aimed at "the mathematically traumatized," but great fun for mathematical hobbyists and serious mathematicians as well. Requiring only high school algebra as mathematical background, the book leads the reader from simple graphs through planar graphs, Euler's formula, Platonic graphs, coloring, the genus of a graph, Euler walks, Hamilton walks, and a discussion of The Seven Bridges of Königsberg. Exercises are included at the end of each chapter. "The topics are so well motivated, the exposition so lucid and delightful, that the book's appeal should be virtually universal . . . Every library should have several copies" — Choice. 1976 edition.

## Book Information

Series: Dover Books on Mathematics

Paperback: 224 pages

Publisher: Dover Publications; 2nd edition (February 9, 1994)

Language: English

ISBN-10: 0486678709

ISBN-13: 978-0486678702

Product Dimensions: 5.4 x 0.4 x 8.4 inches

Shipping Weight: 8.8 ounces (View shipping rates and policies)

Average Customer Review: 4.5 out of 5 stars — See all reviews — (74 customer reviews)

Best Sellers Rank: #12,594 in Books (See Top 100 in Books) #2 in Books > Science & Math > Mathematics > Applied > Graph Theory #4 in Books > Science & Math > Mathematics > Pure Mathematics > Discrete Mathematics #92 in Books > Textbooks > Science & Mathematics > Mathematics

## Customer Reviews

One of the better Dover books I've picked up... but keep in mind it is a (very basic) introduction. The book gives an introduction to graph theory (take the "introduction to" part of the title very seriously). To give an idea of the depth of this book, I read this book in about 6 hours prior to taking a course in graph theory (an undergraduate and graduate student mixed course), and the material in the book was covered in class in about 4 lectures (there were about 30 lectures in the course). This isn't to say the book isn't good (because it is), but I just have to emphasize it is a basic introduction. What gives this book 5 stars is that it was written very well and made the material very interesting. I would recommend this book to someone looking to understand the very basics of graph theory, but I would

not to someone looking for a thorough introduction to graph theory. For reference, titles of chapters: 1) Pure Mathematics; 2) Graphs; 3) Planar Graphs; 4) Euler's Formula; 5) Platonic Graphs; 6) Coloring; 7) The Genus of a Graph; 8) Euler Walks and Hamilton Walks.

For anyone interested in graph theory who has not taken many upper level math classes, or has yet to take a course in discrete mathematics, this is a great introduction. For anyone, at any level, this is a fun and entertaining read. The book reads as if the author were standing in front of you at the chalkboard, masterfully teaching you the basics of the material, almost in layman's terms (but not quite), all with a witty sense of humor and a tendency towards anecdotes. The material is in no way thorough, nor treated very rigorously. All the basics are there and taught in an intuitive manner. There are numerous exercises, none of which is difficult, but all of which are interesting to someone who is new to graph theory. Some of the key results that are simple to prove are done so in the exercises, encouraging readers to discover things for themselves. Downsides: If you are looking for a rigorous book on graph theory, look elsewhere. But that is really the only downside! Overall: I liked graph theory before reading this book. I loved graph theory after reading the first chapter.

In my life I have read, perhaps, 20 books that have profoundly changed my world. I have been most fortunate lately to have stumbled upon two such books: 1. Parsing Techniques by Dick Grune and Ceriel Jacobs Not only is it packed with clearly explained information, but it is written in an eloquent, almost poetic way. As I read it I continually find myself saying, "Wow, wow, wow!" The authors clearly have a mastery of the English language. 2. Introduction to Graph Theory by Richard Trudeau The author claims that many students get bored with mathematics because the mathematics is tied to applications. He says that students should learn pure mathematics: let's take some very simple ideas and see where we can go with them. This totally blew me away. This is an unbelievably awesome book.

This book introduces graph theory terminology and elementary results to the absolute beginner. It does a nice job of presenting the material in the format "motivation-example-definitions-theorem-proof-remarks", which I find pedagogical. Interspersed throughout the text are some historical remarks and a lot of author's personal opinions on what mathematics is or should be. This last piece of the text I liked least, since I do not agree with the author many times. He defends the position that "pure mathematics" is "real mathematics", and that "applied mathematics" follows from the "real thing" (he actually states this literally in the introduction

of the book). This view has been debunked so many times along the history of the subject that it is quite irritating to see it expressed so categorically. But the book is not about math philosophy, so I recommend it as a warm up to those interested in more heavy-duty graph theory. You should also take a glance on "Introductory Graph Theory" by Gary Chartrand, which is perhaps a better written book.

This book provides a good but not rigorous great introduction to graph theory. The best audience is someone with mathematical ability but little education beyond high school or introductory math. That is, knowledge of analysis or higher is not required. Having finished this book, one could go on to the book entitled graph theory by the same publisher. It's hard to beat Dover's prices and selection for math books. The style of the book is conversational except for one more proof-oriented chapter. At the end of each chapter are graded problems with answers, a great plus for self-study.

Mr. Trudeau has done a fabulous job of introducing graph theory in a way which is understandable and intellectually provocative. He mentions that some of the problems are easy, and that some have been unsolved. In both cases, they both are fully illustrative of the subject matter. If you want to begin exploring graph theory, this book is for you!

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