Ordre, treillis

computing. This book is aimed at undergraduate mathematics and computer science students interested in developing a feeling for what mathematics is all about, where mathematics can be helpful, and what kinds of questions mathematicians work on. The authors discuss a number of selected results and methods of discrete mathematics, mostly from the areas of combinatorics and graph theory, with a little number theory, probability and combinatorial geometry. Wherever possible, the authors use proofs and problem solving to help students understand the solutions to problems. In addition, there are numerous examples, figures, and exercises spread throughout the book.

Ordre, treillis

G. GIERZ, K.H. HOFMANN, K. KEIMEL, J.D. LAWSON, M.W. MISLOVE, D.S. SCOTT. — **Continuous lattices and domains.** — Encyclopedia of mathematics and its applications, vol. 93. — Un vol. relié, 16×24, de XXXVI, 591 p. — ISBN 0-521-80338-1. — Prix: £75.00. — Cambridge University Press, Cambridge, 2003.

Information content and programming semantics are just two of the applications of the mathematical concepts of order, continuity and domains. The authors develop the mathematical foundations of partially ordered sets with completeness properties of various degrees, in particular directed complete ordered sets and complete lattices. Uniquely, they focus on partially ordered sets that have an extra order relation, modelling the notion that one element 'finitely approximates' another, something closely related to intrinsic topologies linking order and topology. Extensive use is made of topological ideas, both by defining useful topologies on the structures themselves and by developing close connections with numerous aspects of topology. The theory so developed not only has applications to computer science but also within mathematics to such areas as analysis, the spectral theory of algebras and the theory of computability. This authoritative, comprehensive account of the subject will be essential for all those working in the area.

George GRÄTZER. — **General lattice theory.** — Second edition. — Un vol. broché, 17×24, de XIX, 663 p. — ISBN 3-7643-6996-5. — Prix: SFr. 118.00. — Birkhäuser, Basel, 2003.

In the present edition of this widely known monograph, the work has been significantly updated and expanded. It contains an extensive new bibliography of 530 items and has been supplemented by eight appendices authored by an exceptional group of experts. The first appendix, written by the author, briefly reviews developments in lattice theory, specifically, the major results of the last 20 years and solutions of the problems proposed in the first edition. The other subjects concern distributive lattices and duality (Brian A. Davey and Hilary A. Priestley), continuous geometries (Friedrich Wehrung), projective lattice geometries (Marcus Greferath and Stefan E. Schmidt), varieties (Peter Jipsen and Henry Rose), free lattices (Ralph Freese), formal concept analysis (Bernhard Ganter and Rudolf Wille), and congruence lattices (Thomas Schmidt in collaboration with the author).

Théorie des nombres

M.A. BENNETT, B.C. BERNDT, N. BOSTON, H.G. DIAMOND, A.J. HILDEBRAND, W. PHILIPP, (Editors). — **Number theory for the millennium.** — Trois vol. brochés, 16×23,5, de respectivement 461 p., 447 p., 450 p. — ISBN 1-56881-126-8 (vol. 1), 1-56881-146-2 (vol. 2), 1-56881-152-7 (vol. 3). — Prix: US$ 50.00. par volume. — A. K. Peters, Natick, Massachusetts, 2002.

These proceedings review some of the major number theory achievements of the 20th century. In addition to survey papers by invited speakers the volume contains numerous original