is written, $\alpha \bigotimes \beta$ and is read " $\alpha \ker \beta$." The least common multiple of α and β is written, $\alpha \bigotimes \beta$ and is read " $\alpha \mod \beta$." " α divisible by β " is written, $\alpha \ge \beta$ and " α prime to β " is written, $\alpha \amalg \beta$. This symbolism, together with a new and somewhat inconsistent system of orthography, gives the book an uninviting appearance and increases materially the difficulty of reading it. D. N. LEHMER.

NOTES.

THE opening (January) number of volume 26 of the American Journal of Mathematics contains the following papers: "On primitive groups of odd order," by H. L. RIETZ; "Theorems on cardinal numbers," by A. N. WHITEHEAD; "The caustic, by reflection, of a circle," by T. J. I'A. BROMWICH; "On imprimitive substitution groups," by H. W. KUHN.

THE April number (volume 5, number 3) of the Annals of Mathematics contains: "On a system of hypocycloids of class three inscribed to a given three-line, and some curves connected with it," by H. A. CONVERSE; "Determination of all groups of binary linear substitutions with integral coefficients taken modulo 3 and of determinant unity," by L. E. DICK-SON; "Projective and metric geometry," by E. B. WILSON; "A geometric discussion of the absolute convergence of a series with complex terms," by G. H. LING.

At the meeting of the London mathematical society on March 10, the following papers were read: "On inner limiting sets of n points," by Dr. E. W. HOBSON; "On the unique expression of a quantic of any order in any number of variables, with an application to binary perpetuants," by Mr. P. W. WOOD; "The derivation of generalized Bessel functions from a function analogous to the exponential," by the Rev. F. H. JACKSON; "Illustrative examples of modes of decay of vibratory motions," by Professor A. E. H. LOVE.

The society has now 261 members and 13 honorary members. The officers for the present year are : president, Professor H. LAMB; vice-presidents, Professors E. B. ELLIOTT, E. W. HOBSON, H. F. BAKER; treasurer, Professor J. LARMOR; secretaries, Professors A. E. H. LOVE and W. BURNSIDE. THE Deutsche Mathematiker-Vereinigung now numbers 608 members. The officers for the present year are: president, Professor H. WEBER; secretary, Professor A. KRAZER. Two new members have been elected to the council: Professors H. VON MANGOLDT and P. STÄCKEL. The next regular meeting will be held in Breslau, September 18 to 24, 1904, in connection with the seventy-sixth general meeting of the society of German naturalists and physicians.

ON January 14, 1904, a new mathematical society was founded at Vienna, with Professor G. VON ESCHERICH as president and Professor A. LAMPE as secretary. No publication of its proceedings will be undertaken for the present.

At the second international congress of philosophy, to meet at Geneva September 4–8, 1904, communications from the following are announced in the section on the history of sciences (the third international congress of the history of sciences): Baron CARRA DE VAUX, Professors DUHEM, HANNEQUIN, MIL-HAUD, P. TANNERY, and ZEUTHEN, and Dr. R. BLANCHARD.

AT the second regular meeting of the association of teachers of mathematics in the Middle States and Maryland, held at Columbia University April 2, 1904, the following papers were presented : — By Dr. J. T. RORER : "Has algebra any genuine applications (a) to the student's present interests and experiences, (b) to his probable future needs? If so, what are they and how can they be introduced ?" — By Professor G. LEGRAS : "The great movements now taking place in the teaching of mathematics in other countries." — By Professor D. E. SMITH : "Historic methods of calculation" (Illustrated by stereopticon reproductions of manuscripts and early books.)

At a conference held in Columbus, Ohio, February 22, 1904, steps were taken to perfect an organization of Ohio teachers of mathematics and the sciences. The organization was completed at a meeting held April 2, at which the following officers were elected : president, Professor C. G. HOWE; secretary, Professor T. E. MCKINNEY. The objects of the association are to improve the teaching of mathematics and the sciences in Ohio and to strive for uniform entrance requirements at the various colleges. The next meeting will be held at Columbus in April, 1905.

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THE editors of the *Monatshefte der Mathematik und Physik* for the present year are Professors G. von Escherich, F. MERTENS and W. WIRTINGER.

L'Enseignement Mathématique is now edited by Professors C. A. LAISANT, H. FEHR and A. BUHL. The entire business management has been transferred to Geneva, Switzerland, and will be in charge of Professor Fehr.

