

ment which greatly facilitates counting the primes that fall in a given interval, and reduces the liability to error in computations where a number of successive primes are used.

In addition to errata noted by the author, an obvious misprint occurs in the Introduction: page ix, line 4 from bottom, for $(3\tau^2v + qv^3)$ read $(3\tau^2v + Dv^3)^2$.

J. C. MOREHEAD.

ERRATA.

The following errata in the present volume of the BULLETIN have come to the attention of the editors:

Page 74, line 28, for k read $k > 1$.

Page 75, line 38, for $3^{k+\beta}$ read $2^{k+\beta}$.

line 42, for 0, 1 read 0, n ; $n > 0$.

NOTES.

At the meeting of the London mathematical society, held on May 10, the following papers were read: By B. RUSSELL, "On the substitution theory of classes and relations"; by E. CUNNINGHAM, "On linear differential equations of rank unity"; by E. J. ROUTH, "On the motion of a swarm of particles whose center of gravity describes an elliptic orbit of small eccentricity about the sun"; by H. BATEMAN, "The theory of integral equations"; by G. H. HARDY, "Singularities of power series in two variables."

THE appearance of the April number (volume 28, number 2) of the *American Journal of Mathematics* has been delayed by an extensive printers' strike in Baltimore.

THE University of Kiel announces the following prize problem for the year 1906-1907:

It is required to determine the relations which exist between the principal integrals of the various regions, for the hypergeometric differential equation of the third order with two finite singular points.

THE following advanced courses in mathematics are offered during the year 1906-1907 by the universities named below:

JOHNS HOPKINS UNIVERSITY. — By Professor F. MORLEY : Projective geometry, two hours ; Dynamics, two hours (first half year) ; Theory of functions, two hours (second half year) ; Classic authors, one hour. — By Dr. A. COHEN : Elementary theory of functions, two hours ; Differential equations, three hours (first half year) ; Theory of numbers, three hours (second half year). — By Dr. A. B. COBLE : Theory of correspondence, two hours.

INDIANA UNIVERSITY. — By Professor R. J. ALEY : Differential equations, five hours ; Theory of numbers, six hours. — By Professor S. C. DAVISSON : Modern analytic geometry, four hours ; Theory of surfaces, four hours ; Fourier's series, three hours. — By Professor D. A. ROTHROCK : Calculus, II, six hours ; Calculus of variations, six hours ; Functions defined by differential equations, four hours. — By Professor U. S. HANNA : Groups of substitutions, three hours ; Galois's theory of equations, three hours.

(Summer term, June 21–September 7, 1906). — By Professor S. C. DAVISSON : Higher plane curves, five hours. — By Professor D. A. ROTHROCK : Calculus of variations, six hours. — By Professor U. S. HANNA : Theory of numbers, three hours.

UNIVERSITY OF WISCONSIN (Summer session). — By Professor C. S. SLICHTER : History of mathematics, two hours ; Differential equations, five hours. — By Professor G. A. BLISS : Elliptic functions in the Jacobi form, five hours ; Calculus of variations, three hours.

PROFESSORS G. CASTELNUOVO and V. CERRUTI, of the University of Rome, and Professor A. CAPELLI, of the University of Naples, have been elected to membership in the royal institute of Lombardy.

DR. P. CALAPSO has been appointed docent of analytic and projective geometry at the University of Palermo. Dr. G. MARLETTA was appointed to a similar position at the University of Catania.

PROFESSOR D. v. STERNECK has been promoted to a full professorship of mathematics at the University of Czernowitz.

DR. A. HASENÖHRL, of the University of Vienna, has been appointed associate professor of physics at the technical school of Vienna.

PROFESSOR N. N. SALTYKOW, of the technical school at Kiew, has been appointed associate professor of pure mathematics at the University of Charkow.

PROFESSOR W. A. STEKLOFF, of the University of Charkow, has been appointed professor of applied mathematics at the University of St. Petersburg.

DR. K. WIEGHARDT, of the technical school at Aachen, has been appointed professor of mechanics at the technical school at Brunswick.

DR. E. SCHMID has been appointed docent in mathematics at the University of Bonn, and DR. SCHELLFISCH to a similar position at the University of Münster.

PROFESSOR E. W. BROWN, of Haverford College, has been appointed to a professorship of mathematics at Yale University. Professor Brown will remain at Haverford until the autumn of 1907.

DR. R. B. ALLEN, of Clark University, has been appointed professor of mathematics at Kenyon College, Gambier, Ohio.

AT Columbia University, Dr. EDWARD KASNER has been promoted to an associate professorship of mathematics.

DR. H. F. STECKER has been promoted to an assistant professorship of mathematics at the Pennsylvania State College.

AT Harvard University, Mr. J. K. WHITTEMORE has been promoted to an assistant professorship of mathematics.

MR. A. S. EVE has been appointed assistant professor of mathematics in McGill University.

MR. F. R. SHARPE, Dr. ARTHUR RANUM, and Dr. W. B. CARVER have been appointed instructors in mathematics at Cornell University.

DR. R. L. MOORE has been appointed instructor in mathematics at Princeton University.

MR. W. M. THOMAS has been appointed tutor in mathematics in the College of the City of New York.

MISS M. M. YOUNG has been appointed instructor in mathematics in Wellesley College.

DR. ROXANA H. VIVIAN, instructor in mathematics at Wellesley College, will be a member of the faculty of the American college for girls in Constantinople the coming year, on leave of absence from Wellesley.

PROFESSOR GUSTAV BAUER, of the University of Munich, died April 3, at the age of 86 years.

PROFESSOR G. OLTRAMARE, emeritus professor of the University of Geneva, died April 10 at the age of 90 years.

PROFESSOR G. A. WENTWORTH, formerly of Phillips Exeter Academy, died May 24, at the age of 71 years. Professor Wentworth had been a member of the AMERICAN MATHEMATICAL SOCIETY since 1891.

Catalogues of second hand mathematical works: Gustav Fock, 7 Schlossgasse, Leipzig, catalogue no. 280, 2802 titles in mathematics, astronomy, geology; W. Junk, 201 Kurfürstendamm, Berlin, catalogue no. 28, about 2400 titles in astronomy, physics, and mathematics.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- CLEBSCH (A.). Vorlesungen über Geometrie, bearbeitet und herausgegeben von F. Lindemann. (In 2 Bänden.) 1ter Band: Geometrie der Ebene. 1ter Teil: Kegelschnitte und algebraische Formen. 1te Lieferung. 2te, vermehrte Auflage. Leipzig, Teubner, 1906. 8vo. 480 pp. M. 12.00
- FABER (G.). Ueber die zusammengehörigen Konvergenzradien von Potenzreihen mehrerer Veränderlicher. Karlsruhe. 1905. 8vo. 36 pp.
- FISHER (I.). A brief introduction to the infinitesimal calculus; designed especially to aid in reading mathematical economics and statistics. New edition. New York, Macmillan, 1906. 12mo. 13 + 84 pp. Cloth. \$0.75
- GARBIERI (G.). Complementi di algebra; riassunto di lezioni date nelle università di Padova e di Genova. Torino, Paravia, 1906. 8vo. 32 pp. L. 2.00
- HAGEN (J. G.). Synopsis der höheren Mathematik. Band III: Differential- und Integralrechnung. 7te Lieferung. Berlin, Dames, 1905. 4to. 6 + pp. 385-471. M. 5.00