## TWENTY–SECOND ANNUAL LIST OF PAPERS

READ BEFORE THE AMERICAN MATHEMATICAL SOCIETY AND
SUBSEQUENTLY PUBLISHED, INCLUDING REFERENCES
TO THE PLACES OF THEIR PUBLICATION.

ALEXANDER, J. W., II.   See VEBLEN, O.

BAKER, R. P.   The Method of Monodromie with Applications to Three-Parameter Quartic Equations.   Read (Chicago) April 5, 1912. *Annals of Mathematics*, vol. 14, No. 3, pp. 119–136; March, 1913.

BEAL, F. W.   Normal Congruences Determined by Centers of Geodesic Curvature.   Read Sept. 12, 1911.   *American Journal of Mathematics*, vol. 35, No. 1, pp. 10–36; Jan., 1913.

BIRKHOFF, G. D.   A Determinant Formula for the Number of Ways of Coloring a Map.   Read April 27, 1912.   *Annals of Mathematics*, vol. 14, No. 1, pp. 42–46; Sept., 1912.

—— Proof of Poincaré's Geometric Theorem.   Read Oct. 26, 1912. *Transactions of the American Mathematical Society*, vol. 14, No. 1, pp. 14–22; Jan., 1913.

—— The Reducibility of Maps.   Read April 27, 1912.   *American Journal of Mathematics*, vol. 35, No. 2, pp. 115–128; April, 1913.

BLISS, G. A.   Fundamental Existence Theorems.   Read Dec. 28, 1907, (Chicago) Jan. 1, 1909, Sept. 15–17, 1909, Jan. 1, 1913.   The Princeton Colloquium Lectures on Mathematics, pp. 1–107; New York, 1913.

BLUMBERG, H.   Ueber algebraische Eigenschaften von linearen homogenen Differentialausdrücken.   Read Sept. 10, 1912.   Author's Dissertation, 53 pp.; Göttingen, 1912.

—— A Set of Postulates for Arithmetic and Algebra.   Read Sept. 10, 1912. Proceedings of the Fifth International Congress of Mathematicians, vol. 2, pp. 461–465; 1913.

BÔCHER, M.   A Simple Proof of a Fundamental Theorem in the Theory of Integral Equations.   Read Dec. 28, 1910.   *Annals of Mathematics*, vol. 14, No. 2, pp. 84–85; Dec., 1912.

BRADSHAW, J. W.   An Infinite Product for $\pi/4$ Derived from Gregory's Series.   Read Sept. 7, 1910.   *Quarterly Journal of Pure and Applied Mathematics*, vol. 43, No. 4, pp. 378–379; July, 1912.

BRENKE, W. C.   Transformation of Series by Means of Functions Admitting a Recurrent Relation.   Read (Southwestern Section) Nov. 28, 1908, Nov. 27, 1909, and Nov. 26, 1910.   *Annals of Mathematics*, vol. 13, No. 1, pp. 40–51; Sept., 1911.

CAJORI, F.   Historical Note on the Graphic Representation of Imaginaries before the Time of Wessel.   Read (Southwestern Section) Nov. 30, 1912.   *American Mathematical Monthly*, vol. 19, Nos. 10–11, pp. 167–171; Oct.–Nov., 1912.

CAMP, B. H.   Singular Multiple Integrals, with Applications to Series. Read April 27, 1912.   *Transactions of the American Mathematical Society*, vol. 14, No. 1, pp. 42–64; Jan., 1913.