OFFICIAL COMMUNICATIONS

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

SEATTLE, WASHINGTON, June 13, 1931.

Abstracts must be in the hands of Associate Secretary T. M. Putnam, University of California, Berkeley, Calif., not later than May 16. For publication in advance of the meeting, abstracts must be received not later than May 9.

MINNEAPOLIS, MINNESOTA, SUMMER MEETING AND COLLO-QUIUM, September 8-11, 1931.

Abstracts must be in the hands of Associate Secretary M. H. Ingra-ham, University of Wisconsin, Madison, Wis., not later than August 10. For publication in advance of the meeting, abstracts must be received not later than July 7. Professor Marston Morse will deliver a series of colloquium lectures on *The calculus of variations*. Professor C. C. MacDuffee will deliver an address entitled *Ideals in the theory of linear* algebras.

NEW YORK CITY, October 31, 1931.

Abstracts must be in the hands of Associate Secretary Tomlinson Fort, 501 West 116th Street, New York City, not later than October 10. 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 Septem-ber 7. By invitation of the program committee, Professor D. V. Widder will deliver an address on Some recent developments in the theory of Laplace integrals.

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-

dressed to the American Mathematical Society, 450-459 Ahnaip St., Menasha, Wis., or 501 West 116th St., New York. Advertising space is available in the BULLETIN at \$16 per page, \$9 per half page, \$5 per quarter page, per issue. Address correspondence regarding advertising to H. L. Rietz, University of Iowa, Iowa City, Iowa.

Changes of address of members should be communicated at once to the Secretary of the Society, R. G. D. Richardson, 501 West 116th St. New York.

The initiation fees and the annual dues of members of the Society (see this BULLETIN, p. 322, May, 1930; and the List of Officers and Members, October, 1930, p. 58), are payable to the Treasurer of the Society, G. W. Mullins, 501 West 116th St., New York.

WHOLE NUMBER 380

CONTENTS

| | PAGE |
|---|------|
| The February Meeting in New York. By TOMLINSON FORT | 313 |
| The April Meeting in New York. By TOMLINSON FORT | 317 |
| The April Meeting in Chicago. By M. H. INGRAHAM | 321 |
| The April Meeting in Berkeley. By T. M. PUTNAM | 325 |
| Evans on Mathematical Economics. By C. F. Roos | 328 |
| New Edition of Osgood on Functions. By T. H. HILDE- BRANDT | 330 |
| Shorter Notices | 332 |
| Notes | 334 |
| Abstracts of Papers | 338 |
| New Publications | 356 |

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

GEORGE BANTA PUBLISHING COMPANY MENASHA, WISCONSIN