deal of additional work remains to be done on the solution of equations and systems of equations.

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Topology. By John G. Hocking and Gail S. Young. Addison-Wesley, Reading, Mass., 1961. 9+374 pp. $8.75.

This book is designed as a text for a one year first course in topology. Three chapters on general topology and a chapter on homotopy theory constitute the proposed first semester's course, four chapters on algebraic topology the second term's program. The authors have adopted a policy of including by mention or brief description many topics not covered extensively, with the object of providing orientation for further study.

The first two chapters proceed in more-or-less standard fashion with the study of the notion of a topology and the elementary properties of topological spaces: compactness, connectedness, separation and so forth. There is concordantly a discussion of metric spaces. The scope may be suggested by the principal theorems, viz. the Tychonoff compactness theorem, the Tietze extension theorem, the Urysohn metrization theorem and the Baire category theorem. Orientational material, treated perfunctorily and in general without proofs, includes function spaces, uniform structures, topological groups, paracompactness, the Smirnov metrization theorem, inverse limits.

The third chapter contains a more intensive study of compacta than is fashionable nowadays, with a proof of the Hahn-Mazurkiewicz theorem and discussion of monotone-light factorization and indecomposability. There is also a nod towards dimension theory.

Chapter four compresses a remarkably large amount of homotopy theory into 43 pages: homotopy of maps, Borsuk's homotopy extension theorem, essentiality, absolute homotopy groups, knot theory, covering spaces, homotopy local connectedness. Some of these subjects are of course only briefly mentioned. The knot theory is purely descriptive; covering spaces are honored by a definition and a few theorems stated without proof. But it may be fair to say that homotopy theory suffers from the compression. The treatment seems too dense to be readable at this level, and the choice of theorems proved is ill-calculated to give a coherent picture of the structure of the theory.

The next two chapters are devoted to the machinery of homology theory of simplicial complexes, i.e. to the geometry of polytopes and the construction of chain, cycle, boundary and homology groups. Chapter seven discusses relative homology and cohomology, and in-