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Theory, Applications, and Computations

by HAMDY A. TAHA, University of Arkansas

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by PHILIP J. DAVIS and PHILIP RABINOWITZ

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1974, 480 pp., \$34.50/£16.55

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PROCEEDINGS OF SYMPOSIA IN APPLIED MATHEMATICS, Volume 20
The Influence of Computing on Mathematical Research and Education,
Edited by Joseph P. LaSalle

This volume contains seven of the invited addresses and fourteen of the contributed papers that were presented at the joint American Mathematical Society and the Mathematical Association of America Conference on the Influence of Computing on Mathematical Research and Education held at the University of Montana, August 13—24, 1973.

The invited addresses were directed primarily to the influence of the computer on mathematical research and the applications of mathematics and secondarily on what this means for the teaching of mathematics and the education of mathematicians. The contributed papers describe more specifically some experiments in developing courses in mathematics with computing and algorithmic orientations and a few reports on computer influenced research.

The titles of the seven invited addresses and their authors follow:

The Influence of Computing on Research in Number Theory by D. H. Lehmer

The Influence of Computers on Algebra by Charles C. Sims

Computational Probability and Statistics by Ulf Grenander

An Introduction to Some Current Research in Numerical Computational Complexity
by J. F. Traub

Applied Mathematics and Computing by Peter D. Lax

The Unexpected Impact of Computers on Science and Mathematics by Thomas E. Cheatham, Jr.

The titles of the fourteen contributed papers and their authors follow:

Computational Complex Analysis by Peter Henrici

Combinatorial Games with an Annihilation rule by Aviezri S. Fraenkel

The Integration of Computing and Mathematics at the Open University by F. B. Lovis
and R. V. M. Zahar

Real Time Computer Graphics Techniques in Geometry by Thomas Banchoff and
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*Dual Orthogonal Series: A Case Study of the Influence of Computing upon Mathematical
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The Design and Use of an Undergraduate Numerical Analysis Laboratory by Myron Ginsberg

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The Influence of Computing on Generalized Inverse Applications in Statistical Analysis
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by Edward L. Spitznagel, Jr.

A new Computer Oriented (Algorithmic) Linear Algebra Course—Preliminary Report
by Robert Ducharme

Computer Supplemented Business Oriented Mathematics by Kenneth L. Hankerson and
Gene A. Kemper

Only some college training in mathematics is needed to read most of the volume. It should be of some interest to high school teachers of mathematics.

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