

EIGHTEENTH ANNUAL LIST OF PAPERS.

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

- AMES, L. D. A Simpler Proof of Lie's Theorem for Ordinary Differential Equations. Read (Chicago) Apr. 9, 1909. *Bulletin of the American Mathematical Society*, vol. 15, No. 8, pp. 384-386; May, 1909.
- BILL, E. G. The Construction of a Space Field of Extremals. Read Dec. 30, 1908. *Bulletin of the American Mathematical Society*, vol. 15, No. 8, pp. 374-378; May, 1909.
- BIRKHOFF, G. D. Boundary Value and Expansion Problems of Ordinary Linear Differential Equations. Read (Chicago) Mar. 30, 1907. *Transactions of the American Mathematical Society*, vol. 9, No. 4, pp. 373-395; Oct., 1908.
- Existence and Oscillation Theorem for a Certain Boundary Value Problem. Read (Chicago) Jan. 1, 1908. *Transactions of the American Mathematical Society*, vol. 10, No. 2, pp. 259-270; Apr., 1909.
- BLISS, G. A. See MASON, M.
- BÔCHER, M. On the Regions of Convergence of Power Series Which Represent Two-Dimensional Harmonic Functions. Read Oct. 25, 1902. *Transactions of the American Mathematical Society*, vol. 10, No. 2, pp. 271-278; Apr., 1909.
- BOLZA, O. The Determination of the Conjugate Points for Discontinuous Solutions in the Calculus of Variations. Read (Chicago) Mar. 30, 1907. *American Journal of Mathematics*, vol. 30, No. 3, pp. 209-221; July, 1908.
- Heinrich Maschke: His Life and Work. Read Sept. 10, 1908. *Bulletin of the American Mathematical Society*, vol. 15, No. 2, pp. 85-95; Nov., 1908.
- BUCHANAN, H. E. On Certain Determinants Connected with a Problem in Celestial Mechanics. Read (Chicago) Jan. 2, 1909. *Bulletin of the American Mathematical Society*, vol. 15, No. 5, pp. 227-231; Feb., 1909.
- CARMICHAEL, R. D. A Table of the Values of m Corresponding to Given Values of $\phi(m)$. Read (Chicago) Mar. 30, 1907. *American Journal of Mathematics*, vol. 30, No. 4, pp. 394-400; Oct., 1908.
- Even Multiply Perfect Numbers of Five Different Prime Factors. Read Apr. 27, 1907. *Bulletin of the American Mathematical Society*, vol. 15, No. 1, pp. 7-8; Oct., 1908.
- On the Geometric Properties of Quartic Curves Possessing Fourfold Symmetry with Respect to a Point. Read Oct. 26, 1907. *Annals of Mathematics*, Ser. 2, vol. 10, No. 2, pp. 81-87; Jan., 1909.
- On the General Tangent to Plane Curves. Read (Chicago) Apr. 18, 1908. *American Mathematical Monthly*, vol. 15, Nos. 8-9, pp. 153-157; Aug.-Sept., 1908.

