

G and G' are composed of the same cycles combined differently when G is not abelian. Take for example,

$$G = 1, (abc)(def), (acb)(dfe), (ad)(bf)(ce), \\ (ae)(bd)(cf), (af)(be)(cd),$$

$$G' = 1, (abc)(dfe), (acb)(def), (ad)(be)(cf), \\ (ae)(bf)(cd), (af)(bd)(ce).$$

URBANA, ILLINOIS,
September 24, 1918.

CORRECTIONS.

PROFESSOR G. LORIA has kindly pointed out the fact that the curves discussed in the first part of my article "Some Algebraic Curves" published in volume 25, pages 85-87 of the BULLETIN are special cases of curves discussed in his treatise "Spezielle Algebraische und Transcendente Ebene Kurven," volume I, pages 390-4 (1910). However the main theorem of the section, viz., the r th polar of B with respect to C_n is C_{n-r} is not found in Loria's treatise.

J. H. WEAVER.

On page 472 of the BULLETIN for July, 1918, line 10, for certain functions t read certain functions of t ; line 4 from bottom, for $t^{2i\pi/p}$ read $e^{2i\pi/p}$.

On page 53 of the BULLETIN for November, 1918, line 11 from bottom, for field read fluid. On page 56, line 4, for $\tanh(\mu u)$ read $\tanh(\frac{1}{2}\mu u)$.

NOTES.

THE total membership of the American Mathematical Society on January 1, 1919, was 723, including 79 life members. The total attendance of members at all meetings held in 1918, including sectional meetings, was 222; the number of papers read was 137. The number of members attending at least one meeting was 155. Accessions to the Library in 1918 included 74 periodicals and 12 non-periodicals, making a total

of 5,561 volumes, exclusive of unbound dissertations, contained in the Library. The usual List of Officers and Members will not be issued in 1919.

At the meeting of the London mathematical society on February 13, the following papers were read: By H. S. CARSLAW, "Diffraction of waves by a wedge of any angle"; by T. C. LEWIS, "Properties of pentaspherical coordinates."

THE March number (volume 20, number 3) of the *Annals of Mathematics* contains the following papers: "On quaternions and their generalization and the history of the eight square theorem," by L. E. DICKSON; "Non-symmetric kernels of positive type," by CAROLINE E. SEELY; "Elementary properties of the Stieltjes integral," by H. E. BRAY; "A kinematical property of ruled surfaces," by J. K. WHITTEMORE; "Systems of linear inequalities," by L. L. DINES; "On the shortest line between two points in non-euclidean geometry," by T. H. GRONWALL; "The generalized gamma functions," by E. L. POST; "On the most general plane closed point-set through which it is possible to pass a simple continuous arc," by R. L. MOORE and J. R. KLINE; "Repeated integrals," by D. C. GILLESPIE.

THE following university courses in mathematics are announced for the summer session:

COLUMBIA UNIVERSITY (July 7 to August 15). By Professor JAMES MACLAY: Geometric constructions, five hours.—By Professor EDWARD KASNER: Graphical methods, including nomography, five hours; Applications of the calculus, five hours.—By Professor W. B. FITE: Theory of functions of a complex variable, five hours.

CORNELL UNIVERSITY (July 7 to August 15). By Professor VIRGIL SNYDER: Algebraic and projective geometry, five hours.—By Professor D. C. GILLESPIE: Higher analysis, five hours.—By Professor F. W. OWENS: Advanced calculus (continuation), five hours.—By Dr. H. B. OWENS: Differential equations (continuation), five hours.

UNIVERSITY OF CHICAGO (June 16 to August 29). By Professor G. A. BLISS: Differential equations, Lie theory, four

hours; Differential calculus, five hours.—By Professor H. E. SLAUGHT: Elliptic integrals, four hours; Integral calculus, five hours.—By Professor E. J. WILCZYNSKI: Metric differential geometry, four hours; Algebra, five hours.—By Professor J. W. A. YOUNG: Solid analytic geometry, four hours.—By Professor F. R. MOULTON: Solution of numerical differential equations, four hours.—By Professor W. D. MACMILLAN: Celestial mechanics, four hours.—By Professor A. B. COBLE (of the University of Illinois): Elliptic modular functions, four hours.—By Professor T. H. HILDEBRANDT (of the University of Michigan): Theory of functions of a real variable, four hours; Limits and series, five hours.—By Professor G. W. MYERS: Teaching of secondary mathematics, five hours.

