PROCEEDINGS

OF THE

AMERICAN MATHEMATICAL SOCIETY

EDITED BY

W. H. J. FUCHS
E. A. MICHAEL
IRVING GLICKSBERG
IRVING REINER
ARTHUR MATTUCK
EMERY THOMAS
W. R. WASOW

WITH THE COÖPERATION OF

W. W. BOONE
S. M. SHAH
JOSHUA CHOVER
HANS WEINBERGER

VOLUME 20, NUMBER 2
FEBRUARY, 1969

PUBLISHED BY THE AMERICAN MATHEMATICAL SOCIETY
PROVIDENCE, RHODE ISLAND

Journals Published by the

American Mathematical Society

Proceedings of the American Mathematical Society

The PROCEEDINGS of the American Mathematical Society is devoted entirely to research in pure and applied mathematics, and the publication of original papers of moderate length. Articles for insertion should be typewritten and double spaced. Ditto is not generally satisfactory, although other modes of multiple reproduction may be. 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.) 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.

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.)

Papers in algebra and number theory should be sent to ARTHUR MATTUCK, Room 2-275, Mathematics Department, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, or to IRVING REINER, Mathematics Department, University of Illinois, Urbana, Illinois 61801.

Papers in modern or classical analysis should be sent to IRVING GLICKSBERG, Mathematics Department, University of Washington, Seattle, Washington 98105, or to W. H. J. FUCHS, White Hall, Cornell University, Ithaca, New York 14850.

Papers in algebraic geometry should be sent to ARTHUR MATTUCK; papers in set-theoretic and general topology to ERNEST MICHAEL, Mathematics Department, University of Washington, Seattle, Washington 98105; in algebraic topology and all other types of geometry to P. EMERY THOMAS, Mathematics Department, University of California, Berkeley, California 94720.

Papers in applied mathematics, differential equations, and related areas of analysis should be sent to WOLFGANG WASOW, Mathematics Department, University of Wisconsin, Madison, Wisconsin 53706.

Papers in probability, statistics, and related fields should be sent to JOSHUA CHOVER, Mathematics Department, University of Wisconsin, Madison, Wisconsin 53706.

Papers in logic, set theory, and related areas should be sent to W. W. BOONE, Mathematics Department, University of Illinois, Urbana, Illinois 61801.

All other communications should be addressed to the Managing Editor, ARTHUR MATTUCK, at the above address.

Inquiries from authors regarding reprints, or changes of addresses for mailing proofs, should be sent directly to the Editorial Department, American Mathematical Society, P. O. Box 6248, Providence, Rhode Island 02904.

Four volumes of three issues are planned for 1969. The subscription price is $80.00 for the four volumes. Back issues of Volumes 1–16 are available at a price of $14.00 each and Volumes 17–19 at a price of $18.00 each.

The American Mathematical Society also publishes the following journals which accept research papers: BULLETIN, TRANSACTIONS and MATHEMATICS OF COMPUTATION. For details and the list of editors, please consult a recent issue. Reviews of the current mathematical literature of the world are published in MATHEMATICAL REVIEWS; editorial correspondence for this journal should be sent to: 416 Fourth Street, Ann Arbor, Michigan 48103.

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.

Copyright ©, American Mathematical Society, 1969

Printed in the United States of America

INDEX TO VOLUME 20[1]

*Starred items are "Shorter Notes"

Adams, R. A. *Ellipticity and regularity for periodic nonlinear equations*, 24.

Andrews, G. E. *Two theorems of Euler and a general partition theorem*, 499.

Ang, D. D. *A nonlinear steady state temperature problem for a semi-infinite slab*, 303.

Au-Yeung, Yik-Hoi. *A theorem on a mapping from a sphere to the circle and the simultaneous diagonalization of two Hermitian matrices*, 545.

Baer, R. M. *Computability by normal algorithms*, 551.

Ball, B. J., Ford, Jo and Thomas, E. S., Jr. *Extending real maps defined on a subset of a disk*, 75.

*Barth, K. F. and Schneider, W. J. *A short proof of a lemma of G. R. MacLane*, 604.

Beesack, P. R. *Comparison theorems and integral inequalities for Volterra integral equations*, 61.

Belluce, L. P. and Kirk, W. A. *Fixed-point theorems for certain classes of nonexpansive mappings*, 141.

Bonnice, W. E. and Reay, J. R. *Relative interiors of convex hulls*, 246.

Boyd, D. W. and Wong, J. S. W. *On nonlinear contractions*, 458.

Brown, J. B. *Density of one graph along another*, 147.

Brualdi, R. A. *An extension of Banach's mapping theorem*, 520.

Bryant, J. L. and Seebeck, C. L. III. *An equivalence theorem for embeddings of compact absolute neighborhood retracts*, 256.

Cabaña, E. M. *On stochastic differentials in Hilbert spaces*, 259.

Chacon, R. V. and Olsen, J. *Dominated estimates of positive contractions*, 266.

Chalice, D. R. *Characterizations for approximately normal algebras*, 415.

Chrislock, J. L. and Tamura, T. *Notes on subdirect products of semigroups and rectangular bands*, 511.

Cossey, John. *Critical groups and the lattice of varieties*, 217.

Darst, R. B. *Properties of Lusin sets with applications to probability*, 348.

Davis, E. D. *A remark on Prüfer rings*, 235.

de Branges, Louis and Trutt, David. *Charlier spaces of entire functions*, 134.

Dorroh, J. R. *The localization of the strict topology via bounded sets*, 413.

Edelstein, Michael. *A short proof of a theorem of L. Janos*, 509.

Farkas, H. M. *Weierstrass points and analytic submanifolds of Teichmueller space*, 35.

Fillmore, P. A. and Topping, D. M. *Sums of irreducible operators*, 131.

Fink, A. M. *Eigenvalue of the square of a function*, 73.

Ford, Jo. See Ball, B. J.

*Fridy, J. A. *A note on absolute summability*, 285.

Giambalvo. V. *The* mod *p cohomology of* $BO\langle 4k\rangle$, 593.

Gillette, Richard and Van Buskirk, James. *Monotone n-frames are tame*, 381.

Gilmore, Maurice. *Some Whitehead products on odd spheres*, 375.

Glasser, M. L. *A note on the Littlewood-Tauber Theorem*, 39.

Goldstein, Myron. *Normal operators*, 41.

Goto, Morikuni. *On an arcwise connected subgroup of a Lie group*, 157.

———. *A remark on a theorem of A. Weil.* 163.

Gray, Alfred. *Almost complex submanifolds of the six sphere*, 277.

Guinn, T. and Landesman, E. M. *Minimal solutions to a class of parabolic partial differential equations*, 19.

Hans, R. J. *On the Reinhardt-Mahler Theorem*, 391.

Hemminger, R. L. *On reconstructing a graph*, 185.

Herman, G. T. *A new hierarchy of elementary functions*, 557.

[1] Number 3 of this volume will contain the Author Index for Volumes 11–20.

Hogan, G. T. and Kappe, W. P. *On the H_p-problem for finite p-groups*, 450.
Horelick, Brindell. *Pointed minimal sets and S-regularity*, 150.
Isbell, J. R. *A set whose square can map onto a perfect set*, 254.
———. *A counterexample in weighted majority games*, 590.
Jans, J. P. *Note on* QF-1 *algebras*, 225.
Johnson, B. E. *Separate continuity and measurability*, 420.
Kadish, A. *A uniqueness theorem for some nonlinear boundary value problems*, 27.
Kahn, D. S. *A differential in the Adams spectral sequence*, 188.
Kalmbach, Gudrun. *Deformation retracts and weak deformation retracts of noncompact manifolds*, 539.
Kappe, W. P. See Hogan, G. T.
Keesling, J. E. *Open mappings and closed subsets of the domain in general metric spaces*, 238.
Keogh, F. R. *On a theorem of Fejér and Riesz*, 45.
Keogh, F. R. and Merkes, E. P. *A coefficient inequality for certain classes of analytic functions*, 8.
Kim, Soon-Kyu. *A theorem on the Hurewicz fiberings*, 171.
Kirk, W. A. See Belluce, L. P.
Klimko, E. M. and Sucheston, Louis. *An operator ergodic theorem for sequences of functions*, 272.
Kreith, Kurt. *A remark on a comparison theorem of Swanson*, 549.
Kunz, Ernst. *Remark on the purity of the branch locus*, 378.
Kurtz, L. C. *Inclusion theorems for generalized Hausdorff summability methods*, 385.
Kuttler, J. R. and Sigillito, V. G. *An inequality for a Stekloff eigenvalue by the method of defect*, 357.
Labelle, Gilbert. *Concerning polynomials on the unit interval*, 321.
Lacher, R. C. *Cell-like spaces*, 598.
Lagnese, J. E. *Note on a theorem of C. T. Taam concerning bounded solutions of nonlinear differential equations*, 351.
Landesman, E. M. See Guinn, T.
Larsen, K. M. *An external harmonic function*, 333.
Lausch, H. *Formations of groups and π-decomposability*, 203.
Lee, M. P. and Madan, M. L. *On the Galois cohomology of the ring of integers in an algebraic number field*, 405.
Leininger, C. W. *Some properties of a generalized Hausdorff mean*, 88.
———. *Convergence-preservation criteria for a generalized Hausdorff mean*, 97.
Lindström, Bernt. *Determinants on semilattices*, 207.
Lininger, Lloyd. *On topological transformation groups*, 191.
Lloyd, S. P. *On the L_2 space of a Banach limit*, 429.
Lubin, Jonathan. *Galois endomorphisms of the torsion subgroup of certain formal groups*, 229.
McIntosh, Alan. *On the closed graph theorem*, 397.
Macki, J. W. and Wong, J. S. W. *Oscillation theorems for linear second order ordinary differential equations*, 67.
Madan, M. L. See Lee, M. P.
Manis, M. E. *Valuations on a commutative ring*, 193.
Merkes, E. P. See Keogh, F. R.
Michler, Gerhard. *On quasi-local noetherian rings*, 222.
Millett, K. C. *Normal structures for locally flat embeddings*, 580.
Mordeson, J. N. and Vinograde, B. *Tensor products of simple pure inseparable field extensions*, 209.

