projective and injective algebras are all discussed. Also included are sections on Boolean algebras with infinitary operations (σ-algebras and complete algebras). Most of these algebraic concepts are dualized. The author includes many examples which amply motivate the study.

This little book is readable, informative and reasonably priced. For more than half of it, the reader requires only the rudiments of algebra and set theory, but familiarity with point set topology is essential. For the remainder some measure theory and a bit more algebra are useful. There is a good selection of exercises and an index. Unfortunately, there is no bibliography.

W.D. Burgess, McGill University

Introduction to finite mathematics, by J.G. Kemeny, J.L. Snell, G.L. Thompson. Prentice-Hall Inc., Englewood Cliffs, N.J., Second edition, 1966. xiv + 465 pages. $8.95.

This book is designed to expose students outside of the exact sciences to types of mathematics for which such students may find applications more immediate than they might for the traditional calculus and analytic geometry sequence. Any mathematician who has had occasion to consult books and journals in the behavioral sciences will agree that there is much work to be done in this direction. Indeed, this is the only reservation this reviewer has towards this very readable, yet mathematically rigorous text: that it may be opening up to the non-scientist new areas of mathematics for abuse. But for every charlatan who may now have a few more mathematical terms to play with, there will be hundreds of honest practitioners of their various professions who may now regard mathematics as something other than a required but useless college course; the extension of literacy has always produced a few who might better have been left illiterate.

The subject matter is as follows: Chapter I - mathematical logic; applications to switching circuits; Chapter II - finite set theory; applications to voting coalitions; Chapter III - combinatorial analysis; further applications to voting problems; Chapter IV - probability theory, including finite stochastic processes; Chapter V - matrix theory; applications to Markov chains; permutation groups; Chapter VI - linear programming and game theory; Chapter VII - applications to sociometry, genetics, psychology, econometrics, computer simulation.

The book assumes in the reader "the mathematical maturity obtained from two and one-half or more years of high school mathematics". It is only because of the consequent lack of sophistication that it might not be suitable for classroom use with better prepared students; but it could well be used by the latter as a collateral text, and read without the assistance of an instructor. How many honours mathematics students in Canada are exposed to all of the topics discussed in this book?

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