

## NOTES.

THE San Francisco Section of the AMERICAN MATHEMATICAL SOCIETY will hold its eighth regular meeting at the University of California, on September 30.

AT the meeting of the London mathematical society held on May 11, 1905, the following papers were read: by Mr. J. A. H. JOHNSTON, "On the intersection of two conic sections"; by Mr. H. G. DAWSON, "On a system of conics yielding operators which annihilate a cubic, and its bearing on the reduction of the cubic to the sum of four cubes"; by Lieut. Col. A. CUNNINGHAM, "Higher Pellian factorizations."

THE Royal academy of sciences of Denmark announces the following problem in mathematics, for the best solution of which it offers the academy's gold medal, valued at 320 crowns:

To indicate a rule of multiplication applicable to the numerals mentioned by T. N. Thiele (Memoirs of the Royal Academy of Sciences and Arts of Denmark, series 6, II, volume 11 (1886), page 508), and by means of which the product as well as the sum can be obtained, presenting the same three-dimensional form that characterizes the factors. Then examine whether the principal theorems of multiplication and division are all satisfied. It is also desired to examine whether the numerals are susceptible of a geometric interpretation.

Competing memoirs may be written in Danish, Swedish, German, French, English or Latin, and sent under the usual conditions to the secretary, Professor H. G. Zeuthen, University of Copenhagen, before October 31, 1906.

THE Royal academy of sciences of Turin will award the Bressa prize to the person "who, in the opinion of the academy, shall have contributed during the interval 1903-1906 the most important or most useful discovery or written the most celebrated book, in the field of physical or experimental sciences, natural history, pure and applied mathematics, chemistry, physiology, pathology, not excluding geology, history, geography or statistics." Competing books or memoirs must be received by the president of the academy before December 31, 1906. Manuscripts will not be considered. The prize has a money value of 9600 lire.

THE various American universities offer advanced courses in mathematics for the year 1905–1906 as follows :

**BROWN UNIVERSITY.** — By Professor H. P. MANNING : Elementary differential equations, three hours ; Advanced differential equations, three hours ; Quaternions and allied subjects, three hours.

**UNIVERSITY OF CHICAGO.** — By Professor E. H. MOORE : Selected chapters in the theory of functions of a real variable, five hours ; Seminar, two hours. — By Professor O. BOLZA : Theory of invariants (spring), five hours ; Theory of functions of a complex variable, five hours. — By Professor H. MASCHKE : Differential geometry, five hours ; Advanced calculus (summer), five hours. — By Professor H. E. SLAUGHT : Definite and elliptic integrals, three hours. — By Professor J. W. A. YOUNG : Critical review of secondary mathematics, three hours. — By Professor L. E. DICKSON : Theory of numbers (summer), five hours : Algebraic numbers and forms, five hours. — By Dr. A. C. LUNN : Theory of potential (winter), three hours ; Differential equations, five hours.

**JOHNS HOPKINS UNIVERSITY.** — By Professor F. MORLEY : Higher geometry, two hours ; Vector analysis (first half year), two hours ; Theory of functions (second half year), two hours ; Classic authors, one hour. — By Dr. A. COHEN : Elementary theory of functions, two hours ; Calculus of variations, two hours ; Differential equations of mechanics, two hours. — By Dr. A. B. COBLE : Theory of finite groups, two hours. — By Dr. F. FRANKLIN : Theory of probabilities (winter), two hours.

**UNIVERSITY OF MINNESOTA.** — By Professor J. F. DOWNEY : Advanced calculus ; Curve tracing. — By Dr. G. N. BAUER : Solid analytic geometry ; Theory of surfaces. — By Dr. E. J. MANCHESTER : Differential equations ; Theory of functions of a complex variable. Each course is given three hours a week.

**UNIVERSITY OF VIRGINIA.** — By Professor W. H. ECHOLS : Solid analytic geometry (fall), three hours ; Advanced calculus (winter and spring), three hours ; Theory of functions (fall and winter), three hours ; Kinematic geometry (spring), three hours. — By Professor J. M. PAGE : Introduction to the theory of transformation groups (fall), three hours ; Linear partial differential equations (winter and spring), three hours ; Analytic geometry of surfaces and twisted curves, three hours.

PROFESSOR S. ZAREMBA, of the University at Cracow, has been promoted to a full professorship of mathematics.

DR. M. DEHN, of the University of Münster, will lecture at the University of Kiel until Professor Stäckel's successor is appointed.

DR. L. HAHN has been appointed docent in mathematics at the University of Vienna.

THE Royal Society of London has elected Professor H. A. LORENTZ, of the University of Leyden, a corresponding member. Mr. J. E. CAMPBELL, of Oxford, and Mr. E. T. WHITTAKER, of Cambridge, have been elected fellows of the society.

DR. H. VAN DER VYVER has been appointed adjunct professor of mathematical geography at the University of Ghent.

MR. G. B. MATHEWS has resigned his lectureship in St. John's College, Cambridge.

MR. ERNEST BROWN, lecturer in mechanics at the University of Liverpool, has been appointed assistant professor of the same subject at McGill University.

THE honorary degree of doctor of laws was conferred upon Professor D. E. SMITH, of Columbia University, at the recent commencement of Syracuse University.

PROFESSOR H. S. WHITE, of Northwestern University, has been appointed professor of mathematics at Vassar College.

DR. WILLIAM FINDLAY, of Columbia University, has been appointed professor of mathematics at McMaster University, Toronto, Canada, succeeding Professor A. C. MCKAY who has been appointed chancellor of the university and professor of physics.

PROFESSOR G. A. BLISS, of the University of Missouri, has been appointed assistant professor of mathematics at Princeton University.

DR. E. V. HUNTINGTON, of Harvard University, has been promoted to an assistant professorship of mathematics.

DR. A. S. GALE, of Yale University, has been appointed assistant professor in charge of the department of mathematics at the University of Rochester.

DR. W. B. FITE, of Cornell University, has been promoted to an assistant professorship in mathematics.

A NEW assistant professorship in mathematics has been established in the University of Washington and filled by the appointment of Professor F. M. MORRISON, of Buchtel College, Akron, O.

DR. W. H. BUSSEY, of Evanston, Ill., has been appointed to a tutorship in mathematics in Columbia University.

DR. W. D. A. WESTFALL has been appointed instructor in mathematics at the University of Missouri.

DR. W. B. FORD, of Williams College, has been appointed instructor in mathematics at the University of Michigan.

PROFESSOR H. TABER, of Clark University, has been granted a leave of absence, and will spend next year at European universities.

PROFESSOR H. F. BLICHFELDT, of Stanford University, has been granted leave of absence for next year, and will spend the time at European universities.

PROFESSOR W. D. CAIRNS, of Oberlin College, has been granted a leave of absence. He will spend next year at Göttingen.

MR. O. E. GLENN has been appointed acting assistant professor of mathematics at Drury College, Springfield, Missouri, for the year 1905-06.

LIEUTENANT ADOLF SCHEPP, of Wiesbaden, well known for his translations of English and Italian mathematical works into German, died March 9, at the age of 68 years.

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## NEW PUBLICATIONS.

### I. HIGHER MATHEMATICS.

BARBIERI (A.). See BORTOLOTTI (E.).

BOCHOW (K.). Die Funktionen rationaler Winkel, besonders die numerische Berechnung der Winkelfunktionen ohne Benutzung der trigonometrischen Reihen und ohne Kenntnis der Zahl  $\pi$ . (Progr.). Magdeburg, 1905. 4to. 40 pp.