Mosher, R. E. *Note on the generalized Whitney sum*, 383.
Netanyahu, E. and Reichaw, M. *A theorem on infinite positive matrices*, 13.
Oberg, R. J. *On the local existence of solutions of certain functional-differential equations*, 295.
Olsen, J. See Chacon, R. V.
Ornstein, Donald. *On the existence of stationary optimal strategies*, 563.
Osborn, Howard. *Correction to my paper "The Morse index theorem,"* 337.
Osborn, J. M. *A norm on separable noncommutative Jordan algebras of degree* 2, 423.
Owings, J. C., Jr. *A canonical linear order for the maximal chains of a tree*, 280.
Padmanabhan, R. *Two identities for lattices*, 409.
Page, S. S. *Rigidity of generalized uniserial and Frobenius algebras*, 199.
Palmer, T. W. *Totally bounded sets of precompact linear operators*, 101.
Parthasarathy, T. *Product solutions for simple games.* II, 107.
Passman, D. S. *On the semisimplicity of modular group algebras*, 515.
Pederson, R. N. *A note on the local coefficient problem*, 345.
Peng, T. A. *Finite groups with pro-normal subgroups*, 232.
Peterson, D. C. *Extending functions to operate on proper classes*, 553.
Petersson, H. P. *Isotopisms of Jordan algebras*, 477.
Pfeifer, G. L. *The Stone-Čech compactification of an irreducibly connected space*, 531.
*Raghavendran, R. *Toeplitz-Hausdorff theorem on numerical ranges*, 284.
Ramsay, R. T. *On compactification and structure of topological groups*, 585.
Reay, J. R. See Bonnice, W. E.
Reichaw, M. See Netanyahu, E.
Reid, W. T. *Remarks on the Morse index theorem*, 339.
Rieffel, M. A. *On the continuity of certain intertwining operators, centralizers, and positive linear functionals*, 455.
Rohatgi, V. K. *On convergence rates in the law of large numbers for weighted sums of independent random variables*, 570.
Roitberg, Joseph. *On the* PL *noninvariance of the span of a smooth manifold*, 575.
Rosenblum, Marvin. *The operator equation* $BX - XA = Q$ *with selfadjoint* A *and* B, 115.
Rudin, M. E. *A new proof that metric spaces are paracompact*, 603.
Rutledge, Dorothy. *A generator for a semigroup of nonlinear transformations*, 491.
Scarborough, C. T. *Closed graphs and closed projections*, 465.
Schaefer, Paul. *Almost convergent and almost summable sequences*, 51.
Schneider, W. J. See Barth, K. F.
Schwabauer, Robert. *A note on commutative semigroups*, 503.
Seebeck, C. L. III. See Bryant, J. L.
Segal, S. L. *A Tauberian relative of the Landau-Ingham Tauberian theorem*, 287.
Shapiro, V. L. *The approximate divergence operator*, 55.
Silverman, Edward. *Equicontinuity and n-length*, 483.
Sinclair, A. M. *Continuous derivations on Banach algebras*, 166.
Singh, Y. P. *The asymptotic behavior of solutions of linear third order differential equations*, 309.
Smith, John. *A remark on class numbers of number field extensions*, 388.
Stepp, J. W. *A note on maximal locally compact semigroups*, 251.
Stiles, W. J. *On inversions in normed linear spaces*, 505.
Strang, Gilbert. *Approximating semigroups and the consistency of difference schemes*, 1.
Sucheston, Louis. See Klimko, E. M.
Tachikawa, Hiroyuki, *A generalization of quasi-Frobenius rings*, 471.
Takaguchi, M. *Commuting projections with assigned ranges*, 368.

Takesaki, Masamichi. *Remarks on the reduction theory of von Neumann algebras*, 434.
Tamura, T. See Chrislock, J. L.
Thomas, E. S., Jr. See Ball, B. J.
Thompson, Maynard. *Complex polynomial interpolation to continuous boundary data*, 327.
Topping, D. M. See Fillmore, P. A.
Trutt, David. See de Branges, Louis.
Turner, R. E. L. *A note on eigenvalues of normal transformations*, 30.
Turquette, A. R. *Generalizable Kleene logics*, 361.
Van Buskirk, James. See Gillette, Richard.
Vinograde, B. See Mordeson, J. N.
Wainger, Stephen. *A problem of Wiener and the failure of a principle for Fourier series with positive coefficients*, 16.
Waterhouse, W. C. *A classification of amost full formal groups*, 426.
Waterman, Daniel. *On the summability of the differentiated Fourier series*. II, 342.
Weil, C. E. *On approximate and Peano derivatives*, 487.
Wells, B. B., Jr. *Weak compactness of measures*, 124.
Wenger, R. *Self-injective semigroup rings for finite inverse semigroups*, 213.
Wiegand, Roger. *Sheaf cohomology of locally compact totally disconnected spaces*, 533.
Wilkinson, J. B. *A lower bound for the dimension of certain G_δ sets in completely normal spaces*, 175.
Williams, J. P. *Operators similar to their adjoints*, 121.
Wollenberg, L. S. *Derivations of the Lie algebra of polynomials under Poisson bracket*, 315.
Wong, J. S. W. See Boyd, D. W.
———. See Macki, J. W.
Yohe, J. M. *Structure of hereditarily infinite dimensional spaces*, 179.
*Yorke, J. A. *Permutations and two sequences with the same cluster set*, 606.
Younglove, J. N. *A locally connected, complete Moore space on which every real-valued continuous function is constant*, 527.
Zaks, Joseph. *On a minimality property of complexes*, 439.
———. *On finite decompositions of E^{2n-1}*, 445.
Ziemer, W. P. *The area and variation of linearly continuous functions*, 81.

STATEMENT OF OWNERSHIP, MANAGEMENT AND CIRCULATION
(Act of October 23, 1962; Section 4369, Title 39, United States Code)

1. *Date of filing*: September 24, 1968
2. *Title of Publication*: Proceedings of the American Mathematical Society
3. *Frequency of issue*: Monthly
4. *Location of known office of publication*: 321 South Main Street, P.O. Box 6248, Providence, Rhode Island 02904
5. *Location of the headquarters or general business offices of the publishers*: Same
6. *Names and addresses of publisher, editor, and managing editor. Publisher*: American Mathematical Society, 321 South Main Street, Providence, Rhode Island 02904. *Editor*: Arthur Mattuck, Room 2-275, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139. *Managing editor*: None.
7. *Owner*: None
8. *Known bondholders, mortgagees, and other security holders owning or holding 1 percent or more of total amount of bonds, mortgages or other securities*: None.
9. The purpose, function and nonprofit status of this organization and the exempt status for Federal income tax purposes have not changed during the preceding 12 months.
10. Extent and nature of circulation

	Average number of copies of each issue during preceding 12 months	Actual number of copies of single issue published nearest to filing date
A. Total No. copies printed	7,000	6,800
B. Mail subscriptions	6,000	5,990
C. Total paid circulation	6,000	5,990
D. Free distribution	2	7
E. Total distribution	6,002	5,997
F. Office use	998	803
G. Total	7,000	6,800

I certify that the statements made by me above are correct and complete.—GORDON L. WALKER

PROCEEDINGS

OF THE

AMERICAN MATHEMATICAL SOCIETY

EDITED BY

W. H. J. FUCHS
E. A. MICHAEL
IRVING GLICKSBERG
IRVING REINER
ARTHUR MATTUCK
EMERY THOMAS
W. R. WASOW

WITH THE COÖPERATION OF

W. W. BOONE
S. M. SHAH
JOSHUA CHOVER
HANS WEINBERGER

VOLUME 20, NUMBER 3
MARCH, 1969
WHOLE NO. 117

PUBLISHED BY THE AMERICAN MATHEMATICAL SOCIETY
PROVIDENCE, RHODE ISLAND

Journals Published by the

American Mathematical Society

Proceedings of the American Mathematical Society

The PROCEEDINGS of the American Mathematical Society is devoted entirely to research in pure and applied mathematics, and the publication of original papers of moderate length. Articles for insertion should be typewritten and double spaced. Ditto is not generally satisfactory, although other modes of multiple reproduction may be. 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.) 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.

