

NOTES.

THE annual meeting of the American Mathematical Society will be held in New York City on Thursday and Friday, December 27–28. Titles and abstracts of papers intended for presentation at this meeting should be in the hands of the Secretary by December 3, if the abstracts are to be printed in advance of the meeting. Other titles may be sent in not later than December 10.

THE fortieth regular meeting of the Chicago Section will be held at the University of Chicago on Friday and Saturday, December 28–29. Friday afternoon will be devoted to a joint meeting with the Mathematical Association of America, at which Professor W. B. FORD will deliver his retiring address as chairman of the Section. The joint dinner of the two organizations will be held on Thursday evening. Titles and abstracts of papers intended for presentation at this meeting should be in the hands of the Secretary of the Section by December 3.

THE concluding (October) number of volume 18 of the *Transactions of the American Mathematical Society* contains the following papers: “Expansion problems of ordinary linear differential equations with auxiliary conditions at more than two points,” by C. E. WILDER; “A memoir on the doctrine of associated forms,” by O. E. GLENN; “The degree and class of multiply transitive groups,” by W. A. MANNING; “Some geometric characterizations of isothermal nets on a curved surface,” by G. M. GREEN; “A new method in boundary problems for differential equations,” by R. G. D. RICHARDSON; “Note supplementary to the paper ‘On certain pairs of transcendental functions whose roots separate each other,’” by MAXIME BÔCHER; “A theorem for space analogous to Cesàro’s theorem for plane isogonal systems,” by P. F. SMITH.

THE concluding (October) number of volume 39 of the *American Journal of Mathematics* contains the following papers: “The potential of a lens, and allied physical problems,” by

G. GREENHILL; "On the asymptotic character of functions defined by series of the form $\sum c_n g(x+n)$," by R. D. CARMICHAEL; "Possible characteristic operators of a group," by G. A. MILLER; "Linear differential equations in infinitely many variables," by W. L. HART; "On the asymptotic value of sums of power residues," by H. H. MITCHELL; "On the structure of finite continuous groups," by J. A. BULLARD.

THE following mathematical papers have appeared in recent numbers of the *Proceedings of the National Academy of Sciences*: in the April, 1917, number (volume 3, number 4), "Dynamical systems with two degrees of freedom," by G. D. BIRKHOFF; in the July number (volume 3, number 7), "The Cayleyan curve of the quartic," by TERESA COHEN, and "Triads of transformations of conjugate systems of curves," by L. P. EISENHART; in the October number (volume 3, number 10), "On the general theory of curved surfaces and rectilinear congruences," by G. M. GREEN.

MANUSCRIPTS intended for publication in the *Bulletin de la Société mathématique de France* may hereafter be written in French, English, or Italian.

THE library of the American Mathematical Association has been deposited in the library of Oberlin College.

THE following 29 doctorates with mathematics as major subject were conferred by American universities in the academic year 1916-1917; the title of the dissertation is added in each case: C. C. BRAMBLE, Johns Hopkins, "A complete system for a collineation group isomorphic with the group of the double tangents of a plane quartic"; C. C. CAMP, Cornell, "An extension of the Sturm-Liouville expansion"; SARAH E. CRONIN, Columbia, "Geometric properties completely characterizing all the curves in a plane along which the constrained motion is such that the pressure is proportional to the normal component of the acting force"; W. L. CRUM, Yale, "The perturbations caused by a close approach of two asteroids"; MARY F. CURTIS, Harvard, "Curves invariant under point transformations of special type"; T. DANTZIG, Indiana, "Contributions to the theory of plane transformations"; L. R. FORD, Harvard, "On rational approximations to an irrational complex number"; E. D. GRANT, Chicago, "The motion of a flexible cable in a vertical plane"; C. M.

HEBBERT, Illinois, "Projective pencils of stelloids and the curve generated by them"; A. W. HOBBS, Johns Hopkins, "On a problem of projectiles"; T. R. HOLLCROFT, Cornell, "On the types of plane (2, 3) correspondences"; GOLDIE P. HORTON, Texas, "Lebesgue integrals"; M. T. HU, Harvard, "Linear integro-differential equations with a boundary condition"; E. P. HUBBLE, Chicago, "Photographic investigations of faint nebulae"; K. W. LAMSON, Chicago, "A general implicit function theorem with an application to problems of relative minimum"; GILLIE A. LAREW, Chicago, "Necessary conditions for the problem of Mayer in the calculus of variations"; FLORA E. LESTOURGEON, Chicago, "Minima of functions of lines"; A. S. MERRILL, Chicago, "An isoperimetric problem with variable end points"; B. E. MITCHELL, Columbia, "Complex conics and their real representation"; H. C. M. MORSE, Harvard, "Certain types of geodesic motion on a surface of negative curvature"; G. W. MULLINS, Columbia, "Differential invariants under the inversion group"; I. C. NICHOLS, Michigan, "A comparative study on fractions in the early treatises on the Hindu art of reckoning"; J. F. RITT, Columbia, "On a general class of linear homogeneous differential equations of infinite order with constant coefficients preceded by a note on the resolution into partial fractions of the reciprocal of an entire function of genus zero"; E. F. SIMONDS, Columbia, "Differential invariants in the plane"; T. McN. SIMPSON, Chicago, "Relations between the metric and projective theories of space curves"; D. M. SMITH, Chicago, "Jacobi's condition for problems of Lagrange in the calculus of variations"; G. W. SMITH, Illinois, "On nilpotent algebras generated by two units such that i^2 is not an independent unit"; E. A. WHITE, Cornell, "Mechanical theory of the plow"; W. H. WILSON, Illinois, "On a certain class of functional equations."

