Praise for the Third Edition

". . . an expository masterpiece of the highest didactic value that has gained additional attractivity through the various improvements . . ."—Zentralblatt MATH

The Fourth Edition of Introduction to Abstract Algebra continues to provide an accessible approach to the basic structures of abstract algebra: groups, rings, and fields. The book's unique presentation helps readers advance to abstract theory by presenting concrete examples of induction, number theory, integers modulo n, and permutations before the abstract structures are defined. Readers can immediately begin to perform computations using abstract concepts that are developed in greater detail later in the text.

The Fourth Edition features important concepts as well as specialized topics, including:

- The treatment of nilpotent groups, including the Frattini and Fitting subgroups
- Symmetric polynomials
The proof of the fundamental theorem of algebra using symmetric polynomials

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The proof of Wedderburn's theorem on finite division rings

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The proof of the Wedderburn-Artin theorem

Throughout the book, worked examples and real-world problems illustrate concepts and their applications, facilitating a complete understanding for readers regardless of their background in mathematics. A wealth of computational and theoretical exercises, ranging from basic to complex, allows readers to test their comprehension of the material. In addition, detailed historical notes and biographies of mathematicians provide context for and illuminate the discussion of key topics. A solutions manual is also available for readers who would like access to partial solutions to the book's exercises.

Introduction to Abstract Algebra, Fourth Edition is an excellent book for courses on the topic at the upper-undergraduate and beginning-graduate levels. The book also serves as a valuable reference and self-study tool for practitioners in the fields of engineering, computer science, and applied mathematics.

ABOUT THE AUTHOR

W. KEITH NICHOLSON, PhD, is Professor in the Department of Mathematics and Statistics at the University of Calgary, Canada. He has published extensively in his areas of research interest, which include clean rings, morphic rings and modules, and quasi-morphic rings. Dr. Nicholson is the coauthor of Modern Algebra with Applications, Second Edition, also published by Wiley.

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