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.)

Papers in algebra and number theory should be sent to ARTHUR MATTUCK, Room 2-275, Mathematics Department, Massachusetts Institute of Technology, Cambridge, Massachusetts 02139, or to IRVING REINER, Mathematics Department, University of Illinois, Urbana, Illinois 61801.

Papers in modern or classical analysis should be sent to IRVING GLICKSBERG, Mathematics Department, University of Washington, Seattle, Washington 98105, or to W. H. J. FUCHS, White Hall, Cornell University, Ithaca, New York 14850.

Papers in algebraic geometry should be sent to ARTHUR MATTUCK; papers in set-theoretic and general topology to ERNEST MICHAEL, Mathematics Department, University of Washington, Seattle, Washington 98105; in algebraic topology and all other types of geometry to P. EMERY THOMAS, Mathematics Department, University of California, Berkeley, California 94720.

Papers in applied mathematics, differential equations, and related areas of analysis should be sent to WOLFGANG WASOW, Mathematics Department, University of Wisconsin, Madison, Wisconsin 53706.

Papers in probability, statistics, and related fields should be sent to JOSHUA CHOVER, Mathematics Department, University of Wisconsin, Madison, Wisconsin 53706.

Papers in logic, set theory, and related areas should be sent to W. W. BOONE, Mathematics Department, University of Illinois, Urbana, Illinois 61801.

All other communications should be addressed to the Managing Editor, ARTHUR MATTUCK, at the above address.

Inquiries from authors regarding reprints, or changes of addresses for mailing proofs, should be sent directly to the Editorial Department, American Mathematical Society, P. O. Box 6248, Providence, Rhode Island 02904.

Four volumes of three issues are planned for 1969. The subscription price is $80.00 for the four volumes. Back issues of Volumes 1–16 are available at a price of $14.00 each and Volumes 17–19 at a price of $18.00 each.

The American Mathematical Society also publishes the following journals which accept research papers: BULLETIN, TRANSACTIONS and MATHEMATICS OF COMPUTATION. For details and the list of editors, please consult a recent issue. Reviews of the current mathematical literature of the world are published in MATHEMATICAL REVIEWS; editorial correspondence for this journal should be sent to: 416 Fourth Street, Ann Arbor, Michigan 48103.

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.

Copyright ©, American Mathematical Society, 1969

Printed in the United States of America

PROCEEDINGS

OF THE

AMERICAN MATHEMATICAL SOCIETY

AUTHOR INDEX

VOLUMES 11–20

1960–1969

MARCH, 1969

PUBLISHED BY THE AMERICAN MATHEMATICAL SOCIETY

PROVIDENCE, RHODE ISLAND

EDITORIAL STAFF

1960–1969

EDITORS

R. P. Boas, 1960–1961
R. C. Buck, 1964–1967
Eldon Dyer, 1962–1967
W. H. J. Fuchs, 1966, 1968–1969
Irving Glicksberg, 1968–1969
P. R. Halmos, 1960–1963
M. H. Heins, 1962–1965
Fritz John, 1962–1967
Arthur Mattuck, 1966–1969
E. A. Michael, 1968–1969
Irving Reiner, 1966–1969
Alex Rosenberg, 1960–1965

Hans Samelson, 1960
E. H. Spanier, 1961
Emery Thomas, 1968–1969
W. R. Wasow, 1967–1969
George Whaples, 1962–1965

ASSOCIATE EDITORS

Richard Bellman, 1960–1961
W. W. Boone, 1968–1969
Felix Browder, 1960–1961
William Browder, 1963–1965
D. A. Buchsbaum, 1966–1967
Y. W. Chen, 1962–1964
Joshua Chover, 1966–1969
C. W. Curtis, 1962–1964
E. E. Floyd, 1960–1962
Avner Friedman, 1961–1964
W. H. J. Fuchs, 1967
F. W. Gehring, 1962–1964
I. N. Herstein, 1960–1961
Michael Kervaire, 1962–1964
Erwin Kleinfeld, 1960
W. J. Le Veque, 1961–1964
D. J. Lewis, 1965–1966
Wilhelm Magnus, 1965–1966
J. C. Moore, 1960–1961
Anil Nerode, 1963–1965
M. O. Reade, 1960
Melvin Rothenberg, 1966–1967
Dana Scott, 1960–1962
S. M. Shah, 1966–1969
H. S. Shapiro, 1966–1968
A. H. Taub, 1960–1962

Peter Ungar, 1963–1965
Hans Weinberger, 1968–1969
J. A. Wolf, 1966–1968
Daniel Zelinsky, 1960–1962

Index to Volumes 11–20

1960–1969

Throughout this Index, bold face numerals are used to denote the volume number; light face numerals denote pages.

Abhyankar, Shreeram. *A remark on the nonnormal locus of an analytic space*, **15**, 505, 1000.

Abramowich, John. *A note on the characteristic numbers of linear systems of differential-difference equations*, **19**, 50.

Accola, R. D. M. *On a class of Riemann surfaces*, **15**, 607.

Adams, J. F., Lax, P. D. and Phillips, R. S. *On matrices whose real linear combinations are nonsingular*, **16**, 318.

——— *Correction to "On matrices whose real linear combinations are nonsingular,"* **17**, 945.

Adams, R. A. *Ellipticity and regularity for periodic nonlinear equations*, **20**, 24.

Adams, W. W. *Asymptotic Diophantine approximations and equivalent numbers*, **19**, 231.

Adler, R. L. *Ergodic and mixing properties of infinite memory channels*, **12**, 924.

——— *On a conjecture of Fomin*, **13**, 433.

——— *A note on the entropy of skew product transformations*, **14**, 665, 1000.

Adler, R. L. and Konheim, A. G. *A note on translation invariants*, **13**, 425.

Adler, R. L. and Palais, R. *Homeomorphic conjugacy of automorphisms on the torus*, **16**, 1222.

Adler, R. L. and Rivlin, T. J. *Ergodic and mixing properties of Chebyshev polynomials*, **15**, 794.

Aeppli, Alfred, *On the uniqueness of compact solutions for certain elliptic differential equations*, **11**, 826.

Ahlfors, L. and Weill, G. *A uniqueness theorem for Beltrami equations*, **13**, 975.

Akcoglu, M. A. *An ergodic lemma*, **16**, 388.

Akcoglu, M. A. and Chacon, R. V. *Generalized eigenvalues of automorphisms*, **16**, 676.

Akutowicz, E. J. *An interpolation series*, **14**, 559.

Al-Amiri, H. S. *Degree of approximation by polynomials to functions of bounded variation*, **17**, 984.

Albert, A. A. *On associative division algebras of prime degree*, **16**, 799.

Albrecht, Felix. *On projective modules over semi-hereditary rings*, **12**, 638.

Al-Dhahir, M. W. *An instrument in hyperbolic geometry*, **13**, 298.

Alford, W. R. *Uncountably many different involutions of S^3*, **17**, 186.

Aljančić, S. *Approximation of continuous functions by typical means of their Fourier series*, **12**, 681.

——— *On the integral moduli of continuity in L_p $(1<p<\infty)$ of Fourier series with monotone coefficients*, **17**, 287.

Alling, N. L. *On exponentially closed fields*, **13**, 706.

Allsbrook, J. S. *A metrization theorem*, **17**, 878.

Almgren, F. J., Jr. *An isoperimetric inequality*, **15**, 284.

——— *Mass continuous cochains are differential forms*, **16**, 1291.

Alo, R. A. and Shapiro, H. L. *Extensions of totally bounded pseudometrics*, **19**, 877,

Alperin, J. L. *Automorphisms of solvable groups*, **13**, 175.