UNDER the title of *Mathematisch-Naturwissenschaftliche Blätter*, a monthly journal has been founded by the general association of students of mathematics in the German universities. The first number appeared in January.

THE following works are announced as in the press of B. G. Teubner in Leipzig : Jules Drach, Histoire des sciences mathématiques en France au XIX[°] siècle, 8[°] (about 320 pages) ; H. Poincaré, Wissenschaft und Hypothese, translated by Professor F. Lindemann ; E. Netto, Elementare Algebra ; C. F. Gauss, Werke, volume 7, Theoria motus und astronomischer Nachlass, edited by Professor Brendel.

A RECENT prospectus from the publishing house of Gauthier-Villars in Paris announces that the following mathematical works are in the press and will shortly appear : Andoyer, Theorie des formes, volume 2; Goursat, Cours d'analyse mathématique, volume 2, containing the theory of analytic functions, ordinary and partial differential equations and the elements of the calculus of variations; Humbert, Cours d'analyse, volume 2, containing the completion of the theory of definite integrals, Euler's functions, functions of a complex variable, elliptic functions with their applications, and differential equations.

A TREATISE on the calculus of variations by Professor HAR-RIS HANCOCK will shortly be published by the University of Cincinnati.

THE UNIVERSITY OF CHICAGO. — The following advanced courses in pure and applied mathematics will be given during the summer quarter. — By Professor O. BOLZA : Advanced integral calculus; Multiple algebra and quaternions. — By Professor H. MASCHKE: Partial differential equations; Projective geometry. — By Professor H. E. SLAUGHT : Advanced algebra. — By Professor J. W. A. YOUNG : Conferences on the pedagogy of mathematics. — By Professor K. LAVES : Analytic mechanics. — By Professor F. R. MOULTON : The problem of three bodies. — By Professor G. W. MYERS : Pedagogy of elementary mathematics ; Pedagogy of secondary mathematics. Each course will be given five hours weekly.

The American universities below offer during the academic year 1904–1905 advanced courses in mathematics as follows:

HARVARD UNIVERSITY. - By Professor J. M. PEIRCE: Rigid dynamics; Triangular coördinates and higher plane curves; Quaternions (second course). — By Professors W. E. BYERLY and B. O. PEIRCE: Trigonometric series, spherical harmonics, and the potential function. - By Professor B. O. PEIRCE: The mathematical theory of electricity and magnetism. — By Professor W. F. Osgood : Calculus (second course); [†] Infinite series and products; and *either* [†] Galois's theory of equations, or † Riemann's theory of functions. - By Professor M. BÔCHER: Introduction to modern geometry and modern algebra; The theory of functions; Linear differential equations, total and partial. - By Professor C. L. BOUTON : Differential equations and Lie's theory. — By Mr. J. L. COOLIDGE: The geometry of position. - By Mr. J. K. WHITTEMORE : Differential geometry; † The theory of the form and the rotation of the planets.

These courses will involve three lectures a week throughout the academic year except those preceded by \dagger , which involve three lectures a week for half the year. Courses in reading and research, which differ from the foregoing in involving no lectures on the part of the instructor, will also be offered as follows : By Professor J. M. PEIRCE : Linear associative algebra. — By Professor BYERLY : Recent contributions to the ellipsoidal harmonic analysis.— By Professor BOCHER : Differential equations. — By Professor BOUTON : Continuous groups. — By Mr. COOL-IDGE : Higher geometry. — By Mr. WHITTEMORE : Goursat's Cours d'analyse.

YALE UNIVERSITY. — By Professor J. PIERPONT: Projective geometry, three hours; Functions of a complex variable, three hours; Theory of numbers, three hours. — By Professor P. F. SMITH: Advanced differential geometry, three hours. — By Professor H. E. HAWKES: Geometry, two hours; Determinants and invariants, two hours. — By Dr. W. A. GRANVILLE: Analytic geometry, three hours. — By Dr. L. P. WHEELER: Theory of electrons, one hour. — By Dr. E. B. WILSON: Advanced calculus, two hours; Introduction to mathematical physics, two hours; Electromagnetic theory of light, two hours. — By Dr. A. S. GALE: Analytic mechanics, two hours; Differential equations, two hours. — By Dr. C. M. MASON: Calculus of variations, three hours. — By Dr. D. R. CURTISS: Ordinary differential equations, three hours. — By Mr. TAYLOR: Scientific computation, two hours.

