

NOTES.

THE twenty-second annual meeting of the American Mathematical Society will be held in New York City on Monday and Tuesday, December 27–28, 1915. Titles and abstracts of papers intended for presentation at this meeting should be in the hands of the Secretary by December 11. Abstracts intended to be printed in advance of the meeting should be sent in by December 4.

THE thirty-sixth regular meeting of the Chicago Section, being the fifth western meeting of the Society, will be held at Columbus, Ohio, on Thursday, Friday, and Saturday, December 30–31 and January 1, in affiliation with the American association for the advancement of science. The first session will be a joint meeting with Section A of the Association, at which Professor H. S. WHITE will deliver his retiring address as vice-president of Section A, on "Poncelet polygons," and Professor E. J. WILCZYNSKI will deliver his retiring address as chairman of the Chicago Section. Titles and abstracts of papers intended for presentation at this meeting should be in the hands of the Secretary of the Chicago Section by December 4.

A NEW edition of the List of Officers and Members of the Society is now in preparation and will be issued in January. Blanks for furnishing information have been sent to the members. A prompt response will contribute materially to the correctness and completeness of the List.

THE sixty-eighth meeting of the American association for the advancement of science will be held at Columbus, Ohio, December 27 to January 1, under the presidency of Professor W. W. CAMPBELL, of Lick Observatory. Professor A. O. LEUSCHNER is vice-president and Professor F. R. MOULTON secretary of Section A.

THE concluding (October) number of volume 16 of the *Transactions of the American Mathematical Society* contains the following papers: "A type of singular points for a transformation of three variables," by W. V. LOVITT; "The re-

duction of multiple L -integrals of separated functions to iterated L -integrals," by J. K. LAMOND; "Independent generators of a group of finite order," by G. A. MILLER; "On the zeros of the function $P(x)$, complementary to the incomplete gamma function," by C. N. HASKINS; "Group properties of the residue classes of certain Kronecker modular systems and some related generalizations in number theory," by E. KIRCHER; "Sur l'intégrale de Lebesgue," by C. DE LA VALLÉE POUSSIN; "A new development of the theory of algebraic numbers," by G. E. WAHLIN; "Ruled surfaces whose flecnodal curves have plane branches," by A. F. CARPENTER.

THE closing (October) number of volume 37 of the *American Journal of Mathematics* contains the following papers: "Geometrical and invariantive theory of quartic curves modulo 2," by L. E. DICKSON; "On the solutions of linear non-homogeneous partial differential equations," by L. L. STEIMLEY; "A method in the calculus of variations," by R. B. ROBBINS; "On the conformal geometry of analytic arcs," by G. A. PFEIFFER; "The non-homogeneous differential equation of parabolic type," by G. C. EVANS; "On properties of the solutions of linear q -difference equations with entire function coefficients," by T. E. MASON; "On rational sextic surfaces having a nodal curve of order 9," by C. H. SISAM.

THE annual list of American doctorates published in *Science* presents, for the academic year 1914-1915, 556 names, of which 309 are credited to the sciences. The following 25 successful candidates offered mathematics as major subject (the titles of the theses are appended): A. A. BENNETT, Princeton, "An algebraic treatment of the theorem of closure"; J. W. CAMPBELL, Chicago, "Periodic solutions of the problem of three bodies in three dimensions"; C. R. DINES, Chicago, "Functions of positive type and related topics in general analysis"; C. H. FORSYTH, Michigan, "Vital and monetary losses in the United States due to preventable deaths"; M. G. GABA, Chicago, "A set of postulates for general projective geometry of n dimensions"; OLIVE C. HAZLETT, Chicago, "On the classification and invariantive characterization of nilpotent algebras"; H. B. HEDRICK, Yale, "Some principles and processes in the construction of mathematical tables";

L. A. HOPKINS, Chicago, "On the theory of the motion of the small planets with a periodic orbit for the Hilda type"; H. R. KINGSTON, Chicago, "Metric properties of nets of plane curves"; W. V. LOVITT, Chicago, "A type of singular points for a transformation of three variables"; W. E. MILNE, Harvard, "On the degree of convergence of Birkhoff's series"; G. A. PFEIFFER, Columbia, "On the conformal geometry of analytic arcs"; V. C. POOR, Chicago, "A certain type of exact solution of the equations of motion of a viscous liquid"; H. F. PRICE, Pennsylvania, "Fundamental regions for certain finite groups in two complex variables"; L. J. REED, Pennsylvania, "Some fundamental systems of formal modular invariants and covariants"; P. R. RIDER, Yale, "An extension of Bliss's form of the problem of the calculus of variations, with applications to the generalization of angle"; J. ROSENBAUM, Cornell, "On mixed linear integral equations over a two-dimensional region"; G. RUTLEDGE, Illinois, "The number of abelian subgroups of groups whose orders are the powers of primes"; CAROLINE E. SEELY, Columbia, "Certain non-linear integral equations"; C. P. SOUSLEY, Johns Hopkins, "Invariants and covariants of the Cremona hexahedral form of the cubic surface"; EULA A. WEEKS, Missouri, "A symmetrical generalization of the theory of functions"; C. J. WEST, Cornell, "On certain formulas for representing statistical data"; C. E. WILDER, Harvard, "Problems in the theory of ordinary linear differential equations with auxiliary conditions at more than two points"; F. B. WILEY, Chicago, "Proof of the finiteness of the modular covariants of a system of binary forms and cogredient points"; L. T. WILSON, Harvard, "Conformal transformation of curvilinear angles."

