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A first course in abstract algebra. Rings, groups, and fields. 3rd ed.

Boca Raton, FL: CRC Press (ISBN 978-1-4822-4552-3/hbk). xvi, 536 p. (2015).

Publisher's description: Like its popular predecessors, this book develops ring theory first by drawing on students' familiarity with integers and polynomials. This unique approach motivates students in the study of abstract algebra and helps them understand the power of abstraction. The authors introduce groups later on using examples of symmetries of figures in the plane and space as well as permutations. New to the third edition: – makes it easier to teach unique factorization as an optional topic; – reorganizes the core material on rings, integral domains, and fields; – includes a more detailed treatment of permutations; – introduces more topics in group theory, including new chapters on Sylow theorems; – provides many new exercises on Galois theory. The text includes straightforward exercises within each chapter for students to quickly verify facts, warm-up exercises following the chapter that test fundamental comprehension, and regular exercises concluding the chapter that consist of computational and supply-the-proof problems. Historical remarks discuss the history of algebra to underscore certain pedagogical points. Each section also provides a synopsis that presents important definitions and theorems, allowing students to verify the major topics from the section. See the review of the second edition in [Zbl 1093.00002].

Classification: H45
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