NOTES.

THE seventh regular meeting of the San Francisco Section of the AMERICAN MATHEMATICAL SOCIETY will be held at Stanford University on Saturday, February 25.

THE opening (January) number of volume 6 of the *Transactions* of the AMERICAN MATHEMATICAL SOCIETY contains the following papers: "On the linear transformations of a quadratic form into itself," by P. F. SMITH; "A set of postulates for real algebra, comprising postulates for a one-dimensional continuum and for the theory of groups," by E. V. HUNTINGTON; "On the primitive groups of class $3p$," by W. A. MANNING; "The minimum degree τ of resolvents for the p-section of the periods of hyperelliptic functions of four periods," by L. E. DICKSON; "Determination of all the groups of order 2^m which contain an odd number of cyclic subgroups of composite order," by G. A. MILLER; "On the coefficients in the quotient of two alternants," by E. D. ROE, JR.; "General theory of curves on ruled surfaces," by E. J. WILCZYNSKI; "Theory of plane curves in non-metrical analysis situs," by O. VEBLEN.

THE opening (January) number of volume 27 of the *American Journal of Mathematics* contains: "Some properties of a generalized hypergeometric function," by F. H. JACKSON; "Relation between real and complex groups with respect to their structure and continuity," by S. E. SLOCUM; "Determination of all the characteristic subgroups of any abelian group," by G. A. MILLER; "Collineations whose characteristic determinants have linear elementary divisors, with an application to quadratic forms," by A. B. COBLE; "Concerning certain elliptic modular functions of square rank," by J. A. MILLER; "Minors of axisymmetric determinants," by E. J. NANSON; "On the forms of sextic scrolls having a rectilinear directrix," by VIRGIL SNYDER. The number contains, as frontispiece of the volume, a portrait of Dr. G. W. HILL.

THE January number (volume 6, number 2) of the *Annals of Mathematics* contains the following papers: "The solutions of differential equations of the first order as functions of their initial values," by G. A. BLISS; "On the conformal representation of certain isosceles triangles upon the upper half-plane," by L. W. DOWLING; "Remarks on a proof that a continuous function is uniformly continuous," by N. J. LENNES.

THE publications *School Science* and *School Mathematics* (the latter originally a supplement of the former) have been combined and will be issued under new editorial management with the title *School Science and Mathematics*. Professor G. W. MYERS is departmental editor for mathematics. The associate editors include Professor C. E. COMSTOCK, Professor E. W. DAVIS, Mr. J. E. GOULD, Professor H. B. NEWSON, and Dr. ARTHUR SCHULTZE.

AT the meeting of the London mathematical society held on December 8, 1904, the following papers were read: by Major P. A. MACMAHON, "On a deficient multinomial expansion"; by Rev. F. H. JACKSON, "The application of basic numbers to Bessel's and Legendre's functions"; by Professor W. BURNSIDE, "On groups of order $p^\alpha q^\beta$"; by Dr. E. W. HOBSON, "On the failure of convergence of Fourier's series"; by Lt. Col. E. CUNNINGHAM, "An extension of Borel's exponential method of summation of divergent series applied to linear differential equations"; by Professor A. C. DIXON, "On the linear differential equation of the second order."

A REGULAR session of the Württembergischer mathematisch-naturwissenschaftlicher Verein was held at Stuttgart, December 4, 1904. The following papers were read: "Limiting values and limiting functions," by C. REUSCHLE (Stuttgart); "On experiments with the trifilar gravimeter," by A. SCHMIDT (Stuttgart); "On optical properties of the paraboloid," by V. KOMMERELL (Nürtingen). An animated discussion followed the reading of the first paper.

AT the Philadelphia meeting of the American association for the advancement of science, Professor C. M. WOODWARD was elected president of the association, Professor W. S. EICHELBERGER vice-president of section A, mathematics and astronomy, and Professor C. A. WALDO general secretary. The next meeting will be held at New Orleans in December, 1905.

A MATHEMATICAL section of the California teachers' association was organized December 26, 1904, at San Jose, California. Professor G. A. MILLER was elected president and Mr. J. F. SMITH secretary. The main object of the association is to arouse more interest in mathematical pedagogy by means of separate meetings for the discussion of recent mathematical movements.

AT a meeting of the State teachers' association held at Columbia, Mo. on December 27–29, 1904, a Missouri society of mathematics teachers was organized. The association will hold its meetings annually, beginning at Columbia on May 6.

A regular meeting of the Association of Ohio teachers of mathematics and science was held at Ohio State University, Columbus, December 29 and 30. One joint session and two sectional meetings were held each day. The following mathematical questions were discussed, the discussion being opened by two formal papers, one by a college representative, the other by a representative of the secondary schools: "What training in mathematics is desirable from the standpoint of the teacher of physics?", by Miss C. A. DAVIES and E. O. WEAVER; "Should the college entrance requirements in mathematics recommended by the AMERICAN MATHEMATICAL SOCIETY be adopted in Ohio?", by R. S. POND and H. HANCOCK; "What may be justly assumed as to preparation of high school graduates in algebra, both as to quantity and quality?", by J. D. HARLOR and E. M. MILLS; "What is a good outline for a semester's work in required algebra in the freshman year?", by F. ANDEREGG; "To what extent is a close correlation of the different branches of college mathematics desirable from the teacher's standpoint?", by W. H. WILSON; "Experimental methods in mathematics," by E. P. THOMPSON; "Is it desirable to introduce the modern treatment of synthetic geometry in the high school and college?", by M. E. GRABER; "What should be covered in one year's elective mathematics after the freshman mathematics?", by S. S. KELLAR; "Disposition of pupils deficient in mathematics," by T. L. FEENEY. The publication *School Science and Mathematics* was adopted as official organ. The members of the association were entertained at luncheon on Friday by the president and faculty of the university.

