Proceedings of the American Mathematical Society

This Journal is devoted entirely to research in pure and applied mathematics, and the publication of original papers of moderate length. The maximum length of an acceptable paper is about 8 printed pages. Since a page of the Proceedings contains about 400 words, a rule of thumb is that under 10 typed pages is probably within the limit, but that over 12 typed pages is probably too long.

Shorter Notes. Very short notes not to exceed 1 printed page of an unusual nature are also accepted, and appear under the heading Shorter Notes. Items deemed suitable include an elegant new proof of an important and well-known theorem, an illuminating example or counterexample, or a new viewpoint on familiar results. New results, if of a brief and striking character, might also be acceptable, though in general a paper which is merely very short will not be suitable for the Shorter Notes department.

Preparation of the manuscript. Articles for insertion should be typewritten and double spaced. Ditto is not generally satisfactory, although other modes of multiple reproduction may be. The Manual for Authors, available from the Society, should be consulted for symbols and style conventions. Authors should take the greatest possible care in preparing the original manuscript. Hand drawn symbols are satisfactory, if clearly done; directions to the printer should be included where necessary on a separate sheet, not in the accompanying letter. Authors must keep a complete copy of their manuscript, and editors will acknowledge receipt, manuscripts can therefore be sent by ordinary mail and any other kind (registered, certified) is entirely unnecessary.

Form of manuscript. The first page should consist of a descriptive title, followed by an abstract which summarizes the article in language suitable for workers in the general field (algebra, analysis, etc.). The descriptive title should be short, but informative; useless or vague phrases such as "some remarks about" or "concerning" should be avoided. Also avoid proper names unless mathematical usage associates them with the work. The abstract should be at least one complete sentence, and at most 150 words. Included with the footnotes to your paper, but placed before the first footnote, there should be first the AMS (MOS) subject classification numbers representing the primary and secondary subjects of the article, followed by a list of key words and phrases describing the subject matter of the article and taken from it. The AMS (MOS) Subject Classification Scheme (1970) with instructions for its use can be found as an appendix to Mathematical Reviews, Index to Volume 39 (June 1970). See the June 1970 Notices for more details, as well as illustrative examples.

Submission of manuscripts. See the last page of this issue.

Subscription Information. Three volumes of four issues are planned for 1970. The subscription price is $60 for the three volumes. Back issues of Volumes 1–16 are available at a price of $14 each. Volumes 17–19 at a price of $18 each, and Volumes 20–25 at a price of $30 each.

The Proceedings of the American Mathematical Society is published monthly. Subscriptions, orders for back numbers and inquiries in regard to nondelivery of current numbers should be addressed to the American Mathematical Society, P. O. Box 6248, Providence, R.I. 02904.
Second-class postage paid at Providence, Rhode Island, and additional mailing offices.
RESEARCH AND REVIEW JOURNALS PUBLISHED BY THE AMERICAN MATHEMATICAL SOCIETY

Bulletin of the American Mathematical Society

The journal is the official organ of the Society. It reports official acts of the Society and the details of its meetings. It contains some of the officially invited addresses presented before the Society, reviews of advanced mathematical books, and a department of research announcements.

The current issue of the journal lists editors to whom prospective publications should be addressed. Publication is bimonthly.

Transactions of the American Mathematical Society

This monthly journal is devoted entirely to research in pure and applied mathematics, and includes in general longer papers than the PROCEEDINGS.

The current issue of the journal lists editors to whom prospective publications should be addressed.

Mathematics of Computation

A journal devoted to original papers in numerical analysis, the application of numerical methods and high-speed calculator devices, the computation of mathematical tables, the theory of high-speed calculating devices and other aids to computation. In addition it publishes reviews and notes in these and related fields.

Prospective publications should be addressed to the Editor, Professor Eugene Isaacson, Courant Institute of Mathematical Sciences, New York University, 251 Mercer Street, New York, New York 10012. The author may suggest the name of an editor for review of his paper.

Mathematical Reviews

This journal is devoted to abstracts and reviews of the current mathematical literature of the world. Currently publication is monthly; two volumes are published each year, each volume consisting of 6 regular issues plus an index issue. In each regular issue the abstracts and reviews are grouped under subject headings. Publication began in 1940.

Soviet Mathematics—Doklady

This bimonthly is a translation journal containing the entire pure mathematics section of the Doklady Akademii Nauk SSSR, the Reports of the Academy of Sciences of the USSR. The Doklady for a year contains about 500 articles, each about 4 pages long.

Mathematics of the USSR—Izvestija

This journal is a cover-to-cover translation of Izvestija Akademii Nauk SSSR Serija Matematicheskaja, published bimonthly by the Academy of Sciences of the USSR. It is a journal of current research in all fields of pure mathematics. Starting with Volume 1, Number 1, January-February 1967, which corresponds to the Russian original Tom 31, Number 1, the translation is prepared by the Plenum Publishing Corporation with the cooperation of the American Mathematical Society, and is published bimonthly by the American Mathematical Society.

Mathematics of the USSR—Sbornik

This journal is a cover-to-cover translation of Matematicheskii Sbornik (New Series), published monthly by the Moscow Mathematical Society and the Academy of Sciences of the USSR. It is a journal of current research in all fields of pure mathematics. The translation is published monthly starting with Volume 1, Number 1, January 1967, which corresponds to the Russian original Tom 72 (114), No. 1.