Alperin, J. L. and Gorenstein, Daniel. *The multiplicators of certain simple groups*, **17**, 515.
Al-Salam, W. A. *q-analogues of Cauchy's formula*, **17**, 616.
Altman, M. *Functional equations involving a parameter*, **11**, 54.
Amir, D. *Projections onto continuous function spaces*, **15**, 396.
Amitsur, S. A. *Finite dimensional central division algebras*, **11**, 28.
Anderson, D. R. *On connected irresolvable Hausdorff spaces*, **16**, 463.
Anderson, E. H. *Approximation of certain continuous functions of S^2 into E^3*, **18**, 889.
Anderson, F. W. *On f-rings with the ascending chain condition*, **13**, 715.
Anderson, John. *Concerning the finite model property for propositional calculi*, **19**, 1207.
Anderson, R. D. *On a theorem of Klee*, **17**, 1401.
Anderson, R. D. and Keisler, J. E. *An example in dimension theory*, **18**, 709.
Anderson, R. F. See Mathews, J. C.
Anderson, T. *A note on derivations of commutative algebras*, **17**, 1199.
Andô, Tsuyoshi. *On gradient mappings in Banach spaces*, **12**, 297.
——— *On hyponormal operators*, **14**, 290.
Andrews, G. E. *A simple proof of Jacobi's triple product identity*, **16**, 333.
——— *A generalization of the Göllnitz-Gordon partition theorems*, **18**, 945.
——— *On partition functions related to Schur's second partition theorem*, **19**, 441.
——— *Two theorems of Euler and a general partition theorem*, **20**, 499.
Andrews, J. J. *A chainable continuum no two of whose nondegenerate subcontinua are homeomorphic*, **12**, 333.
——— *Embedding homotopy cells*, **12**, 917.
Andrews, J. J. and Curtis, M. L. *Free groups and handlebodies*, **16**, 192.
Andrews, J. J. and Dristy, Forrest. *The Minkowski units of ribbon knots*, **15**, 856.
Ang, D. D. *A nonlinear steady state temperature problem for a semi-infinite slab*, **20**, 303.
Ang, D. D. and Daykin, D. E. *Some fixed point theorems and convolution equations*, **19**, 1187.
Anselone, P. M. and Korevaar, J. *Translation invariant subspaces of finite dimension*, **15**, 747.
Apostol, Constantin. *On the roots of spectral operators*, **19**, 811.
Apostol, T. M. *A short proof of Shô Iseki's functional equation*, **15**, 618.
Appel, K. I. *No recursively enumerable set is the union of finitely many immune retraceable sets*, **18**, 279.
——— *One-variable equations in free groups*, **19**, 912.
Appel, K. I. and Djorup, F. M. *On the group generated by a free semigroup*, **15**, 838.
Appling, W. D. L. *Concerning nonnegative valued interval functions*, **13**, 784.
——— *Some integral characterizations of absolute continuity*, **18**, 94.
——— *Integral representations and refinement-unboundedness*, **19**, 837.
Arbib, Michael and Blum, Manuel. *Machine dependence of degrees of difficulty*, **16**, 442.
Argabright, L. N. *A note on invariant integrals on locally compact semigroups*, **17**, 377.
——— See Wilde, C. O.
Argabright, L. N. and Wilde, C. O. *Semigroups satisfying a strong Følner condition*, **18**, 587.
Arkowitz, Martin. *An example for homotopy groups with coefficients*, **15**, 136.
Armendariz, E. P. See Leavitt, W. G.
Armentrout, Steve. *A Moore space on which every real-valued continuous function is constant*, **12**, 106.
Armstrong, J. W. *On the indecomposability of torsion-free abelian groups*, **16**, 323.

Armstrong, M. A. *Extending triangulations*, 18, 701.
Aronson, D. G. *On the correctness of partial differential operators and the von Neumann condition for stability of finite difference operators*, 14, 948.
Arsove, M. G. *On subharmonicity of doubly subharmonic functions*, 17, 622.
——— *The Osgood-Taylor-Carathéodory theorem*, 19, 38.
——— *Some boundary properties of the Riemann mapping function*, 19, 560.
Artemiadis, Nicolas. *On a class of holomorphic functions*, 16, 879.
Artzy, R. *Relations between loop identities*, 11, 847.
——— *Isotopy and parastrophy of quasigroups*, 14, 429.
Askey, Richard. *Orthogonal expansions with positive coefficients*, 16, 1191.
——— *L^p behavior of power series with positive coefficients*, 19, 303.
Askey, Richard, Fitch, James and Gasper, George. *On a positive trigonometric sum*, 19, 1507.
Atchison, T. A. *A class of Riemann surfaces*, 16, 731.
Atsumi, Koichi. *On complete lattices having the Hausdorff interval topology*, 17, 197.
Aull, C. E. *A note on countably paracompact spaces and metrization*, 16, 1316.
Aumann, Georg. *Approximation by step functions*, 14, 477.
Auslander, Joseph. *On the proximal relation in topological dynamics*, 11, 890.
Auslander, Louis. *Discrete solvable matrix groups*, 11, 687.
——— *An account of the theory of crystallographic groups*, 16, 1229.
Auslander L. and Schenkman, E. *Free groups, Hirsch-Plotkin radicals, and applications to geometry*, 16, 784.
Austin, A. K. *A note on models of identities*, 16, 522.
——— *Finite models for laws in two variables*, 17, 1410.
Austin, C. W. *Positive semicharacters of some commutative semigroups*, 15, 382.
Austin, Donald. *A geometric proof of the Lebesgue differentiation theorem*, 16, 220.
Au-Yeung, Yik-Hoi. *A theorem on a mapping from a sphere to the circle and the simultaneous diagonalization of two Hermitian matrices*, 20, 545.
Avann, S. P. *Upper and lower complementation in a modular lattice*, 11, 17.
——— *Metric ternary distributive semi-lattices*, 12, 407.
Ax, James. *On the undecidability of power series fields*, 16, 846.
——— *Proof of some conjectures on cohomological dimension*, 16, 1214.
Ayoub, Raymond. *A note on the Riemann zeta function*, 17, 1215.
Aziz, A. K. *Periodic solutions of hyperbolic partial differential equations*, 17, 557, 1474.
Azpeitia, A. G. *On the maximum modulus and the maximum term of an entire Dirichlet series*, 12, 717.
——— *A remark on the Ritt order of entire functions defined by Dirichlet series*, 12, 722.

Baer, R. M. *Computability by normal algorithms*, 20, 551.
Bagley, R. W. and Wu, T. S. *Topological groups with equal left and right uniformities*, 18, 142.
Bagley, R. W. and Yang, J. S. *On k-spaces and function spaces*, 17, 703.
Baker, H. L., Jr. *Complete amonotonic decompositions of compact continua*, 19, 847.
Baker, I. N. *On a class of meromorphic functions*, 17, 819.
Ball, B. J. *Finite collections of 2-spheres in E^3*, 13, 1.
Ball, B. J., Ford, Jo and Thomas, E. S., Jr. *Extending real maps defined on a subset of a disk*, 20, 75.
Ball, R. W. *Indices of maximal subgroups of infinite symmetric groups*, 19, 948.
Bank, Steven. *On the asymptotic behavior of solutions near an irregular singularity*, 18,15.

Bank, Steven. *On principal solutions of linear differential equations*, **19**, 724.
Banks, Dallas. *An integral inequality*, **14**, 823.
Barnes, B. A. *Some theorems concerning the continuity of algebra homomorphisms*, **18**, 1035.
Barnes, R. T. *On splitting fields for certain Lie algebras of prime characteristic*, **17**, 930.
Barr, Michael. *A cohomology theory for commutative algebras*. I, **16**, 1379.
——— *A cohomology theory for commutative algebras*. II, **16**, 1385.
Barratt, M. G. and Milnor, John. *An example of anomalous singular homology*, **13**, 293.
Barrett, J. H. *Systems-disconjugacy of a fourth-order differential equation*, **12**, 205.
Barrett, L. K. *A note on regular curves*, **12**, 603.
Barrucand, Pierre and Dickinson, David. *On cubic transformations of orthogonal polynomials*, **17**, 810.
Barth, K. F. and Schneider, W. J. *A short proof of a lemma of G. R. MacLane*, **20**, 604.
Barth, T. J. *Extension of normal families of holomorphic functions*, **16**, 1236.
Bartle, R. G. and Joichi, J. T. *The preservation of convergence of measurable functions under composition*, **12**, 122.
Bass, H. *A remark on an arithmetic theorem of Chevalley*, **16**, 875.
Bateman, J. M. and Coleman, D. B. *Group algebras with nilpotent unit groups*, **19**, 448.
Bateman, P. T., Kohlbecker, E. E. and Tull, J. P. *On a theorem of Erdös and Fuchs in additive number theory*, **14**, 278.
Baum, J. D. *An equicontinuity condition in topological dynamics*, **12**, 30.
Bauman, S. *Nonsolvable* IC *groups*, **15**, 823.
Baumann, Volker. *The boundary of the range of vector measure*, **17**, 865.
Baumslag, Gilbert. *Some remarks on nilpotent groups with roots*, **12**, 262.
——— *A remark on generalised free products*, **13**, 53.
——— *A representation of the wreath product of two torsion-free abelian groups in a power series ring*, **17**, 1159.
Baxter, Glen. *On fixed points of the composite of commuting functions*, **15**, 851.
Baxter, W. E. *Concerning strong Lie ideals*, **11**, 393.
——— *Concerning the commutator subgroup of a ring*, **16**, 803.
——— *On the subring generated by the symmetric elements*, **19**, 943.
Bear, H. S. *Some boundary properties of function algebras*, **11**, 1.
——— *A geometric characterization of Gleason parts*, **16**, 407.
Bear, H. S. and Weiss, M. L. *An intrinsic metric for parts*, **18**, 812.
Bebernes, J. W. and Gaines, Robert. *A generalized two-point boundary value problem*, **19**, 749.
Bechtell, Homer. *A note on finite solvable K-groups*, **17**, 1447.
——— *Nongenerators of rings*, **19**, 241.
Beck, Anatole. *A note on semi-groups in a locally compact group*, **11**, 992.
——— *A convexity condition in Banach spaces and the strong law of large numbers*, **13**, 329.
——— *A theorem on maximum modulus*, **15**, 345.
——— *On rings on rings*, **15**, 350.
Beesack, P. R. *Comparison theorems and integral inequalities for Volterra integral equations*, **20**, 61.
Behzad, Mehdi and Radjavi, Heydar. *The total group of a graph*, **19**, 158.
Bellman, Richard. *Invariant imbedding and random walk*, **13**, 251.
——— *A note on the identification of linear systems*, **17**, 68.
Bellman, Richard and Lehman, R. S. *The reciprocity formula for multidimensional theta functions*, **12**, 954.