THE foreign universities below offer courses in mathematics during the summer of 1904 as follows :

OXFORD UNIVERSITY. - The following courses in mathematics are announced for the Easter and Trinity terms, 1904: By Professor W. Esson: Comparison of analytic and synthetic methods in the geometry of conics II, two hours; Informal instruction in geometry, one hour. - By Professor E. B. EL-LIOT : Theory of functions, three hours. — By Professor A. E. H. LOVE: Geometric optics, two hours; Higher geometric optics, one hour. - By Mr. A. L. DIXON : Calculus of variations, one hour. — By Mr. J. E. CAMPBELL : An introduction to the theory of groups, one hour. - By Mr. P. J. KIRKBY : Higher plane curves, one hour. - By Mr. H. T. GERRANS: Line geometry, two hours. — By Mr. A. E. JOLLIFFE : Higher analytic plane geometry, two hours.— By Mr. J. W. RUSSELL : Rigid dynamics, three hours — By Mr. A. L. PEDDER : Spher-ical trigonometry, one hour. — By Mr. R. F. MCNEILE : Series, two hours. — By Mr. C. H. THOMPSON: Differential equations, two hours. - By Mr. C. E. HASELFOOT : Elementary hydrostatics, one hour.

UNIVERSITY OF BERLIN. — By Professor H. A. SCHWARZ: Synthetic geometry, four hours; Selected problems in conformal representation, two hours; Theory of analytic functions II, two hours; Colloquium, one hour. — By Professor G. FRO-BENIUS: Analytic geometry, two hours. — By Professor F. SCHOTTKY; Algebraic analysis, four hours; Theory of curves and surfaces, four hours. — By Professor R. LEHMANN-FILHÉS: Analytic mechanics, four hours; Problem of three bodies, two hours. — By Professor J. KNOBLAUCH: Integral calculus, four hours; with exercises, one hour; Applications of elliptic functions, four hours; with exercises, one hour; Theory of irrational numbers, one hour; Exercises in theory of func-

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tions, one hour. — By Dr. I. SCHUR: Theory of algebraic equations, four hours; Theory of substitutions, two hours; with exercises, two hours.

UNIVERSITY OF BONN. — By Professor H. KORTUM: Theory of determinants, two hours; Theory of numbers, four hours; Seminar, two hours. — By Professor L. HEFFTER: Differential and integral calculus, four hours; with exercises, one hour; Theory of elliptic functions, four hours. — By Professor E. STUDY: Analytic geometry I, four hours, with exercises, two hours; Curves of the fourth order, two hours; Seminar, two hours. — By Professor J. SOMMER: Introduction to the theory of differential equations, three hours.

UNIVERSITY OF BRESLAU. — By Professor J. ROSANES: Plane analytic geometry, four hours; Elements of determinants, two hours; Seminar, one hour. — By Professor R. STURM: Differential geometry, three hours; Higher geometric loci, three hours; Seminar, two hours. — By Professor F. LONDON: Theory of elliptic functions, four hours.

UNIVERSITY OF ERLANGEN. — By Professor P. GORDAN: Differential equations, four hours; Theory of numbers, four hours; Seminar, three hours. — By Professor M. NOETHER: Analytic geometry of space, four hours; Synthetic geometry with exercises, four hours; Exercises in geometry, one hour.

UNIVERSITY OF FREIBURG — By Professor J. LÜROTH: Integral calculus, five hours; with exercises, two hours; Plane and spherical trigonometry, two hours. — By Professor L. STICK-ELBERGER: Mechanics, five hours; Calculus of variations, three hours; Seminar, two hours. — By Professor A. LOEWY: Theory and application of determinants, three hours; History of mathematics, two hours; Introduction to higher mathematics with applications to natural sciences, two hours. — By Dr. SEITH: Descriptive geometry, two hours; with exercises, one hour.

UNIVERSITY OF GIESSEN.— By Professor M. PASCH: Algebra, four hours; Determinants, two hours; Seminar, one hour.— By Professor E. NETTO: Plane analytic geometry, four hours; Theory of numbers, two hours; Seminar, one hour.

UNIVERSITY OF GREIFSWALD.—By Professor W. THOMÉ, Alegebra, four hours; Synthetic geometry, two hours; Seminar, two hours. — By Professor G. KOWALEWSKI: Mechanics I, four hours; with exercises, one hour: Applications of elliptic functions, one hour. — By Professor L. EBERT: Theory of probabilities and the method of least squares, one hour; Fundamental equations of the theory of perturbations, one hour.