Requests for information concerning any of these journals should be addressed to the American Mathematical Society, Box 6248, Providence, Rhode Island 02904. Papers for publication should be sent to an appropriate editor rather than to the Providence Office.
SUBMISSION OF MANUSCRIPT

Send papers directly to one of the editors listed under the subject field of the paper.

**Algebra and number theory.**
George B. Seligman, Department of Mathematics, Yale University, New Haven, Connecticut 06520
Joseph J. Rotman, Mathematics Department, University of Illinois, Urbana, Illinois 61801

**Modern or classical analysis.**
Irving Glicksberg, Mathematics Department, University of Washington, Seattle, Washington 98105
W. H. J. Fuchs, Department of Mathematics, White Hall, Cornell University, Ithaca, New York 14850
Allen Shields, Department of Mathematics, University of Michigan, Ann Arbor, Michigan 48104

**Algebraic geometry.**
George B. Seligman, Department of Mathematics, Yale University, New Haven, Connecticut 06520

**Set-theoretic and general topology.**
Ernest Michael, Mathematics Department, University of Washington, Seattle, Washington 98105

**Algebraic topology and all other types of geometry.**
Emery Thomas, Mathematics Department, University of California, Berkeley, California 94720

**Applied mathematics, differential equations, and related areas of analysis.**
Fred Brauer, Mathematics Department, University of Wisconsin, Madison, Wisconsin 53706

**Probability, statistics, and related fields.**
Joshua Chover, Mathematics Department, University of Wisconsin, Madison, Wisconsin 53706

**Logic, set theory, and related areas.**
W. W. Boone, Mathematics Department, University of Illinois, Urbana, Illinois 61801

All other communications should be addressed to the Managing Editor, W. H. J. Fuchs, at the address given above.

**Reprints and address changes.** Any inquiries concerning a paper which has been accepted for publication, including information regarding reprints or changes of address for mailing proof, should be sent directly to the Editorial Department, American Mathematical Society, P.O. Box 6248, Providence, Rhode Island 02904.
CONTENTS—Continued from back cover

On the completeness of hamiltonian vector fields. By William B. Gordon ........................................ 329
A generalization of a theorem of P. Montel on entire functions. By Chung-chun Yang ............................. 332

F. STATISTICS AND PROBABILITY
A geometric proof of Markov ergodic theorem. By R. Z. Yeh ......................................................... 335

G. TOPOLOGY
On noninvertible links with invertible proper sublinks. By W. C. Whitten, Jr ...................................... 341
Extensions of proximity functions. By Don A. Mattson ................................................................. 347
An embedding theorem for homeomorphisms of the closed disc. By Gary D. Jones ............................... 352
Countable connected spaces. By Gary Glenn Miller ................................................................. 355
A regular Lindelöf semimetric space which has no countable network. By E. S. Berney ...................... 361
Semiuniform spaces and topological homeomorphism groups. By R. V. Fuller ................................. 365
Stable homotopy theory is not self-dual. By J. M. Boardman ......................................................... 369

GEORGE BANTA COMPANY, INC., MENASHA, WISCONSIN
CONTENTS*

Vol. 26, No. 2 OCTOBER, 1970 Whole No. 135

A. Algebra and Number Theory

On the boundedness of an iterative procedure for solving a system of linear inequalities. By H. D. Block and S. A. Levin.................. 229
On elementary groups. By Ernest L. Stitzinger.................. 236
The hyperquasicenter of a finite group. I. By N. P. Mukherjee . . . . 239
Some examples of right self-injective rings which are not left self-injective. By F. L. Sandomierski.................. 244
Another zero-free region for $\zeta^{(b)}(s)$. By Robert Spira.................. 246

B. Analysis

Operators from Banach spaces to complex interpolation spaces. By Vernon Williams.................. 248
Linear perturbations of ordinary differential equations. By Aaron Strauss and James A. Yorke.................. 255
Bounded in the mean solutions of $\Delta u = Pu$ on Riemannian manifolds
By Kwang-nan Chow and Moses Glasner.................. 261
The Hardy class of a spiral-like function and its derivative. By T. Başgöze and F. R. Keogh.................. 266
Oscillation criteria for nonlinear matrix differential equations. By Kurt Kreith.................. 270
Oscillating solutions of third order differential equations. By W. R. Utz.................. 273
Some conditions on an operator implying normality. II. By S. K. Berberian.................. 277
Periodic solutions of linear second order differential equations with deviating argument. By Klaus Schmitt.................. 282
Oscillatory properties of linear third-order differential equations. By W. J. Kim.................. 286
Existence of universal members in certain families of bases of Banach spaces. By M. Zippin.................. 294
The nonexistence of maximum solutions of Volterra integral equations. By H. E. Gollwitzer and R. A. Hager.................. 301
Multiplicative properties of Jensen measures. By Takashi Ito and Bert M. Schreiber.................. 305
A global existence theorem for autonomous differential equations in a Banach space. By R. H. Martin, Jr.................. 307
Strongly branched coverings of closed Riemann surfaces. By Robert D. M. Accola.................. 315
On the relation between the Abel-type and Borel-type methods of summability. By B. L. R. Shawyer and G. S. Yang.................. 323

* The volume index will contain a mapping showing the correspondence between sections A–G and the AMS subject classification numbers.

Continued on inside back cover