AT the annual meeting of the Paris academy of sciences, held on December 22, 1904, the following prizes were awarded for mathematical memoirs: Bordin prize (fr. 2000) to M. SERVANT for his memoir on the determination of surfaces applicable to the paraboloid of revolution which pass through a given contour; the Vaillant prize was divided between É. BOREL (fr. 3000) and L. BRICARD (fr. 1000); the Francœur prize (fr. 1000) to É. LEMOINE: the Poncelet prize (fr. 2000) to D. ANDRÉ; the Montyon prize in mechanics (fr. 700) to G.

RICHARD. The subjects for which these prizes were offered were announced in the BULLETIN, volume 10, page 323.

THE Nobel prize in physics was awarded to Lord Rayleigh, who has expressed his intention of giving it to Cambridge University, to promote research in physics.

OXFORD UNIVERSITY. — The following courses in mathematics are announced for the Hilary term, 1905: By Professor W. ESSON: Comparison of analytic and synthetic methods in the geometry of conics, two hours; Synthetic geometry of cubics, two hours. — By Professor E. B. ELLIOTT: Elements of elliptic functions, two hours; Substitutions and resolvents, one hour. — By Professor A. E. H. LOVE: Theory of potential, two hours; Elements of the calculus, two hours. — By Mr. J. W. RUSSELL: Algebra of quantics, two hours. — By Mr. P. J. KIRKBY: Higher algebra, one hour. — By Mr. A. L. DIXON: Calculus of finite differences, one hour. — By Mr. J. E. CAMPBELL: Geometry of surfaces, one hour. — By Mr. C. H. SAMPSON: Higher solid geometry, II, one hour. — By Mr. C. H. THOMPSON: Dynamics of a particle, three hours. — By Mr. H. T. GERRANS: Hydrodynamics, two hours. — By Mr. C. E. HASELFOOT: Theory of equations, one hour. — By Mr. C. LEUDESDORF: Geometry of inversions two hours.

PROFESSOR EXNER, of the University of Innsbruck, has retired from active work.

PROFESSOR RUSSJAN, of the University of Cracow, has been appointed professor of mechanics at the technical school of Lemberg.

DR. H. LIEBMANN has been promoted to an associate professorship of mathematics at the University of Leipzig.

DR. K. BOEHM has been promoted to an associate professorship of mathematics at the University of Heidelberg.

PROFESSOR P. STÄCKEL, of the University of Kiel, has been appointed professor of mathematics at the technical school at Hanover.

DR. P. FURTWÄNGLER has been appointed professor of mathematics at the agricultural academy at Poppelsdorf.

SIR NORMAN LOCKYER has been elected a corresponding member of the St. Petersburg academy of sciences.

IT is proposed to establish at the University of Liverpool a

memorial to the late Mr. R. W. H. T. HUDSON; it will probably take the form of an annual prize in geometry. Contributions to the fund may be sent to Mr. Alexander Muir, the University, Liverpool.

THE vacant position at the head of the department of mathematics in the College of the City of New York has been filled by the promotion of assistant professor J. R. SIM. Dr. P. L. SAUREL has been promoted to an assistant professorship of mathematics.

PROFESSOR JAMES W. MASON, who retired in 1903 after nearly twenty-five years service as professor of mathematics in the College of the City of New York, died at Easton, Pa., on January 10, at the age of sixty-nine years. Professor Mason was one of the earliest members of the AMERICAN MATHEMATICAL SOCIETY, having been admitted in May, 1890.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

ARBICONE (A.). Intorno ad un problema di Leibniz. Memoria. Genova, Istituto Sordomuti, 1904. 8vo. 15 pp.

BAIRE (R.). Leçons sur les fonctions discontinues, professées au Collège de France. Rédigées par A. Denjoy. Paris, Gauthier-Villars, 1905. 8vo. 8 + 128 pp. Fr. 3.50

BÔCHER (M.). The fundamental conceptions and methods of mathematics. Address delivered before the Department of Mathematics of the International Congress of Arts and Sciences, St. Louis, Sept. 20, 1904. (*Bulletin of the American Mathematical Society*, Vol. 11, pp. 115–135.)

BRÖHL (J.). Doppelt unendliche Kurvenscharen, gebildet von Schraubenlinien auf den Flächen der Rotationsflächenschar $x^2 + y^2 = u^2 e^{2z}$. (Diss.) Leipzig, 1904. 8vo. 53 pp. M. 2.00

BÜRKLEN (O. T.). Formelsammlung und Repetitorium der Mathematik, enthaltend die wichtigsten Formeln und Lehrsätze der Arithmetik, Algebra, algebraischen Analysis, ebenen Geometrie, Stereometrie, ebenen und sphärischen Trigonometrie, mathematischen Geographie, analytischen Geometrie der Ebene und des Raumes, der Differential- und Integralrechnung. 3te, durchgesehene Auflage. Leipzig, Göschen, 1904. 16mo. 227 pp. Cloth. (Sammlung Göschen, No. 51.) M. 0.80

CIRILLO (C.). Sopra una trasformazione di second'ordine delle funzioni ellittiche. Nota. Chieti, Sciullo, 1904. 16mo. 18 pp.

COMPOSTO (S.). Sulla trasformazione dei radicali sovrapposti. Bologna, Cuppini, 1904. 8vo. 55 pp. Fr. 1.50

CUNNINGHAM (A.). Quadratic partitions. London, Hodgson, 1904. 8vo. Cloth. 12s.