OFFICIAL COMMUNICATIONS

Meetings of the Society have been fixed at the following times and places:

NEW YORK CITY, October 25, 1930.

Abstracts must be in the hands of the Secretary of the Society, Professor R. G. D. Richardson, 501 West 116th Street, New York City, not later than October 4. In order to be printed in the Bulletin in advance of the meeting, abstracts must be in the hands of the Secretary not later than September 7. By invitation of the program committee, Professor M. H. Stone will deliver an address entitled Group representations in Hilbert space.

COLUMBIA, MISSOURI, November 28-29, 1930.

Abstracts must be in the hands of Associate Secretary M. H. Ingraham, North Hall, Madison, Wisconsin, not later than November 6. All abstracts received by that date will appear in the Bulletin in advance of the meeting. On Saturday morning, Professor C. N. Moore will deliver an address by invitation of the program committee, on Types of series and types of summability; and Professor R. E. Langer will deliver an address on The zeros of exponential sums and of certain related functions.

University of California at Los Angeles. November 29. 1930.

Abstracts must be in the hands of Associate Secretary T. M. Putnam. Berkeley, California, not later than November 1. All abstracts received by that date will appear in the Bulletin in advance of the meeting. At the request of the program committee, addresses will be delivered by Professor Harald Bohr on The theory of Dirichlet series, and by Professor H. F. Blichfeldt on The method of geometry of numbers.

CLEVELAND, OHIO, ANNUAL MEETING, December 29, 1930. to January 1, 1931.

Abstracts must be in the hands of Associate Secretary M. H. Ingraham, North Hall, Madison, Wisconsin, not later than December 1. In order to be printed in the Bulletin in advance of the meeting, abstracts must be in the hands of the Associate Secretary not later than November 7. There will be the usual joint session with Section A of the American Association for the Advancement of Science and with the Mathematical Association of America. There will be invited addresses by Professors G. D. Birkhoff, E. T. Bell, and others. A joint session with the American Statistical Society has been arranged for and it is probable that there will be a joint session with the American Physical Society. Professor E. B. Wilson will deliver the eighth Josiah Willard Gibbs Lecture.

R. G. D. RICHARDSON, Secretary of the Society.

Articles for insertion in the BULLETIN should be addressed to E. R. HEDRICK, Editor of the BULLETIN, University of California at Los Angeles. Reviews should be sent to W. R. Longley, Yale University, New Haven, Conn. Notes should be sent to H. W. Kuhn, Ohio State University, Columbus, Ohio.

Subscriptions to the BULLETIN, orders for back numbers, and inquiries in regard to non-delivery of current numbers should be ad-

deressed to the American Mathematical Society, 450-459 Ahnaip St., Menasha, Wis., or 501 West 116th St., New York.

The initiation fees (\$5.00) and the annual dues (\$6.00) of members of the Society are payable to the Treasurer of the Society, G. W. MULLINS, 501 West 116th Street, New York.

WHOLE NUMBER 373

CONTENTS

	PAGE
A Note on an Important Theorem on Normal Division	
Algebras. By A. A. Albert A Commutation Rule in Quantum Mechanics. By	649
A Commutation Rule in Quantum Mechanics. By	
Eugene Feenberg	650
Note on the Equivalence of Certain Properties of Abstract	C # 0
Sets. By R. G. PUTNAM	653
Un a Complete Characterization of the Set of Points of	
Unbounded Grade of an Arbitrary Surface. By HENRY	655
BLUMBERG	033
Continuum. By W. L. Ayres	659
On the Generalization of Trigonometric Identities in	039
Arithmetical Paraphrasing. By H. T. Engstrom	667
An Elementary Theorem on Matrices. By M. H. INGRA-	007
HAM	673
Problems of the Calculus of Variations with Prescribed	0,0
Transversality Conditions. By LINCOLN LA PAZ	674
On Surfaces in Spaces of Four and Five Dimensions. By	0, 1
B. C. Wong.	681
Singular Points of Functions which satisfy the Partial	
Differential Equation of the Flow of Heat. By D. V.	
WIDDER	687
On Certain Doubly Infinite Systems of Curves on a Sur-	
face. By C. H. Rowe	695
The Characteristic Roots of a Matrix. By E. T. Browne	705
On the Reduction of the Indefinite Binary Quadratic	
Forms. By J. V. USPENSKY	710
Concerning a Set of Axioms for the Semi-Quadratic Ge-	
ometry of a Three-Space. By J. L. Dorroн	719
Certain Quinary Forms related to the Sum of Five	
Squares. By B. W. Jones	721
A Series of Rational Surfaces. By A. R. WILLIAMS	735
On Incomplete Numerical Functions. By J. V. USPENSKY	
On Loci of $(r-2)$ -Spaces incident with Curves in r-Space.	
By B. C. Wong.	755
The Identical Equations of the Multiplicative Function.	762
By R. VAIDYANATHASWAMY	773
INCW I HUHCALIUHS	110

For official Communications and Notices, see the inside of the back cover.