THE FIFTY-FIRST REGULAR MEETING OF THE
SAN FRANCISCO SECTION

The fifty-first regular meeting of the San Francisco
Section of the Society was held at Stanford University on
Saturday, April 2, 1927. The Chairman, Professor Allardice,
presided. The total attendance was 45, including the fol-
lowing 29 members of the Society:

Allardice, Barter, Bernstein, Blichfeldt, Buck, Cairns, Cajori, Collier,
Corbin, Eells, R. L. Green, M. W. Haskell, E. R. Hedrick, Hoskins,
Hotelling, Glenn James, Vern James, D. H. Lehmer, D. N. Lehmer,
S. H. Levy, W. A. Manning, Moreno, Neikirk, Noble, T. M. Putnam,
Pauline Sperry, Stager, A. R. Williams, Wong.

It was decided to hold the next Spring meeting at Stanford
University on Saturday, April 7, 1928.

Titles and abstracts of papers read at the meeting follow.
Professor Bell's paper was read by title.

1. Dr. J. D. Barter: *On differential p-vectors.*

Those of the fundamental properties of differential p-vectors which
appear pertinent to the theory of partial differential equations and of
integral invariants are developed. Since a differential is characterized
by the algebraic invariants of itself and of its vector derivative, con-
siderable attention is given to these. Exception is taken to certain
theorems and proofs of Gegenbauer, Schouten, and others, and corrections
suggested. The nature of the automorphic transformations of differential
p-vectors is specified and consequences indicated.

2. Dr. J. D. Barter: *Powers of determinants.*

It has seemed desirable to place on record certain determinant forms
which may be given to the powers of determinants since the direct proof
of the relations in question appears difficult and useful applications
seem probable.

3. Dr. J. D. Barter: *On covariant differentiation.* Pre-
liminary communication.

The two types of covariant differentiation, termed respectively al-
braic and vector, are derived and their mutual relation developed.
Certain apparently novel results are obtained and applied to the theory
of Jacobi's last multiplier and its generalization.

4. Professor E. T. Bell: *The arithmetic of logic.*

It is shown that the algebra L of logic is abstractly identical with
certain parts of the arithmetic A of the rational integers. Formal equiva-