These are the proceedings of a NATO Advanced Study Institute on Approximation Theory and Spline Functions held at Memorial University of Newfoundland August 22–September 2, 1983. The 38 papers included cover a wide range of approximation theory and are devoted about equally to univariate and multivariate theory. There are six papers dealing specifically with spline functions and their applications.

W. G.

12[65–06].—DAVID F. GRIFFITHS (Editor), *Numerical Analysis*, Lecture Notes in Math., vol. 1066, Springer-Verlag, Berlin, 1984, ix + 275 pp., 24 cm. Price $14.00.

This volume contains the texts of 15 invited talks given at the Tenth Dundee Biennial Conference on Numerical Analysis, held June 28–July 1, 1983, at the University of Dundee, Scotland. Topics covered include high-accuracy floating-point algorithms for algebraic processes, spline approximation, numerical methods for optimization problems, bifurcation phenomena, stiff ordinary differential equations, partial differential equations and weakly singular integral equations.

W. G.

13[68–06, 68Q40].—JOHN FITCH (Editor), *EUROSAM 84*, Lecture Notes in Comput. Sci., vol. 174, Springer-Verlag, Berlin, 1984, xi + 396 pp., 24 cm. Price $18.00.

These are the proceedings of an International Symposium on Symbolic and Algebraic Computation, held in Cambridge, England, July 9–11, 1984. The 37 papers are grouped by topic under the headings: Differential Equations, Applications, Simplification and Algorithm Implementation, Algebraic Number Computation, Languages for Symbolic Computing, Groebner Basis Algorithms, Computational Group Theory, Factorization and GCD Computations, Number Theory Algorithms, Integration, Solution of Equations. The large number of categories attests to the great diversity of current potential, and actual, uses of symbolic computation. Specific applications discussed concern nonlinear control theory, quartic equations and Riemann tensor classification, the Dirichlet problem for Laplace's equation, code generation for finite element analysis, Padé approximation, and automatic control of error accumulation.

W. G.

14[65–06, 65F10, 65F50, 65N30, 65N35, 65N50, 68N99].—GARRETT BIRKHOFF & ARTHUR SCHOENSTADT (Editors), *Elliptic Problem Solvers II*, Academic Press, Orlando, Fla., 1984, xiii + 573 pp., 23½ cm. Price $39.00.

These are the proceedings of the Elliptic Problem Solvers Conference held at the Naval Postgraduate School in Monterey, California, January 10–12, 1983. The 38 papers are grouped here, as they were at the conference, roughly by topic under the headings: I. Software Packages, II. Vector and Parallel Processing, III. Iterative Equation Solving, IV. Finite Element and Multigrid Methods, V. Advances in