NOTES.

THE Fifth Summer Meeting of the AMERICAN MATHE-MATICAL SOCIETY will be held at the Institute of Technology, Boston, Mass., on Friday and Saturday, August 19th and 20th, thus immediately preceding the meeting of the American Association for the Advancement of Science. A colloquium will be held in connection with the Meeting. This will be conducted by Professor W. F. Osgood, who will give a course of lectures on some of the problems and methods of the modern theory of functions, and by Professor A. G. Webster who will treat certain portions of mathematical physics. A circular giving a more definite announcement in regard to the colloquium and the regular sessions will shortly be issued by the Secretary.

THE mathematical prize of the PRINCE JABLONOWSKI SOCIETY for 1897 was not awarded, no papers having been received. The prize subject proposed for 1898 was reported in the BULLETIN, vol. 2 (1896), p. 118. For 1901 the Society offers a prize of 1,000 marks for the best treatment of the following problem :

" To complete in some essential feature the theory of the quadratic differential forms."

" The theory of the quadratic differential forms, which was first exploited by Riemann and was especially advanced by Christoffel and Lipschitz, has acquired a prominent significance through the modern investigations in geometry, dynamics, and the theory of transformation groups, and every advance in the pure theory would react beneficially in these various directions. Desiring that the theory of the quadratic differential forms should be completed in some essential feature, the Society invites the attention of the candidates especially to the question, raised by Lie's researches, of the nature and properties of the forms which admit of continuous groups of transformations. For the special case $n = 3$ Bianchi has recently obtained valuable results ; it is to be hoped that the criteria for deciding whether a given form belongs to a preassigned type may be obtained in invariant form, and that the study of the geometries of the spaces in question may prove profitable.

Manuscript must be in the hands of the Secretary of the Society by November 30, 1901. Details as to anonymity, languages permissible, etc., may be obtained from the Secretary (for 1898, Professor A. Leskien, Leipzig, Stephanstrasse, 10).

THE philosophical faculty of the University of Göttingen announces, as the subject of the BENEKE PRIZE of 3400 marks (second prize, 680 marks) for the year 1901 the following:

" The *principle of continuity*, or, more specifically, *the possibility* of *representation by means of functions everywhere differentiable* was long regarded as the universal basis for the mathematical treatment of natural phenomena. This principle was introduced by the founders of the differential and integral calculus as self-evident; but the progress of mathematical investigation has shown more and more that this position involves a very large number of tacit assumptions which are by no means an essential consequence of the imperfection of our sense perception. Moreover, the principle in question is in contradiction to the accepted view of the molecular constitution of material bodies. The faculty desires a treatment, of genuine scientific interest, which shall present the questions involved in a generally comprehensible form and shall submit to thorough investigation the admissibility and the advantage of the prevailing hypothesis. The treatment may be developed on the mathematical, the philosophical, or the psychological side; historical studies are acceptable, but are not demanded."

Manuscripts, in one of the modern languages, must be sent in by August 31, 1900. The prizes will be awarded on March 11, 1901.

A CONGRESS of the mathematical sciences is one of twelve congresses of arts and sciences to be held during the Paris Exposition of 1900. M. Gariel, of the University of Paris, and secretary of the French Association for the Advancement of Science, has charge of the organization of the congresses.

PROFESSOR JAMES E. KEELER, director of the Allegheny Observatory and editor of the *Astrophysical Journal*, has accepted the directorship of the Lick Observatory.

PROFESSOR CHARLES ÉMILE PICARD has been recently elected a corresponding member of the Berlin Academy of Sciences.

AT the recent annual meeting of the New York Academy of Sciences, Dr. George W. Hill was elected honorary member.

PROFESSOR JAMES McMAHON, Cornell University, has been elected general secretary of the American Association for the Advancement of Science.