Belluce, L. P. and Kirk, W. A. *Fixed-point theorems for certain classes of nonexpansive mappings*, **20**, 141.
Bender, E. A. *Numerical identities in lattices with an application to Dirichlet products*, **15**, 8.
Beneš, V. E. *Existence of finite invariant measures for Markov processes*, **18**, 1058.
Bennett, Ralph. *Embedding products of chainable continua*, **16**, 1026.
——— *Locally connected 2-cell and 2-sphere-like continua*, **17**, 674.
Benson, C. T. *A partial geometry* $(q^3+1, q^2+1, 1)$ *and corresponding* PBIB *design*, **17**, 747.
Berberian, S. K. *Approximate proper vectors*, **13**, 111.
——— *On the extension of Borel measures*, **16**, 415.
Berberian, S. K. and Orland, G. H. *On the closure of the numerical range of an operator*, **18**, 499.
Berg, I. D. *A Banach algebra criterion for Tauberian theorems*, **15**, 648.
——— *Open sets of conservative matrices*, **16**, 719.
Bergman, G. M. *A ring primitive on the right but not on the left*, **15**, 473, 1000.
———*A counter example in differential algebra*, **16**, 1407.
Berkson, A. J. *The u-algebra of a restricted Lie algebra is Frobenius*, **15**, 14.
Berman, S. M. *A version of the Lévy-Baxter theorem for the increments of Brownian motion of several parameters*, **18**, 1051.
Bernau, S. J. *Extreme eigenvectors of a normal operator*, **18**, 127.
Bernstein, D. L. See Coon, G. A.
Berri, M. P. and Sorgenfrey, R. H. *Minimal regular spaces*, **14**, 454.
Bethel, E. L. *A note on a reducible continuum*, **16**, 1331.
Beyer, W. A. *Cardinality of level sets of Rademacher series whose coefficients form a geometric progression*, **13**, 579.
Bialynicki-Birula, A. *On the inverse problem of Galois theory of differential fields*, **15**, 960.
Bialynicki-Birula, Andrzej and Rosenlicht, Maxwell. *Injective morphisms of real algebraic v rieties*, **13**, 200.
Bierstedt, R. G. and Mills, W. H. *On the bound for a pair of consecutive quartic residues*, **14**, 628.
Biesterfeldt, H. J., Jr. See Pervin, W. J.
Billingsley, Patrick. *The Lindeberg-Lévy theorem for martingales*, **12**, 788.
Bing, R. H. *A set is a 3 cell if its Cartesian product with an arc is a 4 cell*, **12**, 13.
——— *A translation of the normal Moore space conjecture*, **16**, 612.
Bing, R. H. and Curtis, M. L. *Imbedding decompositions of* E^3 *in* E^4, **11**, 149.
Birkoff, Garrett. *Note on positive linear operators*, **16**, 14.
Birtel, F. T. *Isomorphisms and isometric multipliers*, **13**, 204.
——— *On a commutative extension of a Banach algebra*, **13**, 815.
Bishop, Errett. *A general Rudin-Carleson theorem*, **13**, 140.
Bishop, R. L. and Goldberg, S. I. *On the second cohomology group of a Kaehler manifold of positive curvature*, **16**, 119.
Blackburn, Norman. *Conjugacy in nilpotent groups*, **16**, 143.
Blackwell, David and Dubins, L. E. *Sharp bounds on the distribution of the Hardy-Littlewood maximal function*, **14**, 450.
Blair, R. L. and Burrill, C. W. *Direct decompositions of lattices of continuous functions*, **13**, 631.
Blair, R. L. and Eggan, L. C. *On the compactness of the structure space of a ring*, **11**, 876.
Blair, R. L. and Tomber, M. L. *The axiom of choice for finite sets*, **11**, 222.
Blakley, G. R. *Classes of p-valent starlike functions*, **13**, 152, 1000.

Blakley, G. R. and Roy, Prabir. *A Hölder type inequality for symmetric matrices with nonnegative entries*, **16**, 1243.
Blattner, R. J. *A theorem on induced representations*, **13**, 881.
——— *Positive definite measures*, **14**, 423.
Blau, J. H. *Transformation of probabilities*, **12**, 511.
Blefko, R. and Mrówka, S. *On the extensions of continuous functions from dense subspaces*, **17**, 1396.
Block, Richard. *On Lie algebras of classical type*, **11**, 377.
Blum, J. R. *On relatively nonatomic measures*, **12**, 457.
Blum, J. R. and Friedman, N. *On commuting transformations and roots*, **17**, 1370.
Blum, J. R. and Hanson, D. L. *A note on ergodic transformations*, **14**, 718.
——— *A note on the ergodic theorem*, **16**, 413.
Blum, J. R., Norris, M. J. and Wing, G. M. *Asymptotic behavior of solutions of a functional equation*, **12**, 463.
Blum, Manuel. See Arbib, Michael.
Boas, R. P., Jr. *An inequality for nonnegative entire functions*, **13**, 666.
Bochner, S. *Entire functions in several variables with constant absolute values on a circular uniqueness set*, **13**, 117.
Boehme, T. K. *Convergence of positive functions in the space on Mikusiński operators*, **17**, 12.
Boen, J. R. *On p-groups of class three generated by three elements*, **12**, 978.
Bogdanowicz, Witold. *On nowhere differentiable functions being a convolution of continuous functions*, **16**, 97.
Bojanic, R. and Musielak, J. *An inequality for functions with derivatives in an Orlicz space*, **15**, 902.
Bojanic, R. and Stoll, W. *A characterization of monomials*, **13**, 115.
Bolker, E. D. *Inverse limits of solvable groups*, **14**, 147.
Bolster, M. F. See Farrell, O. J.
Bonic, Robert. *A note on Sard's theorem in Banach spaces*, **17**, 1218.
——— *Some properties of Hilbert scales*, **18**, 1000.
——— *Points of minimum norm on smooth surfaces in Banach spaces*, **18**, 1004.
Bonnice, W. E. and Reay, J. R. *Relative interiors of convex hulls*, **20**, 246.
Bonnice, W. E. and Silverman, R. J. *The Hahn-Banach extension and the least upper bound properties are equivalent*, **18**, 843.
Boothby, W. M. *A note on homogeneous complex contact manifolds*, **13**, 276.
Borges, C. J. R. *On function spaces of stratifiable spaces and compact spaces*, **17**, 1074.
——— *Continuous extensions*, **18**, 874.
Borrego, J. T. *Homomorphic retractions in semigroups*, **18**, 716.
Bose, A. K. *A mean value property of elliptic equations with constant coefficients*, **18**, 995.
——— *Generalized eigenfunctions of the Laplace operator and weighted average property*, **19**, 55.
Botta, Peter. *Linear transformations that preserve the permanent*, **18**, 566.
Bourgin, D. G. *A condition for finite dimensional convexity*, **16**, 1311.
Bouwsma, W. D. *Zeros of functions of regular growth on a line*, **15**, 938.
Bowman, R. H. *On the extensive derivative*, **19**, 642.
Boyd, A. V. *Coefficient estimates for starlike functions of order α*, **17**, 1016.
Boyd, D. W. *Spaces between a pair of reflexive Lebesgue spaces*, **18**, 215.
Boyd, D. W. and Wong, J. S. W. *On nonlinear contractions*, **20**, 458.
Boyd, J. R. *Axioms that define semi-metric, Moore, and metric spaces*, **13**, 482.
Boyer, B. J. and Holder, L. I. *A generalization of absolute Rieszian summability*, **14**, 459.

