30[65–04, 65M60, 65N3].—C. A. BREBBIA (Editor), *Variational Methods in Engineering*, Springer-Verlag, Berlin, 1985, x + 538 pp., 23 cm. Price $89.00.

These are the proceedings of the 2nd International Conference on Variational Methods in Engineering held at the University of Southhampton in July of 1985. They contain 46 contributions arranged in 12 sections entitled: Basic variational principles; Mixed models and their applications; Non-linear formulations; Fluid dynamics applications; Shell and plate analysis; Variational techniques in contact and crack mechanics; Time dependent formulations; Material non-linear problems; Finite element techniques; Boundary integral equations and boundary elements; Computational techniques; Geotechnics.

W. G.

31[65–02, 65N30].—J. R. WHITEMAN (Editor), *The Mathematics of Finite Elements and Applications V, MAFELAP 1984*, Academic Press, London and Orlando, Fla., 1985, xviii + 650 pp., $23\frac{1}{2}$ cm. Price $59.00.

This volume contains 11 invited lectures, 34 contributed papers, and 35 abstracts of poster sessions presented at the fifth conference on The Mathematics of Finite Elements and Applications held at Brunel University, England, May 1–4, 1984. Special topics featured at this conference, in addition to traditional themes, include boundary element techniques and the finite element/computer-aided design interface.

W. G.

32[65–02, 65N30].—DAVID F. GRIFFITHS (Editor), *The Mathematical Basis of Finite Element Methods*, The Clarendon Press, Oxford Univ. Press, New York, 1984, x + 189 pp., 24 cm. Price $24.95.

This volume evolved from lectures given at a short expository conference on the Mathematical Basis of Finite Element Methods with Applications to Partial Differential Equations, held at the Imperial College of Science and Technology, University of London, January 5–7, 1983. The emphasis is on recent developments, but basic background material is also briefly summarized. The authors and their titles are: R. Wait, "Function spaces"; R. Wait, "Conforming methods for self-adjoint elliptic problems"; T. Dupont, "A short survey of parabolic Galerkin methods"; D. F. Griffiths & A. R. Mitchell, "Nonconforming elements"; O. C. Zienkiewicz & A. W. Craig, "A-posteriori error estimation and adaptive mesh refinement in the finite element method"; K. W. Morton, "Finite element methods for non-self-adjoint elliptic and for hyperbolic problems: Optimal approximations and recovery techniques"; P. A. Raviart, "Mixed finite element methods"; A. R. Mitchell, "Curved elements"; J. R. Whiteman & K. T. Schleicher, "Introduction to the treatment of singularities in elliptic boundary value problems using finite element techniques".

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