

a generalization of those of Chebyshev), and they provide the solution to an unusual number of extremal problems. They also play an important role in interpolation theory and numerical integration. Less well known are properties of these polynomials which have a basis in modern analysis, especially ergodic theory, as well as in algebra and number theory.

The book under review not only supplies the important results concerning Chebyshev polynomials in these areas, but also contains a basic introduction to approximation and interpolation theory. Written in a lucid style, which illuminates the beautiful topics covered, the author has enhanced his work by the inclusion of over 300 interesting exercises. As a result, the book can easily be used as a text, especially in a seminar, but it also should be read by anyone wishing to learn about this fascinating subject.

ELI PASSOW

Department of Mathematics
Temple University
Philadelphia, PA 19122

11[41A99].—PAUL NEVAI & ALLAN PINKUS (Editors), *Progress in Approximation Theory*, Academic Press, Boston, 1991, xi + 916 pp., 23 $\frac{1}{2}$ cm. Price \$189.00.

This is a collection of 62 research papers that have been submitted to, and accepted by, the *Journal of Approximation Theory* and, with the authors' permission, have been assembled in this volume in order to alleviate the current backlog of the journal. Accordingly, a great variety of topics, both in pure and applied approximation theory, are being addressed, and the ordering of the papers alphabetically with respect to authors only accentuates this diversity. In character, the papers range from a short 3-page note to a substantial 74-page memoir. The printing conforms exactly to that of the journal, except that no received dates are given.

W. G.

12[68Q40, 65Y15, 65Y25, 11-04, 12-04, 13-04, 14-04, 30-04, 33-04].—STEPHEN WOLFRAM, *Mathematica—A System for Doing Mathematics by Computer*, 2nd ed., Addison-Wesley, Redwood City, California, 1991, xxiv + 961 pp., 23 cm. Price \$48.50 hardcover, \$33.50 paperback.

Mathematica is an interactive computer software system and language intended for solving problems in mathematics. Prominent features are numerical and symbolic mathematical manipulation, elaborate plotting software using the PostScript display technology, and a versatile programming language. While few of the features are entirely novel or "state of the art," the combination of all of these facilities in an accessible package has made it popular.

Any serious user of Mathematica (version 2.0, corresponding to the system described in this publication) will probably wish to have this book close at hand. A purchaser of the software will presumably already own one copy of this manual. It is the principal reference for the commands, and the on-line help