

## 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