- On Plane Algebraic Curves Symmetrical with Respect to Each of Two Rectangular Axes. Read (Chicago) Apr. 18, 1908. *American Mathematical Monthly*, vol. 15, No. 10, pp. 175-177; Oct., 1908.
- Notes on the Simplex Theory of Numbers. Read Oct. 31, 1908. *Bulletin of the American Mathematical Society*, vol. 15, No. 5, pp. 217-223; Feb., 1909.
- On the Theory of Functions of a Triple Variable. Read Oct. 31, 1908. *American Mathematical Monthly*, vol. 16, No. 3, pp. 41-46; Mar., 1909.
- CARVER, W. B. The Quadric Spreads Connected with the Configuration $\Gamma_{n+4, n}^{n+2}$ and a Special Case in the Pascal Hexagram. Read Dec. 28, 1906, and Sept. 5, 1907. *American Journal of Mathematics*, vol. 31, No. 1, pp. 1-17; Jan., 1909.
- Degenerate Pencils of Quadrics Connected with $\Gamma_{n+4, n}^{n+2}$ Configurations. Read Dec. 31, 1908. *Bulletin of the American Mathematical Society*, vol. 15, No. 10, pp. 483-486; July, 1909.
- COBLE, A. B. An Application of the Form Problems Associated with Certain Cremona Groups to the Solution of Equations of Higher Degree. Read Dec. 27, 1907. *Transactions of the American Mathematical Society*, vol. 9, No. 4, pp. 396-424; Oct., 1908.
- Symmetric Binary Forms and Involutions. Read Dec. 31, 1908. *American Journal of Mathematics*, vol. 31, No. 2, pp. 183-212; Apr., 1909.
- DICKSON, L. E. Invariantive Reduction of Quadratic Forms in the $GF[2^n]$. Read (Chicago) Dec. 28, 1906. *American Journal of Mathematics*, vol. 30, No. 3, pp. 263-281; July, 1908.
- On Commutative Linear Groups. Read Sept. 6, 1907, and (Chicago) Jan. 1, 1908. *Quarterly Journal of Pure and Applied Mathematics*, vol. 40, No. 2-3, pp. 167-196; Jan.-May, 1909.
- On Families of Quadratic Forms in a General Field. Read (Chicago) Dec. 30, 1907. *Quarterly Journal of Pure and Applied Mathematics*, vol. 39, No. 4, pp. 316-333; July, 1908.
- Definite Forms in a Finite Field. Read Sept. 10, 1908. *Transactions of the American Mathematical Society*, vol. 10, No. 1, pp. 109-122; Jan., 1909.
- Rational Reduction of a Pair of Binary Quadratic Forms; their Modular Invariants. Read Sept. 10, 1908. *American Journal of Mathematics*, vol. 31, No. 2, pp. 103-146; Apr., 1909.
- On the Last Theorem of Fermat. Read Sept. 11, 1908. *Messenger of Mathematics* vol. 38, Nos. 1-2, pp. 14-32; May-June, 1908, and *Quarterly Journal of Pure and Applied Mathematics*, vol. 40, No. 1, pp. 27-45; Oct., 1908.
- General Theory of Modular Invariants. Read (Chicago) Jan. 1, 1909. *Transactions of the American Mathematical Society*, vol. 10, No. 2, pp. 123-158; Apr., 1909.
- On the Representation of Numbers by Modular Forms. Read (Chicago) Jan. 2, 1909. *Bulletin of the American Mathematical Society*, vol. 15, No. 7, pp. 338-347; Apr., 1909.
- DINES, L. L. A Method of Investigating Numbers of the Forms $6^k \cdot s \pm 1$. Read (Chicago) Apr. 17, 1908. *Annals of Mathematics*, ser. 2, vol. 10, No. 3, pp. 105-115; Apr., 1909.

- DRESDEN, A. The Second Derivatives of the Extremal Integral. Read Sept. 10, 1908. *Transactions of the American Mathematical Society*, vol. 9, No. 4, pp. 467-486; Oct., 1908.
- FORD, W. B. A Set of Criteria for the Summability of Divergent Series. Read (Chicago) Apr. 9, 1909. *Bulletin of the American Mathematical Society*, vol. 15, No. 9, pp. 439-444; June, 1909.
- GRANVILLE, W. A. Duality in the Formulas of Spherical Trigonometry. Read Dec. 31, 1908. *American Mathematical Monthly*, vol. 16, No. 3, pp. 47-53; Mar., 1909.
- GRIFFIN, F. L. On the Law of Gravitation in the Binary Systems. Read Dec. 28, 1906, and Sept. 6, 1907. *American Journal of Mathematics*, vol. 31, No. 1, pp. 62-85; Jan., 1909.
- Families of Central Orbits Related to Circular Trajectories. Read Sept. 10, 1908. *American Mathematical Monthly*, vol. 16, No. 4, pp. 57-66; Apr., 1909.
- HARTWELL, G. W. Plane Fields of Force Whose Trajectories are Invariant under a Projective Group. Read (Southwestern Section) Nov. 28, 1908. *Transactions of the American Mathematical Society*, vol. 10, No. 2, pp. 220-246; Apr., 1909.
- HASEMAN, C. Anwendung der Theorie der Integralgleichungen auf einige Randwertaufgaben der Funktionentheorie. Read (Chicago) Dec. 30, 1907. *Mathematische Annalen*, vol. 66, No. 2, pp. 258-272; Nov., 1908.
- HASKINS, C. N. On the Second Theorem of the Mean. Read Feb. 29, 1908. *Annals of Mathematics*, ser. 2, vol. 9, No. 4, pp. 173-179; July, 1908.
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- HODGE, F. H. See MOULTON, E. J.
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- Tautochrones and Brachistochrones. Read Feb. 27, 1909. *Bulletin of the American Mathematical Society*, vol. 15, No. 10, pp. 475-483; July, 1909.
- LANDRY, A. E. A Geometrical Application of Binary Syzygies. Read Oct. 31, 1908. *Transactions of the American Mathematical Society*, vol. 10, No. 1, pp. 95-108; Jan., 1909.

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- YOUNG, A. E. On a Certain Class of Isothermic Surfaces. Read (Chicago) Mar. 30, 1907. *Transactions of the American Mathematical Society*, vol. 10, No. 1, pp. 79-94; Jan., 1909.
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