Brace, J. W. *Almost uniform convergence versus pointwise convergence*, 11, 986.
——— *Approximating compact and weakly compact operators*, 12, 392.
Brace, J. W. and Nielsen, R. M. *A uniform boundedness theorem*, 18, 624.
Bradford, J. C. and Goffman, Casper. *Metric spaces in which Blumberg's theorem holds*, 11, 667.
Bragg, L. R. *Dual functions and heat expansions*, 18, 402.
Brahana, T. R., Fort, M. K., Jr. and Horstman, W. G. *Homotopy for cellular set-valued functions*, 16, 455.
Brannen, J. P. *Concerning Hausdorff matrices and absolutely convergent sequences*, 15, 114.
Brauer, Alfred. *A note on a number theoretical paper of Sierpinski*, 11, 406.
Brauer, Alfred and Shockley, J. E. *On Diophantine equations of the form* $x^n+y^n=hp^m$, 12, 951.
Brauer, Fred. *Bounds for solutions of ordinary differential equations*, 14, 36.
——— *Nonlinear differential equations with forcing terms*, 15, 758.
Brauer, Richard. *A note on theorems of Burnside and Blichfeldt*, 15, 31.
Bredon, G. E. *A space for which* $H^1(X; Z) \neq [X, S^1]$, 19, 396.
Brewer, B. W. *On primes of the form* u^2+5v^2, 17, 502.
Brickell, F. *A new proof of Deicke's theorem on homogeneous functions*, 16, 190.
——— *On the differentiability of affine and projective transformations*, 16, 567.
Brickman, Louis. *On the field of values of a matrix*, 12, 61.
Bridgland, T. F., Jr. *Asymptotic behavior of the solutions of nonhomogeneous differential equations*, 12, 546.
——— *Asymptotic behavior of the solutions of nonlinear differential equations*, 13, 373.
——— *Asymptotic equilibria in homogeneous and nonhomogeneous systems*, 15, 131.
Bridgland, T. F. and Hinkel, J. S. *The minimum miss distance problem*, 18, 457.
Brillinger, D. R. *Bounded polymeasures and associated translation commutative polynomial operators*, 18, 487.
Brodkey, J. S. *A note on finite groups with an abelian Sylow group*, 14, 132.
Brodsky, A. R. *On the asymptotic behavior of solutions of the wave equations*, 18, 207.
Bronsted, A. and Rockafellar, R. T. *On the subdifferentiability of convex functions*, 16, 605.
Browder, A. and Wermer, J. *A method for constructing Dirichlet algebras*, 15, 546.
Browder, F. E. *Commutators with powers of an unbounded operator in Hilbert space*, 16, 1211.
Browder, William. *Remark on the Poincaré duality theorem*, 13, 927.
Brown, A. *On the adjoint of a closed transformation*, 15, 239.
Brown, Arlen and Douglas, R. G. *Partially isometric Toeplitz operators*, 16, 681.
Brown, Arlen and Pearcy, Carl. *Spectra of tensor products of operators*, 17, 162; 18,1142.
Brown, C. C. *On finite measures on the closed subspaces of a Hilbert space*, 19, 470, 1509.
Brown, D. R. *On clans of non-negative matrices*, 15, 671.
Brown, D. T. *A class of Banach algebras with a unique norm topology*, 17, 1429.
Brown, Gordon. *On commutators in a simple Lie algebra*, 14, 763.
——— *A remark on semi-simple Lie algebras*, 15, 518.
Brown, J. B. *Density of one graph along another*, 20, 147.
Brown, Leon and Nakano, Hidegoro. *A representation theorem for Archimedean linear lattices*, 17, 835.
Brown, Morton. *Some applications of an approximation theorem for inverse limits*, 11, 478.
——— *The monotone union of open n-cells is an open n-cell*, 12, 812.

Brown, R. F. and Fadell, Edward. *Nonsingular path fields on compact topological manifolds*, **16**, 1342.
Brown, R. K. *Univalence of Bessel functions*, **11**, 278.
Brown, T. A. and Comfort, W. W. *New method for expansion and contraction maps in uniform spaces*, **11**, 483.
Brualdi, R. A. *On the permanent and maximal characteristic root of a nonnegative matrix*, **17**, 1413.
——— *An extension of Banach's mapping theorem*, **20**, 520.
Bruckner, A. M. *Tests for the superadditivity of functions*, **13**, 126.
——— *Some relationships between locally superadditive functions and convex functions*, **15**, 61.
Bruckner, A. M. and Bruckner, J. B. *On L_n sets, the Hausdorff metric, and connectedness*, **13**, 765.
Bruckner, A. M. and Leonard, J. L. *Stationary sets and determining sets for certain classes of Darboux functions*, **16**, 935.
Bruckner, J. B. See Bruckner, A. M.
Brumer, Armand and Rosen, Michael. *On the size of the Brauer group*, **19**, 707.
Brunk, H. D. *On an extension of the concept conditional expectation*, **14**, 298.
Bryant, J. L. and Seebeck, C. L. III, *An equivalence theorem for embeddings of compact absolute neighborhood retracts*, **20**, 256.
Buchsbaum, D. A. and Rim, D. S. *A generalized Koszul complex*. III. *A remark on generic acyclicity*, **16**, 555.
Buck, R. C. *Zero sets for continuous functions*, **11**, 630.
Buckholtz, J. D. *Concerning an approximation of Copson*, **14**, 564.
——— *Column sequences in Hausdorff matrices*, **14**, 837.
——— *The maximum term of an entire series with gaps*, **16**, 272.
Buckley, J. *On the D-series of a finite group*, **18**, 185.
Buehler, R. J. *On functions satisfying certain differential inequalities*, **13**, 255.
Bullen, Peter and Marcus, Marvin. *Symmetric means and matrix inequalities*, **12**, 285.
Bumby, R. T. *An elementary example in p-adic diophantine approximation*, **15**, 22.
——— *On the analog of Littlewood's problem in power series fields*, **18**, 1125.
Burdick, R. O. *Oriented manifolds fibered over the circle*, **17**, 449.
Burdick, R. O., Conner, P. E. and Floyd, E. E. *Chain theories and their derived homology*, **19**, 1115.
Burgess, C. E. *Continua which have width zero*, **13**, 477.
Burgess, C. E. and Loveland, L. D. *Sequentially* 1-ULC *surfaces in E^3*, **19**, 653.
Burkholder, D. L. and Chow, Y. S. *Iterates of conditional expectation operators*, **12**, 490.
Burkill, H. and Petersen, G. M. *A relation between Riesz and Riemann summability*, **12**, 453.
Burrill, C. W. See Blair, R. L.
Burton, L. P. See Garner, J. B.
Burton, T. A. *On a theorem of Brauer*, **17**, 325.
——— *Linear differential equations with periodic coefficients*, **17**, 327.
Buschman, R. G. *An inversion integral*, **13**, 675.
Bush, G. C. *Note on an embedding theorem of Adyan*, **14**, 597.
Butson, A. T. *Generalized Hadamard matrices*, **13**, 894.
Butts, H. S. *Unique factorization of ideals into nonfactorable ideals*, **15**, 21.
——— *Quasi-invertible prime ideals*, **16**, 291.

Cabaña, E. M. *On stochastic differentials in Hilbert spaces*, **20**, 259.
Calabi, Eugenio, *Linear systems of real quadratic forms*, **15**, 844.

