Integralgleichungen. By G. Hoheisel. Berlin and Leipzig, de Gruyter, 1936. 136 pp.

This little book is volume 1099 of the familiar Sammlung Göschen. As in other numbers of this series, the printer has made the maximum use of available space with the result that a surprising amount of material is to be found in a convenient pocket-size volume.

The author begins with an introduction to the geometry of function spaces with particular reference to functions of integrable square. This is followed by four chapters with the titles: 1. *Linear integral equations with arbitrary kernel*; 2. *The hermitian kernel*; 3. *The orthogonal system of characteristic functions*; 4. *Particular kernels.*

Chapter 1 begins with a brief sketch of the method of Fredholm involving linear systems of algebraic equations. This point of view is introduced merely for historical and pedagogical reasons and is not used in the sequel. The existence and properties of the solving function (lösende kern) are demonstrated and its practical determination is given by means of Neumann's series. Chapter 2 contains the expansion theorems which are important in mathematical physics and other applications. In Chapter 3 is found a brief treatment of the properties of orthogonal systems of characteristic functions. The last chapter discusses the equation of Volterra, symmetrisable kernels, and certain singular kernels.

This volume is a worthy successor to the large number already published in this series.

W. R. LONGLEY

Cycles of Reduced Ideals in Quadratic Fields. By E. L. Ince. (British Association for the Advancement of Science, Mathematical Tables, Volume IV.) London, British Association, 1934. 80 pp.

This volume contains a tabulation of the cycles of reduced ideals in the real quadratic fields $R(\sqrt{m})$ for all square-free integers m less than 2025. The ideals of each cycle are indicated by minimal bases. The table gives for each field the number of genera and the number of ideal classes in each genus where equivalence is used in the wide sense, as well as the fundamental unit of each field. The class to which a cycle belongs is indicated in such a way that the structure of the group of ideal classes is apparent. The generic character of each cycle is also tabulated.

The book contains a detailed account of the generation of the cycles of reduced ideals and of the structure of the tables. The only previous tables in this connection are those of the solution of the equation of Pell $x^2-my^2=1$. These are of course related to the ideals of the cycle in the principal class. The present volume contains the first tabulation of the secondary cycles. The work has been carefully calculated and checked with the existing tables of the Pell equation where possible. The book will be of great assistance to workers in the theory of numbers and the theory of quadratic forms.

H. T. ENGSTROM