Zeitschrift: L'Enseignement Mathématique
Herausgeber: Commission Internationale de l'Enseignement Mathématique
Band: 47 (2001)
Heft: 1-2: L'ENSEIGNEMENT MATHÉMATIQUE

Kapitel: Analyse combinatoire

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Joseph R. SHOENFIELD. — **Mathematical logic.** — Un vol. broché, 16,5×24, de VII, 344 p. — ISBN 1-56881-135-7. — Prix: US$35.00. — A.K. Peters, Natick, Mass., 2000.

This book embodies the author's view that "mathematical logic is not a collection of vaguely related results, but a method of attacking some of the most interesting problems which face the mathematician." The basic concepts are presented in an unusually clear and accessible fashion, in a way that helps and intrigues the working mathematician as much as the philosophically minded student of logic. The author keeps in mind the original purpose of mathematical logic–to build the foundations of this vast edifice of knowledge. Concentrating on the central topics of mathematical logic: proof theory, model theory, recursion theory, axiomatic number theory, and set theory, this book has served as a "rite of passage" for many mature and accomplished researchers.

Analyse combinatoire

Ian ANDERSON. — **A first course in discrete mathematics.** — Springer undergraduate mathematics series. — Un vol. broché, 17,5×23,5, de VIII, 200 p. — ISBN 1-85233-236-0. — Prix: DM 59.00. — Springer, London, 2001.

As well as including standard topics such as binomial coefficients, recurrence, the inclusion-exclusion principle, trees, Hamiltonian and Eulerian graphs, latin squares and finite projective planes, the text also includes material on the ménage problem, magic squares, Catalan and Stirling numbers, and tournament schedules. The final chapter uses Hadamard matrices as the bridge from block designs to the idea of error-correcting codes, finishing with the construction of the perfect Golay code. The book contains many worked examples, and each chapter ends with a large number of exercises, with hints or solutions provided for most of them.

Jørgen BANG-JENSEN and Gregory GUTIN. — **Digraphs: theory, algorithms and applications.** — Springer monographs in mathematics. — Un vol. relié, 16,5×24, de XXII, 754 p. — ISBN 1-85233-268-9. — Prix: DM 189.00. — Springer, London, 2000.

Digraphs is the first book to present a unified and comprehensive survey of the subject. In addition to covering the theoretical aspects, including detailed proofs of many important results, the authors present a number of algorithms and applications. The applications of digraphs and their generalizations include, among other things, recent developments in the Travelling Salesman Problem, genetics, and network connectivity. More than 700 exercises and 180 figures will help readers to study the topic. Detailed indexes ease "navigation" through the book. Many open problems and conjectures will inspire further research.

Ervin GYŐRI, Vera T. SÓS, (Editors). — **Recent trends in combinatorics: the legacy of Paul Erdős.** — Un vol. relié, 18×25,5, de XX, 192 p. — ISBN 0-521-80170-2. — Prix: £35.00. — Cambridge University Press, Cambridge, 2001.

This is a collection of surveys and research papers on recent topics of interest in combinatorics, given at a conference in Mátraháza, Hungary. It is dedicated to Paul Erdős, who attended the conference and who is represented by two articles in the collection, including one, unfinished, which he was writing on the eve of his sudden death. Erdős was one of the greatest mathematicians of his century and often the subject of anecdotes about his somewhat unusual lifestyle. A new preface, written by friends and colleagues, gives a flavour of his life, including many such stories, and also describes the broad outline and importance of his work in combinatorics and other related fields.

W.T. TUTTE. — **Graph theory.** — Encyclopedia of mathematics and its applications. — Cambridge mathematical library. — Un vol. broché, 15,5×23,5, de XXI, 333 p. — ISBN 0-521-79489-7. — Prix: £19.95. — Cambridge University Press, Cambridge, 2001.

Designed for the non-specialist, this book is an invaluable reference tool for those interested in a basic understanding of the subject. Exercises, notes and exhaustive references follow each chapter, making it outstanding as both as text and reference. The author approaches the subject with a lively writing style. The reader will delight to discover that the topics in this book are coherently unified and include some of the deepest and most beautiful developments in graph theory.

Théorie des nombres

Harold DAVENPORT. — **Multiplicative number theory.** — 3rd edition. — Graduate texts in mathematics, vol. 74. — Un vol. relié, 16×24, de XIII, 177 p. — ISBN 0-387-95097-4. — Prix: DM 99.00. — Springer, New York, 2000.

This book thoroughly examines the distribution of prime numbers in arithmetic progressions. It covers many classical results, including Dirichlet's theorem on the existence of prime numbers in arithmetic progressions, the theorem of Siegel, and functional equations of the L-functions and their consequences for the distribution of prime numbers. In addition, a simplified, improved version of the large sieve method is presented. The third edition includes a large number of revisions and corrections as well as a new section with references to more recent work in the field.

Matti JUTILA and Tauno METSÄNKYLÄ, (Editors). — **Number theory: proceedings of the Turku Symposium on Number Theory in Memory of Kustaa Inkeri, May 31-June 4, 1999.** — Un vol. relié, 17,5×24,5, de VIII, 328 p. — ISBN 3-11-016481-7. — Prix: DM 268.00. — Walter de Gruyter, Berlin, 2001.

These proceedings contain 22 refereed research and surveys articles. The subject of the symposium was number theory in a broad sense with an emphasis on recent advances and modern methods. The topics covered in this volume include various questions in elementary number theory, new developments in classical Diophantine problems — in particular of the Fermat and Catalan type, the ABC-conjecture, arithmetic algebraic geometry, elliptic curves, Diophantine approximations, Abelian fields, exponential sums, sieve methods, box splines, the Riemann zeta-function and other Dirichlet series, and the spectral theory of automorphic functions with its arithmetical applications.

H.P.F. SWINNERTON-DYER. — **A brief guide to algebraic number theory.** — London Mathematical Society student texts, vol. 50. — Un vol. broché, 15,5×23, de IX, 146 p. — ISBN 0-521-00423-3. — Prix: £15.95. — Cambridge University Press, Cambridge, 2001.

This is an account of algebraic number theory, a field which has grown to touch many other areas of pure mathematics. It is written primarily for beginning graduate students in pure mathematics, and encompasses everything that most such students are likely to need; others who need the material will also find it accessible. The book covers the two basic methods of approaching algebraic number theory, using ideals and valuations, and includes material on the most usual kinds of algebraic number field, the functional equation of the zeta function and a substantial digression on the classical approach to Fermat's Last Theorem, as well as a comprehensive account of class field theory. Many exercises and an annotated reading list are also included.