UNIVERSITY OF HEIDELBERG. — By Professor L. KOENIGS-BERGER : Differential and integral calculus, four hours ; Theory of curves and surfaces, four hours ; Seminar, two hours. — By Professor M. CANTOR : Analytic geometry of the plane, four hours : Arithmetic and algebra, three hours. — By Professor F. EISENLOHR : Theory of probabilities, three hours ; Mechanics, four hours. — By Professor K. KOEHLER : Plane synthetic geometry, three hours. — By Professor G. LANDSBERG : Theory of functions, four hours ; Theory of determinants, two hours. — By Dr. K. BOEHM : Elementary mathematics, three hours.

UNIVERSITY OF KIEL. — By Professor L. POCHHAMMER: Introduction to the theory of determinants, four hours; Algebraic curves and surfaces, four hours; Seminar, one hour. — By Professor P. HARZER: Exercises in numerical calculation, one hour. — By Professor P. STÄCKEL: Differential calculus and introduction to higher analysis, four hours; Higher algebra, four hours; Calculus of variations, two hours; Seminar, one hour.

UNIVERSITY OF KOENIGSBERG. — By Professor F. MEYER; Theory of numbers, four hours; Seminar, in connection with Professors Volkmann and Schoenflies, two hours. — By Professor A. SCHOENFLIES : Analytic geometry, five hours; Seminar, two hours. — By Professor L. SAALSCHÜTZ : Differential calculus, four hours; Pseudo-elliptic integrals of the third kind, one hour. — By Dr. F. COHN : Dynamics, according to the methods of Hamilton and Jacobi, three hours. — By DR. T. VAHLEN : Algebra, with exercises, five hours.

UNIVERSITY OF LEIPZIG. — By Professor A. MAYER: Partial differential equations of the first order, four hours. — By Professor O. HÖLDER: Theory of algebraic equations, four hours; On the foundations of arithmetic, two hours. — By Professor F. ENGEL; Ordinary differential equations, four hours; Theory of functions, two hours; Theory of transformations and

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application to differential equations, two hours; Seminar, two hours. — By Professor F. HAUSDORFF; Introduction to analytic geometry with exercises, four hours; Noneuclidean geometry, two hours. — By Dr. H. LIEBMANN: Differential geometry, with exercises, four hours.

UNIVERSITY OF MARBURG. — By Professor K. HENSEL: Theory of functions, four hours; Theory of partial differential equations and their application to problems in physics, three hours; Selected chapters of algebra (theory of groups), one hour; Seminar, two hours. — By Dr. F. JUNG: Determinants, two hours; Theory of probabilities, two hours.

UNIVERSITY OF MÜNSTER. — By Professor L. KILLING: Analytic geometry I, four hours; Theory of functions, four hours; Seminar, two hours. — By Professor R. von LILIEN-THAL; Analytic mechanics, four hours; Selected chapters of differential geometry, two hours; Theory of determinants, two hours; Seminar, two hours. —By Dr. M. DEHN: Differential and integral calculus, four hours; Algebra II, two hours; exercises, two hours.

UNIVERSITY OF STRASSBURG.—By Professor T. REYE: Introduction to synthetic geometry, two hours; Technical mechanics, four hours; Seminar, two hours.—By Professor H. WEBER: Definite integrals and introduction to the theory of functions, four hours; Partial differential equations of mathematical physics, four hours; Seminar, one and one half hours. —By Professor M. SIMON: Methods of elementary arithmetic in connection with algebraic analysis, two hours.—By Professor F. ROTH: Differential and integral calculus, three hours; with exercises, one hour; Plane analytic geometry, three hours. —By Professor M. DISTELI: Analytic geometry of space, three hours; Perspective with exercises, three hours; Seminar, one and one half hours.

UNIVERSITY OF TÜBINGEN. — By Professor A. VON BRILL: Mechanics, five hours; Twisted curves and surfaces, two hours; Seminar, two hours. — By Professor H. STAHL: Elementary analysis, three hours; Theory of functions, three hours; Seminar, two hours. — By Professor L. MAURER: Higher analysis, three hours; Synthetic geometry, two hours; with exercises, two hours.

