

NOTES.

CERTAIN numbers of the *Bulletin of the New York Mathematical Society* are now nearly out of print. The committee of publication is especially desirous of procuring copies of volume 2, nos. 6 and 7, and volume 3, nos. 3 and 9, and is willing to pay one dollar per copy for these numbers. The committee respectfully requests the members of the Society to look over their files and to notify the committee of any duplicates of the numbers mentioned with which they are willing to part. The Society receives a considerable revenue from the sales of sets of the BULLETIN and is often able to secure desirable exchanges of back volumes of other mathematical journals in return for its own. These two interests will be seriously affected as soon as the present small supply of the numbers in question is exhausted, unless the committee of publication is able to replace them.

THE twelfth regular meeting of the Chicago Section of the AMERICAN MATHEMATICAL SOCIETY will be held in the Ryerson Physical Laboratory of the University of Chicago, on Friday and Saturday, January 2 and 3, 1903. Titles and abstracts of papers should be in the hands of the secretary of the section, Professor T. F. Holgate, 617 Hamline St., Evanston, Ill., at least two weeks before the meeting.

THE second regular meeting of the San Francisco Section of the AMERICAN MATHEMATICAL SOCIETY will be held in room 21, North Hall, of the University of California, on Saturday, December 20, 1902. Titles and abstracts of papers should be in the hands of the secretary of the section, Professor G. A. Miller, Stanford University, at least two weeks before the meeting.

A NEW edition of the Annual Register of the AMERICAN MATHEMATICAL SOCIETY is now in preparation and will be issued in January next. Forms for furnishing necessary information have been sent to each member. Those who have not already responded to the circular are requested to do so at once.

THE October number (volume 4, number 1, second series) of the *Annals of Mathematics* contains: "The geodesic lines

on the anchor ring," by G. A. BLISS; "Proof of a theorem concerning isosceles triangles," by H. F. BLICHFELDT; "An elementary exposition of Frobenius's theory of group characters and group determinants," by L. E. DICKSON; "Communication concerning Mr. Ransom's mechanical construction of conics," by E. V. HUNTINGTON.

CAMBRIDGE UNIVERSITY.—Advanced mathematical courses for the current academic year are announced as follows:—

Michaelmas term, 1902.—By Professor Sir G. G. STOKES: Hydrodynamics, including viscosity, three hours.—By Professor A. R. FORSYTH: Differential geometry; general theory of curves and surfaces, three hours; Fourier's and other expansion theorems, two hours.—By Professor G. H. DARWIN: Orbits of planets; Figures of equilibrium of rotating fluid, three hours.—By Professor Sir R. S. BALL: Planetary theory, three hours.—By Dr. E. W. HOBSON: Spherical and cylindrical harmonics, three hours.—By Mr. J. LARMOR: Electrodynamics, three hours.—By Mr. H. F. BAKER: Elementary theory of functions, three hours.—By Mr. H. M. MACDONALD: Waves (especially waves of light), three hours.—By Mr. H. W. RICHMOND: Analytic geometry of curves, three hours.—By Mr. G. T. WALKER: The electromagnetic field, three hours.—By Mr. G. B. MATHEWS: Algebraic functions (elementary).—By Mr. A. N. WHITEHEAD: Application of symbolic logic to Cantor's theory of aggregates, three hours.—By Mr. J. H. GRACE: Invariants and geometric applications, three hours.

Lent term, 1903.—By Professor Sir G. G. STOKES: Physical optics, three hours.—By Professor A. R. FORSYTH: Differential geometry; general theory of curves and surfaces (continued), three hours.—By Professor G. H. DARWIN: Outlines of dynamical astronomy, three hours.—By Dr. E. W. HOBSON: Sound and vibrations, three hours.—By Mr. J. LARMOR: Electrodynamics, with optical and thermodynamic applications, three hours.—By Mr. H. W. RICHMOND: Analytic geometry of three dimensions, projective properties, three hours.—By Mr. H. F. BAKER: Theory of functions.—By Mr. H. M. MACDONALD: Hydrodynamics, three hours.—By Mr. G. B. MATHEWS: Theory of algebraic numbers, three hours.—By Mr. R. A. HERMAN: Hydrodynamics.—By Mr. A. BERRY: Elliptic functions.—By Mr. G. T. WALKER: The electromagnetic theory of light, three hours.—By Mr. G. T. BENNETT: Linear and quadratic complexes, three hours.—By Mr. E. T. WHIT-

TAKER: The theory of definite integrals, two hours. By Mr. J. H. GRACE: Invariants and geometric applications (continued), three hours.—By Mr. HUDSON: Geometric theory of ordinary differential equations.