THE United States Bureau of education has recently issued the following two bulletins: No. 35, on "Mathematics in the lower and middle commercial and industrial schools of various countries represented in the International commission on the teaching of mathematics," prepared by Dr. E. H. TAYLOR with the editorial cooperation of the American members of the Commission; No. 39, on "The training of elementary school teachers in mathematics in the countries represented by the Commission," by Dr. I. L. KANDEL. These bulletins may be obtained by teachers of mathematics on application to the Bureau.

THE English translation, by Professor E. R. HEDRICK, of the revised edition of the second volume of Goursat's *Mathematical Analysis* is expected to appear in January, 1916.

THE Joint committee on standards for graphic presentation, composed of representatives of a number of national organizations, has issued a preliminary report as a basis for suggestions to the committee. Copies can be obtained from the American society of mechanical engineers, 29 West 39th Street, New York City, at 10 cents each.

AT the University of Kansas, Dr. C. H. ASHTON has been promoted from an associate professorship to a full professorship of mathematics.

DR. E. C. COLPITTS, of the State College of Washington, has been promoted from an assistant professorship to an associate professorship of mathematics.

MISS GERTRUDE I. MCCAIN has been appointed professor of mathematics in the Western College for Women, Oxford, Ohio.

PROFESSOR E. H. JONES, of Daniel Baker College, has been appointed associate professor of mathematics in the Southern Methodist University.

AT Williams College Dr. H. L. AGARD has been promoted to an assistant professorship of mathematics.

DR. S. D. KILLAM, of the University of Alberta, has been promoted to an assistant professorship of applied mathematics.

THE following appointments to instructorships in mathematics are announced: Dr. M. G. GABA, at Cornell University; Dr. L. M. KELLS, at the College of the City of New York; Mr. J. S. MIKESH, at the University of Minnesota; Dr. P. R. RIDER, at the Sheffield Scientific School.

BOOK catalogues: The Macmillan Company, 66 Fifth Avenue, New York City, catalogue of mathematical and

astronomical books, 1915-1916.—George Gregory, 5 Argyle Street, Bath, England, catalogue no. 240-241, higher mathematics, 38 items.—Galloway and Porter, Cambridge, England, recent mathematical acquisitions, 16 items.—Arthur H. Clark Company, Caxton Building, Cleveland, Ohio, early and rare books, 27 items.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- ARCHIMEDES. *Opera omnia cum commentariis Eutocii. Iterum J. L. Heiberg.* Vol. III. Leipzig, Teubner, 1915. 8vo. 98+448 pp.
M. 9.00
- AUTONNE (L.). *Sur les matrices hypo-hermitiennes et sur les matrices unitaires.* Paris, Gauthier-Villars, 1915. 4+78 pp. Fr.5.00
- BACHMANN (P.). See ENCYCLOPÉDIE.
- BIRKELAND (K.) et SKOLEM (T.). *Une méthode énumérative de la géométrie.* Christiania (Vid. Selsk. Skrift.), 1915. Gr. 8vo. 61 pp.
- CAHEN (E.). See ENCYCLOPÉDIE.
- CANTOR (G.). *Contributions to the founding of the theory of transfinite numbers.* Translated by P. E. B. Jourdain. Chicago and London, Open Court, 1915. 8vo. 10+211 pp. Cloth. \$1.25
- DEMORGAN (A.). *A budget of paradoxes.* 2d edition, edited by D. E. Smith. 2 volumes. Chicago, Open Court, 1915. 8vo. 8+402+387 pp. Cloth. \$7.00
- DICKSON (L. E.). *Algebraic invariants.* (Mathematical monograph series, No. 14.) New York, Wiley, 1915. 8vo. \$1.25
- DINGELDEY (F.). See SALMON (G.)
- ENCYCLOPÉDIE des sciences mathématiques pures et appliquées. Tome I, volume 3, fascicule 5: Propositions transcendantes de la théorie des nombres, par P. Bachmann, J. Hadamard et E. Maillet; Théorie des corps de nombres algébriques, par D. Hilbert et H. Vogt; Multipliation complexe, par H. Weber et E. Cahen. Leipzig, Teubner, 1915. Gr. 8vo. Pp. 385-480. M. 3.00
- ENCYKLOPÄDIE der mathematischen Wissenschaften. Band III 3, Heft 4: H. Liebmann, Berührungstransformationen; Geometrische Theorie der Differentialgleichungen. Leipzig, Teubner, 1915. Gr. 8vo. Pp. 441-539. M. 3.20
- ENGEL (F.). *Zur Differentialgeometrie der komplexen analytischen Flächen.* Strassburg, 1914. 8vo. 37 pp.
- FIEDLER (W.). See SALMON (G.)
- GOLDENRING (R.). *Die elementargeometrischen Konstruktionen des regelmässigen Siebzehnecks. Eine historisch-kritische Darstellung.* Leipzig, Teubner, 1915. Gr. 8vo. 7+69 pp. Geh. M. 2.80