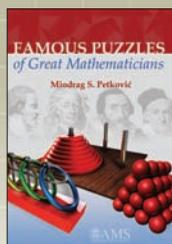


# AMERICAN MATHEMATICAL SOCIETY

## New Releases from the AMS

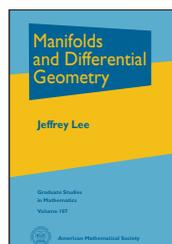


### Famous Puzzles of Great Mathematicians

Miodrag S. Petković, *University of Nis, Serbia*

This is the only collection in English of puzzles and challenging elementary mathematical problems posed, discussed, and solved by great mathematicians. The book is intended to amuse and entertain while bringing the reader closer to distinguished mathematicians through their works and some compelling personal stories. The selected problems simply require pencil and paper and a healthy amount of persistence.

2009; 325 pages; Softcover; ISBN: 978-0-8218-4814-2; List US\$36; AMS members US\$29; Order code MBK/63

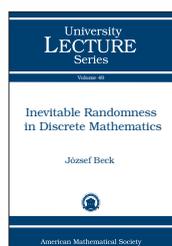


### Manifolds and Differential Geometry

Jeffrey Lee, *Texas Tech University, Lubbock, TX*

This introduction to smooth manifolds and differential geometry includes substantially more material than other books written for a similar audience. It includes material on the general theory of connections and on Riemannian and Lorentz manifolds. The author strives to help the student see things from several perspectives and avoid common misunderstandings.

**Graduate Studies in Mathematics**, Volume 107; 2009; approximately 675 pages; Hardcover; ISBN: 978-0-8218-4815-9; List US\$89; AMS members US\$71; Order code GSM/107

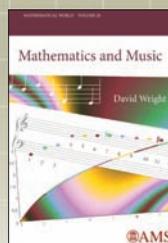


### Inevitable Randomness in Discrete Mathematics

József Beck, *Rutgers, The State University of New Jersey, Piscataway, NJ*

This book about discrete mathematics takes an uncommon “big picture” approach to the subject, studying interesting concrete systems in order to give new insights to the mystery of complexity. The book considers randomness and complexity and includes rigorous mathematical proofs. The self-contained presentation contains new results about graph games that support the main conjecture.

**University Lecture Series**, Volume 49; 2009; 250 pages; Softcover; ISBN: 978-0-8218-4756-5; List US\$59; AMS members US\$47; Order code ULECT/49



### Mathematics and Music

David Wright, *Washington University, St. Louis, MO*

This introduction to the interrelationships between mathematical reasoning and musical creativity shows how both subjects appeal to the same set of skills and instincts. The text explores the common foundations of the two subjects, which are developed side by side.

The use of musical topics allows for the introduction of important mathematical concepts such as modular arithmetic and equivalence relations to early undergraduates.

**Mathematical World**, Volume 28; 2009; 161 pages; Softcover; ISBN: 978-0-8218-4873-9; List US\$35; AMS members US\$28; Order code MAWRD/28

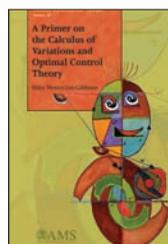


### Models of Conflict and Cooperation

Rick Gillman, *Valparaiso University, IN*, and David Housman, *Goshen College, IN*

*Models of Conflict and Cooperation* offers an introduction to the principles and methodologies of mathematics by means of mathematical game theory, helping to build the fundamental mathematical skills of quantitative literacy in general undergraduates. The game models that are discussed include deterministic, strategic, sequential, bargaining, coalition, and fair division games. The reader will begin to think like a mathematician while progressing through the text.

2009; approximately 419 pages; Hardcover; ISBN: 978-0-8218-4872-2; List US\$69; AMS members US\$55; Order code MBK/65

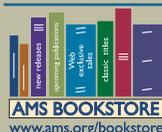


### A Primer on the Calculus of Variations and Optimal Control Theory

Mike Mesterton-Gibbons, *Florida State University, Tallahassee, FL*

This gentle introduction to the calculus of variations and optimal control theory focuses on understanding concepts and how to apply them. The text includes several uncommon applications, in areas such as cancer chemotherapy, navigational control, and renewable resource harvesting. An inviting style of writing appeals to a broad readership, including scholars in physics and economics.

**Student Mathematical Library**, Volume 50; 2009; 252 pages; Softcover; ISBN: 978-0-8218-4772-5; List US\$45; AMS members US\$36; Order code STML/50



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