PROFESSOR U. AMALDI, of the University of Modena, has been appointed professor of descriptive geometry at the University of Padua. The Italian Society of Sciences (the XL) has awarded its gold medal for 1916–1917 to Professor Amaldi for his researches in infinite groups of transformations.

PROFESSOR T. LEVI-CIVITA, of the University of Padua, has accepted a professorship of mathematical analysis at the University of Rome.

PROFESSOR C. SEVERINI, of the University of Catania, has been transferred to the University of Genoa, as professor of analysis.

DR. ELENA FREDA has been appointed docent in mathematical physics at the University of Rome.

DR. O. LAZZARINO has been appointed docent in rational mechanics at the University of Turin.

DR. L. VOLTA has been appointed docent in mathematical astronomy at the University of Genoa.

PROFESSOR G. HAMEL, of the technical school at Aix la Chapelle, has been appointed professor of mathematics at the University of Tübingen, as successor to Professor A. VON BRILL, who retires at the close of the present academic year.

DR. E. FANTA, of the German technical school at Brünn, Czecho-Slovakia, has been promoted to an associate professorship of mathematics.

DR. F. NOETHER, of the technical school at Karlsruhe, has been promoted to a professorship of mathematics and mechanics.

PROFESSOR W. GROSS, of the University of Vienna, has been awarded the Richard Lieben prize for his work in the calculus of variations.

DR. R. WEITZENBÖCK, of the University of Graz, has been appointed professor of mathematics at the German technical school at Prague.

PROFESSOR F. GRAEFE, of the technical school at Darmstadt, has retired from active teaching.

DR. H. VON SANDEN, of the University of Göttingen, has been appointed professor of mathematics and mechanics at the Clausthal school of mines.

PROFESSOR W. SCHLINK has been chosen rector of the Braunschweig technical school.

PROFESSOR STEINITZ, of the Breslau technical school, has been appointed honorary professor at the University of Breslau.

PROFESSOR J. N. VAN DER VRIES, of the University of Kansas, has resigned to continue his work, undertaken during the war, as secretary of the central district of the Chamber of Commerce of the United States at Chicago.

PROFESSOR ULISSE DINI, of the University of Pisa, died October 28, 1918, in the city of Pisa, where he was born November 14, 1845. After receiving the doctorate at the age of nineteen, he spent a year at the University of Paris, under Professors Bertrand and Hermite. In 1867 he was appointed professor of mathematics at the University of Pisa, which position he held until his death. His early memoirs

on differential geometry attracted considerable favorable attention, but he is best known by his work in analysis, particularly the "Fondamenti per la teoria delle funzioni di variabili reali," "La serie di Fourier," and the four volume treatise "Lezioni d'analisi infinitesimale," in which the foundations of the calculus are laid with greater rigor and greater generality than in any previous writings. He exercised a deep influence on the training of young mathematicians and on the organization of mathematical teaching in Italy. He was a member of the learned societies of all the countries of Europe.

PROFESSOR SIRO MEDICI, of the technical school at Florence, fell in battle October 22, 1917.

PROFESSOR M. BOTTASSO, of the University of Messina, died October 3, 1918, at the age of forty years.

PROFESSOR C. L. DOOLITTLE, of the University of Pennsylvania, director of the Flower Observatory, died March 3, 1919, at the age of seventy-five years.

NEW PUBLICATIONS.

I. HIGHER MATHEMATICS.

- BIEBERBACH (L.). Differential- und Integralrechnung. 2ter Band: Integralrechnung. (Leitfäden für den mathematischen und technischen Hochschulunterricht, Band 5.) Leipzig, Teubner, 1918. 144 pp. Geb. M. 3.40
- BROWN (S. J.) and CAPRON (P.). Calculus. Annapolis, U. S. Naval Institute, 1918. \$3.35
- CAPRON (P.). See BROWN (S. J.).
- DINGELDEY (F.). See SALMON (G.).
- ENCYKLOPÄDIE der mathematischen Wissenschaften. Band III 1, Heft 6: M. Zacharias, Elementargeometrie und elementare nichteuklidische Geometrie in synthetischer Behandlung. Mit Zusätzen von W. F. Meyer. 2ter Teil (Schluss). Leipzig, Teubner, 1918.
- ENCYKLOPÄDIE der mathematischen Wissenschaften. Band III 2, Heft 7: C. Segre, Mehrdimensionale Räume. Leipzig, Teubner, 1918.
- FIEDLER (W.). See SALMON (G.).