UNIVERSITY OF BASEL (From April 19 to August 16.) -

By Professor H. KINKELIN: Differential and integral calculus II, three hours; Algebraic analysis, three hours; Projective geometry, three hours.

UNIVERSITY OF BERN (From April 19 to July 23).— By Professor J. H. GRAF: Spherical harmonics, three hours; Bessel functions, three hours; Gamma functions and Bernoulli functions, three hours; Differential equations II, two hours; Differential and integral calculus, two hours; Calculation of investments and insurance, two hours; Seminar (with Professor Huber), two hours; Seminar (insurance, with Professor Moser), two hours.— By Professor G. HUBER: Orbits of multiple stars, one hour; Theory of plane curves, two hours; Cubature of solids and complanation of surfaces, one hour.— By Professor E. OTT: Differential calculus, two hours; Analytic geometry, two hours; Differential equations, two hours; with exercises, three hours.— By DR. L. CRELIER: Synthetic geometry, two hours; Kinematic geometry, two hours.

UNIVERSITY OF GENEVA (From April 8 to July 15).— By Professor C. CAILLER : Differential and integral calculus, three hours ; Conference, two hours. — By Professor H. FEHR ; Descriptive and projective geometry, two hours ; Theory of equations, two hours ; Seminar, in higher geometry, one hour ; Exercises in the calculus (with Professor Cailler) two hours, in rational mechanics, two hours and in algebra and geometry, two hours. — By Dr. D. MIRIMANOFF : Equations of mathematical physics, two hours.

UNIVERSITY OF ZÜRICH. — By Professor H. BURKHARDT: Algebraic analysis, three hours; Differential and integral calculus II, three hours; Differential equations of physics, three hours; Seminar, two hours; By Professor A. WEILER: Descriptive geometry II, with exercises, four hours; Analytic geometry II, with exercises, three hours; Synthetic geometry, two hours; Political arithmetic II, two hours. — By Dr. F. GUBLER: Methods of instruction in secondary schools, two hours; Algebraic analysis, two hours; Exercises in political arithmetic, two hours.

'THE mathematical and natural sciences section of the Prince Jablonowski society in Leipzig proposes the following prize problem for the year 1906 : "By recent investigations of Hurwitz, Matter, Krause and others the theory of the Bernoulli numbers and functions has been remarkably extended. As a continuation of these researches is believed to be important not only for the general theory of functions but for the theory of numbers and in particular for elliptic functions, the society proposes the following problem, without restricting the aim of possible competitors : An investigation of numbers analogous to the Bernoulli numbers, particularly in the field of elliptic functions, which admit complex multiplication."

Competing manuscripts should be sent to the secretary under the usual conditions before November 30, 1906. The prize is 1000 marks.

THE Royal academy of sciences of Madrid proposes the following prize problem for 1905 :

"To give a complete theory of a class of special singular integrals of differential equations for which the derivatives become indeterminate when certain relations exist between the principal variables."

Competing memoirs should be written in Spanish or Latin and should be in the hands of the secretary of the academy before December 31, 1905.

CAMBRIDGE UNIVERSITY.—The Smith's prizes have been adjudged to E. CUNNINGHAM, for his essay "On the normal series satisfying linear differential equations," to C. M. GAR-NETT, for his essay "On the cause of metal glasses and metallic films," to H. A. WEBB, for his essay "On the expansion of an arbitrary function in a series of functions" and to P. W. WOOD, for his essay "On covariant types."

PROFESSORS J. A. GMEINER, of the German University of Prague, and K. ZINDLER, of the University of Innsbruck, have been promoted to full professorships.

PROFESSOR H. STAHL, of the University of Tübingen, has been awarded the order of the crown of Würtemburg.

PROFESSOR E. LAMPE, of the Technical high school of Berlin, has received the order of the crown of the third class from the German emperor.

PROFESSOR G. MITTAG-LEFFLER has recently been elected a foreign member of the Società Italiana delle Scienze, and honorary member of the Royal Irish Academy. 1904.]

PROFESSOR P. STÄCKEL, of Kiel, has declined a call to the University of Marburg.

PROFESSOR G. H. DARWIN, of Cambridge, Professor C. SEGRE, of Turin, and Professor M. LÉVY, of Paris, have been elected foreign associates of the Belgian academy of sciences.

PROFESSOR F. ENGEL, of Leipzig, has been appointed professor of mathematics in the University of Greifswald.

