To summarize, the authors accomplish their objective painlessly and professionally. The book merits the serious consideration of teachers of mathematics at all levels.

W.G. Brown, McGill University

Finite functions: an introduction to combinatorial mathematics, by Henry Sharp Jr. Prentice-Hall, Englewood Cliffs, N.J., 1965. vii + 97 pages. $4.25.

The first half of this book is devoted to definitions notation and obvious theorems in "sets and functions"; the latter half does the same for combinatorial mathematics. Not one substantial theorem is proved. The net effect is to completely hide the natural beauty of combinatorics in a deluge of unnecessary and confusing jargon and notation - another example of the "new" mathematics. One definition and one theorem, taken from the book, will suffice to illustrate its spirit. On page 45: "Definition: A characteristic function on the finite set A is called a combination on A. If the characteristic function has power r, then it is called a combination of power r on A".

After explaining: "Let n be a positive integer and f be the function defined on $\{0, 1, 2, \ldots, n\}$ by the formula $f(r) = \{n\}_r$", (the author uses $\{n\}_r$ instead of the universally accepted $\binom{n}{r}$ to denote $n!/r!(n-r)!$) the author states, on page 51, "Theorem: For a given positive integer n, let m be such that $n = 2m$ or $n = 2m + 1$. Then the maximum value in f is $f(m)$. Furthermore, if n is even then $f(m) > f(r)$ for all $r \neq m$, and if n is odd then $f(m) = f(m+1)$ and $f(m) > f(r)$ for all r except m and m+1."

This book can take its rightful place, on the lowest shelf of the bookcase, next to Selby and Sweet's "Sets, relations, functions: An introduction", to which the author refers.

William Moser, McGill University

Ordinary differential equations - a first course, by Fred Brauer and John A. Nohel. W.A. Benjamin, Inc., New York, 1967. $10.75.

Undergraduate textbooks in ordinary differential equations abound. The book under review combines many of the desirable features to be found in its predecessors. It strikes a reasonable balance between mathematical rigour and intuitive motivation.

The topics covered are, in order: first order equations; equations with constant coefficients; series methods; boundary value problems; linear systems; existence theorems; numerical methods; Laplace transform. This order is pedagogically sound - it passes naturally from easy to hard topics. Of course the existence theorem has to be invoked before being proved, but this is unavoidable. It is simply unfair to bomb students taking a first course in differential equations with the Picard theorem at the outset.

Commendable features include: many physical examples (but fewer towards the end); good treatment of numerical methods, including Runge-Kutta; numerous problems (some with answers). Reviewer's complaints: loquaciousness; disorganization; completely inadequate bibliography (why not list all standard useful references in the subject?).

There is no treatment of non-linear equations. Do these by definition belong only in the second course?

Colin Clark, University of British Columbia

Discovering modern algebra, by K.L. Gardner. Oxford University Press, London, 1966. 260 pages.

This is a pleasing, and successful, attempt to introduce, and motivate, the idea of a group, using examples in arithmetic, transformations in geometry, and matrices. There is also a chapter on linear programming. It is suitable for youngsters, in high school say, who already have some inclination towards mathematics. Of course the drawback is that the contents of this 260 page book could be contained in 50 pages and learned in a few hours by students at the second or third year undergraduate level.

William Moser, McGill University

Problèmes de calcul des probabilités, D. Dacunha-Castelle, D. Revuz et M. Schreiber. Preface du Professeur A. Tortrat. Masson et Cie, Paris, 1965. vi + 196 pages. 36 F.

This collection of problems and solutions was compiled for use in the certificate programme in France in the calculus of probability. It includes 15 on combinatorics, 7 on measure theory, 9 on generating functions, 8 on characteristic functions, 6 on convolutions, 7 on conditional probabilities, 9 on normal laws, 6 on Poisson processes, 8 on convergence in law, 6 on the law of large numbers and 5 miscellaneous problems. Within each section they are arranged in order of increasing difficulty and range from straightforward computation to problems which would challenge most good honors students. This collection of problems fits closely to the text book "Calcul des Probabilités" of A. Tortrat (Masson et Cie., Paris, 1963). In a Canadian university this collection would be a useful supplement to a basic course in probability theory.

D. Dawson, McGill University