Calabi, L. and Hartnett, W. E. *A Motzkin-type theorem for closed nonconvex sets*, **19**, 1495.
Calder, J. R. *A property of l_p spaces*, **17**, 202.
Caldwell, W. V. PR-*factorizations of families of light interior functions*, **19**, 299.
Callahan, F. P. *Density and uniform density*, **15**, 841.
Calvert, James. *Some generalizations of Opial's inequality*, **18**, 72.
Cambern, Michael. *A generalized Banach-Stone theorem*, **17**, 396.
——— *On isomorphisms with small bound*, **18**, 1062.
Camion, Paul. *Characterization of totally unimodular matrices*, **16**, 1068.
Cannon, L. O. *On a point-segment decomposition of E^3 defined by McAuley*, **19**, 624.
Cantor, D. G. *A simple construction of analytic functions without radial limits*, **15**, 335.
——— *On powers of real numbers* (mod 1), **16**, 791.
Cantor, D. G. and Phelps, R. R. *An elementary interpolation theorem*, **16**, 523.
Cantrell, J. C. *n-frames in euclidean k-space*, **15**, 574.
Cantwell, John. *A topological approach to extreme points in function spaces*, **19**, 821.
Carlitz, L. *A characterization of algebraic number fields with class number two*, **11**, 391.
——— *Note on Nörlund's polynomial $B_n^{(z)}$*, **11**, 452.
——— *A theorem on permutations in a finite field*, **11**, 456.
——— *A note on Gauss' first proof of the quadratic reciprocity theorem*, **11**, 563.
——— *A determinant connected with Fermat's last theorem*, **11**, 730.
——— *A generalization of Maillet's determinant and a bound for the first factor of the class number*, **12**, 256.
——— *Note on Lebesgue's constants*, **12**, 932.
——— *A recurrence formula for $\zeta(2n)$*, **12**, 991.
——— *A note on finite fields*, **13**, 546.
——— *Some integral formulas for the complete elliptic integrals of the first and second kind*, **13**, 913.
——— *The coefficients in the expansion of certain products*, **13**, 944.
——— *A sequence of integers related to the Bessel functions*, **14**, 1.
——— *Note on a problem of Dickson*, **14**, 98.
——— *A note on permutations in an arbitrary field*, **14**, 101.
——— *The coefficients of the reciprocal of a Bessel function*, **15**, 318.
——— *The coefficients in an asymptotic expansion*, **16**, 248.
——— *A short proof of Jacobi's four square theorem*, **17**, 768.
Carlson, B. C. *A hypergeometric mean value*, **16**, 759.
——— *Some inequalities for hypergeometric functions*, **17**, 32.
Carlson, B. C. and Tobey, M. D. *A property of the hypergeometric mean value*, **19**, 255.
Carlson, David. *On some determinantal inequalities*, **19**, 462.
Carroll, F. W. *On bounded functions with almost-periodic differences*, **15**, 241.
Carroll, Robert. *On the structure of the Green's operator*, **15**, 225.
Casler, B. G. *An imbedding theorem for connected 3-manifolds with boundary*, **16**, 559.
Cater, S. *Observations on a paper by Rosenblum*, **12**, 560.
——— *On multiplicative mappings of rings of operators*, **13**, 55.
Caughran, J. G. *Nonuniqueness of extremal kernels*, **18**, 957.
Cavior, S. R. *Exponential sums related to polynomials over the* GF(p), **15**, 175.
Ceder, J. G. *Compactness and semicontinuous carriers*, **14**, 991.
——— *On a problem of Grünbaum*, **16**, 188.
Chacon, R. V. *The influence of the dissipative part of a general Markov process*, **11**, 957.
——— *A class of linear transformations*, **15**, 560.
——— See Akcoglu, M. A.
Chacon, R. V. and Krengel, U. *Linear modulus of a linear operator*, **15**, 553.

Chacon, R. V. and Olsen, J. *Dominated estimates of positive contractions*, **20**, 266.
Chakerian, G. D. *On some geometric inequalities*, **15**, 886.
——— *Inequalities for the difference body of a convex body*, **18**, 879.
Chakerian, G. D. and Stein, S. K. *Some intersection properties of convex bodies*, **18**, 109.
Chalice, D. R. *Characterizations for approximately normal algebras*, **20**, 415.
Chamberlain, E. W. *Differential operators appoximately of the form* $(1-(1/W(x))d/dx)^n$, **16**, 725.
——— *The univalence of functions asymptotic to nonconstant logarithmic monomials*, **17**, 302.
Chamberlin, R. E. *Errata to "A class of unknotted curves in 3-space,"* **11**, 999.
Chandler, R. E. *Cellular subcomplexes of piecewise-linear manifolds*, **16**, 599.
Chang, C. C. *A note on the two cardinal problem*, **16**, 1148.
Chao, Chong-Yun. *Uncountably many nonisomorphic nilpotent Lie algebras*, **13**, 903.
——— *On a problem of C. Berge*, **14**, 80.
——— *On a theorem of Sabidussi*, **15**, 291.
——— *A note on two set-transitive permutation groups*, **17**, 953.
——— *A theorem of nilpotent groups*, **19**, 959.
Chase, S. U. *A remark on direct products of modules*, **13**, 214.
Chaudhuri, Jyoti. *On the generalisation of a formula of Rainville*, **17**, 552.
Chew, K. L. *On a conjecture on D. C. Murdoch concerning primary decompositions of an ideal*, **19**, 925.
Chiang, Pou-Shun and Macintyre, A. J. *Upper bounds for a Bloch constant*, **17**, 26.
——— *Some theorems of Bloch type*, **18**, 953.
Chihara, T. S. *On recursively defined orthogonal polynomials*, **16**, 702.
Chover, Joshua. *A law of the iterated logarithm for stable summands*, **17**, 441.
Chow, Y. S. *A martingale inequality and the law of large numbers*, **11**, 107.
——— See Burkholder, D. L.
Chowla, S. *Note on the units of a real quadratic field*, **16**, 551.
Chowla, S. and Mordell, L. J. *Note on the nonvanishing of* $L(1)$, **12**, 283.
Chrislock, J. L. and Tamura, T. *Notes on subdirect products of semigroups and rectangular bands*, **20**, 511.
Chu, Hsin. *On totally minimal sets*, **13**, 457.
——— *Algebraic topology criteria for minimal sets*, **13**, 503.
——— *A note on compact transformation groups with a fixed end point*, **16**, 581.
——— *On the existence of slices for transformation groups*, **18**, 513.
Chu, S. C. and Metcalf, F. T. *On Gronwall's inequality*, **18**, 439.
Church, P. T. *On points of Jacobian rank k.* II, **16**, 1035.
Chwe, Byoung-Song. *On the commutativity of restricted Lie algebra*, **16**, 547.
Ciesielski, Z. *On the functional equation* $f(t)=g(t)-g(2t)$, **13**, 388.
Ciesielski, Z. and Kesten, H. *A limit theorem for the fractional parts of the sequence* $\{2^k t\}$, **13**, 596.
Cima, J. A. and Colwell, Peter. *Blaschke quotients and normality*, **19**, 796.
Civin, Paul. *Isometries of group algebras*, **11**, 983.
Claborn, Luther. *A generalized approximation theorem for Dedekind domains*, **18**, 378.
Clark, Colin and Hewgill, Denton. *One can hear whether a drum has finite area*, **18**, 236.
Clark, Colin and Swanson, C. A. *Comparison theorems for elliptic differential equations*, **16**, 886.
Clark, D. N. *A note on the p-adic convergence of solutions of linear differential equations*, **17**, 262.
Clarkson, J. A. *On the series of prime reciprocals*, **17**, 541.

Clements, G. F. and Lindström, B. *A sequence of* (± 1)*-determinants with large values*, **16**, 548.
Clifford, A. H. *Partial homomorphic images of Brandt groupoids*, **16**, 538.
——— *Partially ordered groups of the second and third kinds*, **17**, 219.
Clingman, W. H. *Permanently optimal strategies in extensive games*, **17**, 156.
Cohen, D. S. *The asymptotic behavior of a class of nonlinear differential equations*, **18**, 607.
——— *Existence, uniqueness and spectral properties of nonlinear eigenvalue problems*, **18**, 997.
Cohen, Eckford. *Arthimetical functions of a greatest common divisor*. I, **11**, 164.
——— *Arithmetical notes*, I. *On a theorem of van der Corput*, **12**, 214.
——— *A property of Dedekind's* ψ*-function*, **12**, 996.
——— *Arithmetical notes*. VIII. *An asymptotic formula of Rényi*, **13**, 536, 1000.
——— *Arithmetical notes*. X. *A class of totients*, **15**, 534.
Cohen, H. B. *The k-norm extension property for Banach spaces*, **15**, 797.
Cohen, H. J. and Supnick, Fred. *Concerning real numbers whose powers have nonintegral differences*, **14**, 626.
Cohen, Haskell. *A clan with zero without the fixed point property*, **11**, 937.
——— *On fixed points of commuting functions*, **15**, 293.
Cohen, Haskell and Hachigian, Jack. *On iterates of continuous functions on a unit ball*, **18**, 408.
Cohen, P. J. *A note on constructive methods in Banach algebras*, **12**, 159.
Cohn, Harvey. *Proof that Weber's normal units are not perfect powers*, **12**, 964.
Cohn, J. H. E. *On the value of determinants*, **14**, 581.
Cohn, P. M. *On subsemigroups of free semigroups*, **13**, 347.
Cohn, R. M. *An existence theorem for difference polynomials*, **17**, 254; **18**, 1142.
Coleman, Courtney. *Local trajectory equivalence of differential systems*, **16**, 890.
——— *Addendum to "Local trajectory equivalence of differential equations,"* **17**, 770.
Coleman, D. B. *On the modular group ring of a p-group*, **15**, 511.
——— *Idempotents in group rings*, **17**, 962.
——— See Bateman, J. M.
Coleman, S. H. *Separability of stochastic processes*, **14**, 172.
Coles, W. J. *A note on matrix Riccati systems*, **12**, 557.
——— *Some boundary value problems for linear differential systems*, **14**, 956.
——— *A simple proof of a well-known oscillation theorem*, **19**, 507.
——— *An oscillation criterion for second-order linear differential equations*, **19**, 755.
Collins, H. S. *Idempotent measures on compact semigroups*, **13**, 442.
Colwell, Peter. *On the boundary of Blaschke products in the unit disk*, **17**, 582.
——— *On the boundary behavior of functions meromorphic in the unit disk*, **17**, 822.
——— *Cluster set theorems for uniformly convergent sequences of functions*, **18**, 48.
——— See Cima, J. A.
Comfort, W. W. *The isolated points in the dual of a commutative semi-group*, **11**, 227.
——— See Brown, T. A.
Comfort, W. W. and Gordon, Hugh. *Inner product spaces and the tri-spherical intersection property*, **12**, 327.
Comfort, W. W. and Hill, Paul. *On extending nonvanishing semicharacters*, **17**, 936.
Comfort, W. W. and Negrepontis, Stelios. *The ring* $C(X)$ *determines the category of* X, **16**, 1041.
Conlon, Lawrence. *On the topology of* EIII *and* EIV, **16**, 575.
——— See Whitman, A. P.