RICE INSTITUTE. The following advanced mathematical courses are given during the present academic year.—By Professors P. J. DANIELL and G. C. EVANS and Dr. F. D. MURNAGHAN: Theory of functions of a real variable, three hours; Aerodynamics, three hours.—By Professor DANIELL: Statistics and probability, three hours.—By Professor EVANS: Differential and integral equations, three hours.—By Professor W. C. GRAUSTEIN: Projective geometry, three hours.

THE following is an additional list of university and college teachers of mathematics who have recently entered the national military service:

Major D. H. CRISSY, professor of mathematics at West Point, has been appointed commandant of the government school of aeronautics at Princeton. Professor C. W. COBB, of Amherst College, has been granted a year's leave of absence to enter the aviation work of the government. Professor W. J. BERRY, of the Brooklyn Polytechnic Institute, has been appointed second lieutenant 308th infantry, U. S. N. A. Professor E. I. SHEPARD, of Williams College, has been commissioned captain in the officers' reserve corps. Professor J. A. NYSWANDER, of the University of Nevada, Professor C. C. CAMP, of Ottawa University, Dr. L. M. KELLS, of the University of Illinois, and Dr. J. M. STETSON, of Adelbert College, have joined the national army. Dr. L. L. SILVERMAN, of Cornell University, has accepted a position with the Massachusetts board of public safety.

AT Purdue University associate professor WILLIAM MARSHALL has been promoted to a full professorship of mathematics, and Mr. GLENN JAMES has been promoted to an assistant professorship of mathematics. Professors G. ALFORD and J. WESTLUND have retired from active service.

AT the University of Michigan junior professor W. B. FORD has been promoted to a full professorship of mathematics, and Drs. L. A. HOPKINS and V. C. POOR have been promoted to assistant professorships of mathematics. Mr. G. H. CRESSE, Mr. G. D. JONES, and Dr. R. B. ROBBINS have been appointed instructors in mathematics. Dr. V. H. WELLS has been appointed professor of mathematics and statistics in the University of Pittsburgh, and Dr. A. L. MILLER has been appointed instructor in mathematics in Harvard University.

PROFESSOR C. N. HASKINS, of Dartmouth College, has been granted leave of absence for the present half-year.

AT the University of Pennsylvania Professor O. E. GLENN is absent on leave during the present half-year. Dr. J. R. KLINE has been appointed instructor in mathematics.

DR. HARRY BATEMAN has been appointed professor of aeronautical research and mathematical physics in Throop College.

At the University of Texas adjunct professor J. W. CALHOUN has been promoted to an associate professorship of pure mathematics, and adjunct professor E. L. DODD has been promoted to an associate professorship of actuarial mathematics. Mr. H. J. ETTLINGER has been promoted to an adjunct professorship of applied mathematics. Dr. T. M. SIMPSON has been appointed to an adjunct professorship of mathematics.

MR. E. H. CLARKE, of Purdue University, has been appointed professor of mathematics in Hiram College.

DR. D. D. LEIB, of Connecticut College, has been promoted to an associate professorship of mathematics.

At Iowa State College Dr. A. HELEN TAPPAN has been promoted to an assistant professorship of mathematics.

At the Carnegie Institute of Technology at Pittsburgh Dr. J. C. MOREHEAD has been promoted to an assistant professorship of mathematics and descriptive geometry.

MR. I. L. MILLER, of Indiana University, has been appointed professor of mathematics in Carthage College.

DR. E. F. SIMONDS, of Columbia University, has been appointed instructor in mathematics in the University of Illinois.

DR. PAULINE SPERRY, of Smith College, has been appointed instructor in mathematics in the University of California.

MR. H. P. KEAN has been appointed instructor in mathematics in Milliken University.

DR. W. H. WILSON has been appointed instructor in mathematics in the Massachusetts Institute of Technology.

DR. G. W. SMITH has been appointed instructor in mathematics and acting head of the department of physics in Beloit College.

DR. C. C. BRAMBLE has been appointed instructor in mathematics in the U. S. Naval Academy.

DR. A. W. HOBBS has been appointed instructor in mathematics in the University of North Carolina.

DR. C. M. HEBBERT and Dr. F. W. REED have been appointed instructors in mathematics in the aviation school of the University of Illinois.

DR. R. W. BURGESS, of Brown University, is now in the Bureau of Statistics at Washington.

DR. RUTH GENTRY died at Indianapolis, Ind., October 18, 1917. Miss Gentry had been a member of the American Mathematical Society since 1894.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

BOUTROUX (P.). See PASCAL (B.).

BRUNSCHVICG (L.). See PASCAL (B.).

BURKHARDT (H.). See ENCYCLOPÉDIE.

ENCYCLOPÉDIE des sciences mathématiques pures et appliquées. Tome II, volume 4, fascicule 2: Groupes de transformations continus; exposé, d'après l'article allemand de H. Burkhardt et L. Maurer, par E. Vessiot. Paris, Gauthier-Villars, 1916.

GAZIER (F.). See PASCAL (B.).

GEORGI (K.). Ueber die konforme Abbildung gewisser nichtsymmetrischer unendlichvielfach zusammenhängender Bereiche auf Kreisbereiche. (Diss.) Jena, 1915.

GMEINER (J. A.). See STOLZ (O.).

GROTENDORST (N. C.). Beginselen der differentiaal- en integraalrekening. Vierde verbeterde druk. Breda, De Koninklijke Militaire Academie, 1916. Gr. 8vo. 10 + 551 pp.

HARTMANN (F.). Zur Lösung des Fermatschen Problems. Leipzig, 1916.
M. 1.00

KORTMULDER (R. J.). De logische grondslagen der wiskunde. (Diss.) Amsterdam, A. H. Kruyt, 1916.

MAURER (L.). See ENCYCLOPÉDIE.