

residues are next in order. We then have a full discussion of the properties of rational functions, with a proof of the fundamental theorem of algebra. Passing to transcendental functions, the Mittag-Leffler theorem in its simplest form is proved. An innovation in connection with this proof consists in the introduction of a figure as an aid to the reader in following the analytic reasoning. The function $\zeta(z)$ and the elliptic function $\wp(z) = -\zeta'(z)$ are used in illustration of the theorem. Such properties of infinite products as are essential to an understanding of Weierstrass's primary factors are developed. The chapter closes with a brief discussion of the properties of simply and doubly periodic functions.

Chapter VIII, the last, is devoted to a brief but fairly comprehensive treatment of the properties of multiple-valued functions.

On the whole the book is well coordinated with our undergraduate courses and covers just about the ground in function theory which the first year graduate student of mathematics should get well in hand.

H. B. PHILLIPS.

Plane and Spherical Trigonometry and Tables. By G. WENTWORTH and D. E. SMITH. Boston, Ginn and Company, 1914. 230 + 104 pp.

QUOTING from the preface, this is "a work to replace the Wentworth Trigonometry which has dominated the teaching of the subject in America for a whole generation." . . . "With respect to sequence the rule has been followed that the practical use of every new feature should be clearly set forth before the abstract theory is developed."

In several particulars the book could be made more useful for students intending to pursue mathematics further. For instance, no mention has been made of Argand's diagram or of hyperbolic functions, though the logarithms of negative numbers are unusually well treated. This excellence is balanced by the unfortunate use of negative characteristics which will lead the student into endless trouble later.

Inverse function theory merits more extensive treatment even at the cost of fewer examples, but the related general formulas for all angles having the same sine, cosine or tangent are to be commended. The small pink representations of co-ordinate paper are attractive to the eye, but the graphs of