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method, orbits, stability, and perturbations can be included. My students were sent off to work on individual projects, chosen from these last topics, according to their interests, and they seemed to need but little help in reading the material.

The models are well-chosen to illustrate how systems of differential equations may occur, although some students would like to have seen an example from economics and an additional example from biology, or one from the social sciences. I felt a need to supplement the problem sets associated with the models in order to obtain an adequate number of exercises.

I strongly recommend the use of this book for any class with the appropriate prerequisites.

R. G. BUSCHMAN, University of Wyoming

The Nature of Modern Mathematics. By Karl J. Smith. Brooks/Cole, Monterey, Calif., 1973. xiv + 466 pp.

This is another book intended for a terminal (one or two semester) course for liberal arts students: while it could possibly be used with prospective elementary teachers, it is most appropriate for students who will not have to "use" mathematics.

The first two chapters and chapters four through nine follow an outline which is by now fairly common: (1) Induction and Set Theory, (2) Number Systems (base n), (4) Algebraic Laws (groups, modular arithmetic), (5) Real Numbers, (6) Number Theory, (7) Logic, (8) Permutations and Combinations, and (9) Probability. Clearly, the individual chapters are tightly packed: for instance, in 49 pages Chapter 5 moves from the natural numbers through the integers (via the number line), the rationals (ordered pairs, but "equivalence relation" is not defined, and the question whether operations are well-defined is not raised), and the irrationals (infinite decimals, with some appeal to geometry also) to get the real numbers. The author suggests that a one-semester course can cover five chapters, but four might be more realistic for most students.

The most attractive features of the book are Chapter 3, on computers, and the exercises. Chapter 3 begins with a brief history of calculating devices, and then talks about modern computer programming on three levels: flow charting, assembly language/machine language programming (for some strange reason, decimal notation is used in the latter), and BASIC programming. The material on BASIC is in fact adequate to enable students to write simple programs: the only additions necessary are telling the students how to cope with the local monitor system and whether local keyboard conventions are the same. If you have available a small computer designed for or usually used for BASIC, even that may not be necessary. The specific machine the author apparently has most in mind is the PDP–8, but others are as appropriate. In each chapter after Chapter 3, several of the optional exercises employ

a computer either in the form "to solve this, run the following BASIC program..." or in the form "write a program to solve this." These problems appear to be well designed and helpful both as programming practice and for learning the mathematics at issue.

The computer exercises are not the only interesting ones. About a third of the material in the book is problems: a generous supply of elementary-to-intermediate exercises (with a limited number of answers provided in the back), and two other categories of problems called "Mind Bogglers" and "Problems for Individual Study." (In addition, each Chapter has review questions and an outline.) These two other categories introduce a great deal of mathematics beyond what is in the body of the text, usually motivating it (sometimes loosely) as an offshoot of something in the previous section. E.g., the Königsberg Bridges problem appears in the chapter on number systems; the four-color problem in the section on the number line; Fermat's Last Theorem in the section on the reals; and the St. Petersburg Paradox in the section on mathematical expectation (probability). These problems provide ample material for brighter classes or for allowing students to go off on individual projects. They can thus be of great assistance in dealing with one of the major problems involved in teaching a course of this type: the wide variety of talent and background within a single class.

All in all, Karl Smith's book seems well worth examining for a course of this sort.

EDWARD T. ORDMAN, University of Kentucky

Basic Statistics for Business and Economics. By George W. Summers and William S. Peters. Wadsworth Publishing Company, Belmont, California, 1973. 445 pp. $11.95.

I have taught precalculus service courses in statistics several times and this text, despite many flaws, is the most teachable one I have used. Obviously a great deal of time and effort went into this material. The result is a very flexible package consisting of no less than five parts: (1) the main text, a hardbound book of the traditional sort, (2) a paperbound book, *Self-Correcting Exercises for Basic Statistics in Business and Economics*, (3) a paperbound *Instructor's Manual*, (4) a paperbound *Self-Instruction Supplement for Basic Statistics in Business and Economics*, written by F. F. Elzey and C. P. Armstrong, and (5) a card file of multiple-choice test items.

I did not examine the card file. Solutions to problems in the text are given in the instructor's manual but not in the text. However, the 184 page book of "self-correcting exercises" has solutions to many problems which are virtually the same as those in the text.

The self-instruction supplement by Elzey and Armstrong is programmed and was very useful. It emphasizes basic material from the first fourteen out of eighteen