Although some teachers may fail to find some of the familiar material, the text is ample for a first course. Moreover the exercises give much of the factual material of the missing topics.

The result (7.12) in exercise 2, p. 32 seems to be incorrect. Problem 17 on page 121 would have been more accurately expressed by speaking of an *analytic* function of a complex variable. The exercises 4 and 5 on page 140 are incorrect. The University of Chicago Press may well feel proud of this book in every respect. It is my hope that the time taken in its preparation will be repaid by its wide use. Written by a master of oral and written exposition it should receive wide acclaim.

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Lattice Theory. By Garrett Birkhoff. (American Mathematical Society Colloquium Publications, vol. 25.) New York, American Mathematical Society, 1940. 6+155 pp. $2.50.

This is the first book on the far-reaching subject of lattices. The author has succeeded in giving a comprehensive, yet not too terse, account of the theory of lattices and its relation to other branches of mathematics. The general plan is to devote six chapters to the abstract theory, and three to applications. Chapter I deals with partially ordered systems, Chapter II with lattices and their general properties; the important modular axiom is assumed in Chapter III, and the axiom of complementation is added in Chapter IV. Distributive lattices and Boolean algebras end the abstract theory in Chapters V and VI. Thus the author takes the reader through the most important general classes of lattices, by imposing successively restrictive conditions. The last three chapters apply lattice theory to function theory, logic and probability theory.

A partially ordered system is introduced in Chapter I as a set L with a binary relation $\geqq$ on L which is reflexive and transitive and has the property that $x \geqq y$, $y \geqq x$ implies $x = y$. Most important in connection with general partially ordered systems are the principle of duality, viz., that L together with the converse $\leqq$ of the relation $\geqq$ forms a partially ordered system, and a study of the so-called chain conditions, one or both of which are satisfied in many examples. The ascending chain condition asserts that no infinite sequence (a_i) with $a_i < a_{i+1}$ exists; the descending chain condition is dual. Many examples of a partially ordered system are cited, a few of which are the set of all subsets of a set, classes of distinguished subsets of a set, real numbers, integers (relative to the relation of divisibility), partitions, and topologies on a space.