

## NOTES.

THE concluding (October) number of volume 19 of the *Transactions of the American Mathematical Society* contains the following papers: "Spiral minimal surfaces," by J. K. WHITTEMORE; "On the group of isomorphisms of a certain extension of an abelian group," by L. C. MATHEWSON; "Concerning the zeros of the solutions of certain differential equations," by W. B. FITE; "Differentiation with respect to a function of limited variation," by P. J. DANIELL; "Linear integro-differential equations with a boundary condition," by M. T. HU; "On scalar and vector covariants of linear algebras," by OLIVE C. HAZLETT.

AT the meeting of the Edinburgh mathematical society on November 8, the following paper was read: By J. E. A. STEGGAL, "Notes on the homographic transformation of the cubic and biquadratic."

THERE has recently been issued by the Bureau of Education at Washington a Bulletin on the training of teachers of mathematics for secondary schools of the countries represented in the International commission on the teaching of mathematics. This Bulletin has been prepared by Professor R. C. ARCHIBALD, of Brown University. It is a work of nearly three hundred pages, giving in great detail the requirements set by the various governments for a teacher of secondary mathematics. The Bureau of Education has a limited number of copies for free distribution to those who are particularly interested in the work, and copies can be obtained from the Superintendent of Documents, Government Printing Office at Washington, D. C., at 30 cents each.

HARVARD UNIVERSITY. The winter term of the graduate school of arts and sciences will begin January 2 and close March 20. The spring term will begin March 28 and close with Commencement Day, June 19. It is expected that a summer term of eleven weeks will be arranged, so that a student beginning his work in the winter may complete a full year of residence by September. Those to whom fellowships or scholarships

had been assigned for the academic year 1918-19, but who, because of national service, resigned these, should apply promptly for reappointment. A certain number of fellowships and scholarships are now vacant, for which applications will be received.

PROFESSOR C. CARATHÉODORY, of the University of Göttingen, has been appointed professor of mathematics at the University of Berlin, as successor to the late Professor G. FROBENIUS.

PROFESSOR G. C. EVANS, of the Rice Institute, has been commissioned captain of ordnance in the United States Army and sent to France on a special mission.

LIEUTENANT T. R. HOLLCROFT has been released from the teaching staff of the school of artillery at Camp Taylor, and has resumed the duties of his professorship of mathematics at Wells College. During his absence the position was filled by Mrs. Hollcroft.

DR. T. M. SIMPSON, of the University of Wisconsin, has been made professor and head of the department of mathematics at the University of Florida, as successor to the late Professor H. G. KEPPEL.

PROFESSOR J. W. YOUNG, of Dartmouth College, has been made director of the instruction in mathematics given under the National war work council of the Young Men's Christian Association. During his absence and that of Professors HASKINS and BILL, also engaged in war work, the administration of the department of mathematics is in the hands of Professor F. M. MORGAN.

DR. S. D. ZELDIN, of the College of Hawaii, has been appointed professor of mathematics at Olivet College.

PROFESSOR W. O. MENDENHALL, of Earlham College, has been elected to the presidency of the Friends University, Wichita, Kansas.

MR. C. A. HUTCHINSON has been appointed instructor in mathematics at the University of Colorado.

DR. J. E. McATEE, of the University of Illinois, died December 2, 1918.

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## NEW PUBLICATIONS.

### I. HIGHER MATHEMATICS.

- BELL (R. J. T.). See FROST (P.).
- BENEDICT (H. Y.). See KARPINSKI (L. C.).
- CALHOUN (J. W.). See KARPINSKI (L. C.).
- COTES (R.). See KOWALEWSKI (A.).
- CULLIS (C. E.). *Matrices and determinoids. Volume 2.* Cambridge University Press, 1918. 24+555 pp. 42 s.
- DONADT (A.). See LÜBSEN (H. B.).
- FISCHER (L. A.). See HUNTINGTON (E. V.).
- FROST (P.). *An elementary treatise on curve tracing.* 4th edition, by R. J. T. Bell. London, Macmillan, 1918. 16+210 pp. 12s. 6d.
- GAUSS (C. F.). See KOWALEWSKI (A.).
- GIGNANO (E.). *Essays in scientific synthesis.* Translated by W. J. Greenstreet. Chicago, Open Court, 1918. 235 pp. \$2.00
- GREENSTREET (W. J.). See GIGNANO (E.).
- JACOBI (C. G. J.). See KOWALEWSKI (A.).
- KARPINSKI (L. C.), BENEDICT (H. Y.) and CALHOUN (J. W.). *Unified mathematics.* Boston, Heath, 1918. 8 + 522 pp. \$2.80
- KOWALEWSKI (A.). *Newton, Cotes, Gauss, Jacobi. Vier grundlegende Abhandlungen über Interpolation und genäherte Quadratur.* Herausgegeben von A. Kowalewski. Leipzig, Veit, 1917. Geh. 104 pp. M. 4.80
- LÜBSEN (H. B.). *Einleitung in die Infinitesimalrechnung (Differential- und Integralrechnung) zum Selbstunterricht.* Mit Rücksicht auf das Notwendigste und Wichtigste. Neu bearbeitet von A. Donadt. 9te Auflage. Leipzig, F. Brandstetter, 1916. 8vo. 7+440 pp. M. 8.00
- NEWTON (I.). See KOWALEWSKI (A.).
- PIRA (K.). *Om idesystem och talsystem (Smärre Skrifter utg. af Boströmsförbundet, 38-40).* Del 1-3. Stockholm, A. B. A. Johansen, 1913-14. 8vo. 126 + 108 + 184 pp. Kr.1.50+1.25+2.00
- RANSOM (W. R.). *Freshman mathematics brief, simple, practical for the Freshman college classes.* New York, Longmans, 1918. 320 pp. \$1.50
- TOLEDO (L. O. de). *Elementos de aritmética universal. Tomo 2: Coordinatoria, determinantes, algoritmos ilimitados.* Madrid, Librería de la Vda é Hijos de Murillo, 1916. 8vo. 421 pp. Pes. 14.00