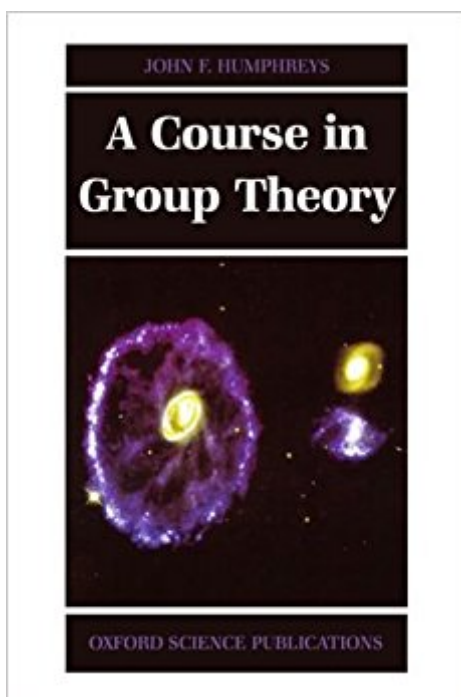# A Course In Group Theory (Oxford Science Publications)

Synopsis

The classification of the finite simple groups is one of the major intellectual achievements of this century, but it remains almost completely unknown outside of the mathematics community. This introduction to group theory is also an attempt to make this important work better known. Emphasizing classification themes throughout, the book gives a clear and comprehensive introduction to groups and covers all topics likely to be encountered in an undergraduate course. Introductory chapters explain the concepts of group, subgroup and normal subgroup, and quotient group. The homomorphism and isomorphism theorems are explained, along with an introduction to G-sets. Subsequent chapters deal with finite abelian groups, the Jordan-Holder theorem, soluble groups, p-groups, and group extensions. The numerous worked examples and exercises in this excellent and self-contained introduction will also encourage undergraduates (and first year graduates) to further study.

Book Information

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Customer Reviews

this is a concise and fairly comprehensive book on finite groups.it is very, very nice. in about 200 pages, it gives you all of the basics. a bright high school student can read it.books like these are so much better than annoying books like Artin, or Lang which are like 700 pages and are basically a brain dump of the author onto the student.if you want to learn group theory by yourself and have a patience, read this book, then the book by James and Liebeck. then to learn Lie algebras/groups, use a book like Erdmann or Kirillov or this very short new book by Yvette Kosmann-Schwarzbach.

for lots of examples look at Fulton & Harris.

The book covers all the elements of group theory,with a great deal of care. Each concept introducedis supported with at least some examples, difficultconcepts with many. The book is rigorous withoutbeing pedantic. The last chapter, which I could notresist skipping to, contains a survey of the descriptionof finite groups with some historical notes and indicationsof where the reader might go next. I am looking forother books by the same author. It is obfious fromthis book that the author is an excellent teacher.

This book has a massive brief: to work up to concepts which allow the author to describe the finite simple groups. By and large it succeeds.It is only recently (a few decades ago: in mathematics that is an eyeblink) that the finite simple groups were finally classified. To those of a certain cast of interest this is mindblowingly exciting - but the mathematics behind it is challenging.This book does a fair job of working up to speed on the various concepts, and provides the reader with plentiful illustrative examples throughout the text as he goes. Classification is one of the main objects of the exercise (as is so much of group theory), and the reader is regularly pointed in that direction.One problem I had with this (which is why only 4 stars) is that at times it does go a little fast. To a certain extent it has to - it's a short book and a colossal subject. If this *is* a problem, then there is no reason why you can't read around the subject from other sources. And there are plenty out there.

Excellent book especially for its slant towards the classification of simple groups. I haven't found any reasonably accessible presentation of group theory with this slant anywhere else and it has helped me better understand the challenges. So if I liked it, why the 3 rating? Simple -- the index is an abomination and the author should be ashamed for being so lazy.

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