Easter term, 1903.—By Professor Sir R. S. BALL: Perturbation of cometary orbits, three hours.—By Mr. W. L. MOLLISSON: Theory of potential and electrostatics, three hours.—By Mr. A. N. WHITEHEAD: Non-euclidean geometry.

Long vacation, 1903.—By Professor Sir R. S. BALL: Applications of modern geometry to dynamics, three hours (short course).—By Mr. E. T. WHITTAKER: General dynamics, with applications to astronomy and thermodynamics, three hours.

THE Belgian Academy at Brussels, announces as its prize subject for 1903, the following:

“An important contribution to the study of mixed forms in any number of variables, with the application of the results to the geometry of any spaces.”

THE London Mathematical Society has awarded its De Morgan Medal for 1902 to Professor A. G. GREENHILL, of the Ordnance College, Woolwich.

ON December 15, the University of Klausenberg will celebrate the hundredth anniversary of the birth of JOHANN BOLYAI.

PROFESSOR K. HENSEL, of the University of Berlin, has been called to a professorship of mathematics at the University of Marburg.

MR. ALFRED T. DE LURY, M.A., formerly lecturer in mathematics in the University of Toronto, has been appointed associate professor in the same department. DR. J. C. FIELDS has been appointed special lecturer in mathematics in the University of Toronto.

PROFESSOR L. E. DICKSON, of the University of Chicago, is now associated with Professor B. F. FINKEL, of Drury College, as editor of the *American Mathematical Monthly*. Mr. J. M. COLAW, formerly associate editor of the *Monthly*, has retired from the editorial staff.

DR. J. W. MILLER has been appointed instructor in mathematics and astronomy at Lehigh University.

DR. C. N. HASKINS has been appointed instructor in mathematics at the Massachusetts Institute of Technology.

PROFESSOR XAVIER AN TOMARI, editor of the *Nouvelles annales de mathématiques*, died at Paris, on June 9, 1902.

PROFESSOR ERNST SCHRÖDER, of the department of mathematics in the Polytechnic school in Carlsruhe, died on June 17, 1902.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- BETTI (E.). Opere matematiche, pubblicate per cura della R. Accademia dei Lincei. (In 2 volumes.) Vol. I. Milano, Hoepli, 1902. 4to. Fr. 25.00
- COMPTE RENDU du deuxième congrès international des mathématiciens, tenu à Paris, du 6 au 12 août 1900. Procès-verbaux et communications, publiés par E. Duporcq, secrétaire général du congrès. Paris, Gauthier-Villars, 1902. 8vo. 456 pp. Fr. 16.00
- DUPORCQ (E.). See COMPTE RENDU.
- DZIWIŃSKI (P.). Wykłady matematyki, Kurs I. Zasady geometrii analitycznej i analizy wyższej, tom I. Wstęp do geometrii i teorja wyznaczników. Początki analizy wyższej i zasady rachunku różniczkowego. Lwów, 1902. 4°. 19 + 928 pp. M. 30.00
- GODEFROY (M.). Théorie élémentaire des séries (limites; séries à termes constants; séries à termes variables; fonction exponentielle; fonctions circulaires; fonction gamma). Avec une préface de L. Sauvage. Paris, Gauthier-Villars, 1903. 8vo. 8 + 266 pp. Fr. 8.00
- HEDRICK (E. R.). On the sufficient conditions in the calculus of variations, 8vo. (*Bulletin of the American Mathematical Society* (2) 9, pp. 11-24.)
- IGURBIDE (J. F.). Nature harmonique de l'espace; traduit de l'espagnol. Barcelone, Giro, 1902. 8vo. 245 pp.
- MONTCHEUIL (M. DE). Sur une classe de surfaces. (Thèse.) Paris, Gauthier-Villars, 1902. 4to. 83 pp.
- RÉPERTOIRE bibliographique des sciences mathématiques. 2e série. Fiches 1001 à 1100. Paris, Gauthier-Villars, 1901. 18mo. Fr. 2.00
- SAPOLSKY (L.). Ueber die Theorie der relativ-Abelschen cubischen Zahlkörper. (Diss.) Leipzig, Teubner, 1902. 8vo. 7 + 481 + 6 pp., 35 plates. M. 6.00
- SAUVAGE (L.). See GODEFROY (M.).
- SIMON Y MAYORGA (J.). Caracteres de irracionalidad de los números enteros. Trabajo de investigación. Salamanca, Calon, 1902. 8vo. 20 pp. Fr. 2.00