PROFESSOR R. F. ALLARDICE, of Stanford University, has been granted leave of absence for the year 1904–1905, and expects to spend the year at European universities.

AT Harvard University, Dr. C. L. BOUTON has been promoted to an assistant professorship of mathematics.

DR. S. E. SLOCUM has been promoted to an assistant professorship in applied mathematics at the University of Cincinnati.

AT Stanford University, Dr. H. C. MORENO has been promoted to an assistant professorship in applied mathematics. Mr. W. A. MANNING, instructor in applied mathematics, has been granted a leave of absence. He will spend next year in European universities. His position has been filled by the appointment of Mr. G. I. GAVETT.

MESSES. S. C. HAIGHT and C. E. MORRISON have been appointed tutors in mathematics in the College of the City of New York.

DR. C. M. MASON, of the Massachusetts Institute of Technology, has been appointed instructor in mathematics in the Sheffield Scientific School of Yale University.

DR. D. R. CURTISS, who has been spending the year at Paris, has been appointed instructor in mathematics at Yale University.

RECENT catalogues of second-hand books on mathematics: E. Loescher & Cie, 307 Corso Umberto I, Rome, catalogues nos. 66, 67, 69, 2003 titles of works on mathematics, physics, and astronomy, printed before 1800, and journals; H. Welter, rue Bernard-Palissy, 4, Paris, catalogue of February 10, 1904, chiefly journals; H. Kerler, Ulm, catalogue no. 322, 1356 titles; A. Hermann, rue de la Sorbonne, 6, Paris, V, catalogue no. 80, 2336 titles on mathematics, physics, and astronomy; Krüger and Co., Leipzig, catalogue, no. 39, 1000 titles on mathematics and natural history; F. Strobel, Markt, 4, Jena, catalogue no. 17, 121 titles of scientific journals.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

AMODEO (F.). Niccolò Fergola. Napoli, 1903. 8vo. 32 pp.

BOHLMANN (G.). See SERRET (J. A.).

- FORT (O.) und SCHLÖMILCH (O.). Lehrbuch der analytischen Geometrie. Teil I: Analytische Geometrie der Ebene, von O. Fort. 7te Auflage, besorgt von R. Heger. Leipzig, Teubner, 1904. 8vo. 17 + 268 pp. M. 4.00
- FRAUENFELDER (G.). Büschel von Raumkurven vierter Ordnung zweiter Art mit zwei stationären Tangenten. (Diss.) Zürich, 1903. 8vo. 29 pp., 2 plates.
- GRODSKY (G. D.). Textbook of analytic geometry for artillery schools. Part II: Solid analytic geometry. St. Petersburg, 1903. 8vo. 252 pp. (Russian.) M. 6.00
- GUTKNECHT (A.). Integrallogarithmus. (Diss.) Bern, 1903. 8vo. 56 pp. M. 2.00
- HEGER (R.). See FORT (O.).
- HETTNER (G.). Alte mathematische Probleme und ihre Klärung im 19. Jahrhundert. Rede zur Feier des Geburtstages Seiner Majestät des Kaisers und Königs Wilhelm II. in der Halle der k. Technischen Hochschule zu Berlin am 26. Januar 1904 gehalten.
- JAHRBUCH über die Fortschritte der Mathematik. Begründet von C. Ohrtmann, herausgegeben von E. Lampe und G. Wallenberg. Vol. 32: Jahrgang 1901. Heft 3 (Schluss). Berlin, Reimer, 1904. 8vo. 66 pp. and pp. 673–1013. M. 12.40
- KELLAND (P.) and TAIT (P. G.). Introduction to quaternions. 3d edition. Prepared by C. G. Knott. London, Macmillan, 1904. 8vo. 226 pp. Cloth. 7s. 6d.
- KNOTT (C. G.). See Kelland (P.).
- KULL (H.). Ueber Systeme solcher Kegelschnitte, die mittelst linearer Transformation involutorisch permutiert werden können. (Diss.) Lund, Möller, 1903. 8vo. M. 2.00
- LAMPE (E.). See JAHRBUCH.
- PIERCE (A. B.). Classification and properties of dual conical congruences. (Diss.) Zürich, 1903. 8vo. 60 pp. M. 2.00
- PÖZL (W.). Lehrbuch der analytischen Geometrie der Ebene für den Gebrauch an Mittelschulen und zum Selbststudium zusammengestellt. München, Lindauer, 1904. 8vo. 7 + 123 pp. M. 2.40