Connell, E. H. and Porcelli, P. *An algorithm of J. Schur and the Taylor series*, **13**, 232.
Connell, I. G. *Abelian formal groups*, **17**, 958.
Conner, Howard. *A note on limit theorems for Markov branching processes*, **18**, 76.
Conner, P. E. *A note on cohomology addition*, **13**, 509.
——— See Burdick, R. O.
Conrad, P. F. *Regularly ordered groups*, **13**, 726.
——— *Subdirect sums of integers and reals*, **19**, 1176.
Conway, J. B. *Projections and retractions*, **17**, 843.
Cook, Howard and Fitzpatrick, Ben, Jr. *Inverse limits of perfectly normal spaces*, **19**, 189.
Coon, G. A. and Bernstein, D. L. *Some general formulas for double Laplace transformations*, **14**, 52.
Copeland, A. H., Jr. *Deleted products of cones*, **16**, 496.
——— *Homology of deleted products in dimension one*, **16**, 1005.
——— *Deleted products with prescribed homotopy types*, **19**, 1109.
Copland, A. H., Jr. and Mahowald, Mark. *The odd primary obstructions to finding a section in a V_n bundle are zero*, **19**, 1270.
Copping, J. *On subspaces of the space (m)*, **16**, 37.
Cordes, H. O. *A matrix inequality*, **11**, 206.
Corson, H. H. *A property of the real line equivalent to the continuum hypothesis*, **12**, 836.
——— *A compact convex set in E^3 whose exposed points are of the first category*, **16**, 1015.
Corson, H. H. and Lindenstrauss, J. *On weakly compact subsets of Banach spaces*, **17**, 407.
Cossey, John. *Laws in nilpotent-by-finite groups*, **19**, 685.
——— *Critical groups and the lattice of varieties*, **20**, 217.
Cowling, V. F. and Royster, W. C. *Domains of variability for univalent polynomials*, **19**, 767.
Crabtree, D. E. *On the characteristic roots of matrices*, **16**, 1410.
——— *Characteristic roots of M-matrices*, **17**, 1435.
Crawley, Peter. *Regular embeddings which preserve lattice structure*, **13**, 748.
Cronin, Jane. *Families of solutions of a perturbation problem*, **12**, 84.
Cross, G. E. *The relation between two definite integrals*, **11**, 578.
——— *The relation between two symmetric integrals*, **14**, 185.
Crowe, D. W. *Generating reflections for $U(2, p^{2n})$*, **13**, 500.
Crowell, R. H. *Invertible isotopies*, **14**, 658.
——— *The annihilator of a knot module*, **15**, 696.
Csörgö, Miklós. *Exact probability distribution functions of some Rényi type statistics*, **16**, 1158.
Culver, W. J. *On the existence and uniqueness of the real logarithm of a matrix*, **17**, 1146.
Curtis, C. W. *On projective representations of certain finite groups*, **11**, 852.
Curtis, H. B., Jr. *The uniformization of a class of simply connected Riemann surfaces*, **11**, 511.
Curtis, M. L. *Cartesian products with intervals*, **12**, 819.
——— See Andrews, J. J.
——— See Bing, R. H.
Curtis, M. L. and Lashof, R. K. *On product and bundle neighborhoods*, **13**, 934.
Curtis, M. L. and Zeeman, E. C. *On the polyhedral Schoenflies theorem*, **11**, 888.
Curtis, P. C., Jr. *Convergence of approximating polynomials*, **13**, 385.
——— *Divergence of approximating polynomials*, **14**, 713.
——— *The degree of approximation by linear operators*, **16**, 957.

Cusick, T. W. *Littlewood's diophantine approximation problem for series*, **18**, 920.
Cuttle, P. M. *Operators on a quasi-reflexive Banach space*, **13**, 993.
Cuttle, Y. *On quasi-reflexive Banach spaces*, **12**, 936.

Dang-Xuan-Hong. *A note on fixed point theorems for a family of nonexpansive mappings*, **19**, 1223.
Darling, D. A. and Erdös, P. *On the recurrence of a certain chain*, **19**, 336.
Darroch, J. N. and Pitman, Jane. *Note on a property of the elementary symmetric functions*, **16**, 1132.
Darst, R. B. *A note on integration of vector valued functions*, **13**, 858.
——— *A remark on universal sigma integrability*, **14**, 861.
——— *On measure and other properties of a Hamel basis*, **16**, 645.
——— *Perfect null sets in compact Hausdorff spaces*, **16**, 845.
——— *A direct proof of Porcelli's condition for weak convergence*, **17**, 1094.
——— *Properties of Lusin sets with applications to probability*, **20**, 348.
Darst, R. B. and Zink, R. E. *On a note of Marcus concerning a problem posed by Frink*, **16**, 926.
Das, K. M. *Bounds for solutions of 2nd order complex differential equations*, **18**, 220.
Das, Minaketan. *A class of entire functions with bowl-like surfaces*, **17**, 310.
——— *Properties of certain spaces of entire functions*, **19**, 773.
Davenport, H. *Note on an irrational power series*, **17**, 1.
Davis, A. S. *The uniform continuity of continuous functions on a topological space*, **14**, 977.
——— *Fixpoint theorem for contractions of a well-chained topological space*, **14**, 981.
Davis, E. D. *A remark on Prüfer rings*, **20**, 235.
Davis, H. S. *A note on connectedness im kleinen*, **19**, 1237.
Davis, W. J. *Dual generalized bases in linear topological spaces*, **17**, 1057.
——— *M-similarity and isomorphisms in B_0-spaces*, **19**, 332.
Dawson, D. A. and Sankoff, D. *An inequality for probabilities*, **18**, 504.
Dawson, D. F. *Concerning convergence of continued fractions*, **11**, 640.
——— *A theorem on continued fractions and the fundamental inequalities*, **13**, 698.
——— *On certain sequence to sequence transformations which preserve convergence*, **14**, 542.
——— *Some rate invariant sequence transformations*, **15**, 710.
——— *Linear methods which sum sequences of bounded variation*, **17**, 345.
——— *Remarks on some convergence conditions for continued fractions*, **18**, 803.
——— *Matrix summability of convex sequences*, **19**, 1035.
Day, M. M. *On the basis problem in normed spaces*, **13**, 655.
Daykin, D. E. See Ang, D. D.
Deal, A. L. III. *Comparison and application of two Green's matrices*, **18**, 602.
Dean, D. W. *Subspaces of $C(H)$ which are direct factors of $C(H)$*, **16**, 237.
——— *Schauder decompositions in (m)*, **18**, 619.
de Boer, J. H. *Localization in a graded ring*, **12**, 764.
de Branges, Louis. *A comparison theorem for spaces of entire functions*, **14**, 490.
de Branges, Louis and Trutt, David. *Charlier spaces of entire functions*, **20**, 134.
Debreu, Gerard. *On "An identity in arithmetic,"* **11**, 220.
Deckard, Don and Pearcy, Carl. *On matrices over the ring of continuous complex valued functions on a Stonian space*, **14**, 322.
——— *Another class of invertible operators without square roots*, **14**, 445.
——— *On algebraic closure in function algebras*, **15**, 259.
——— *On unitary equivalence of Hilbert-Schmidt operators*, **16**, 671.

de Groot, J. and Maurice, M. A. *On the existence of rigid compact ordered spaces*, **19**, 844.
Delange, Hubert. *A theorem on multiplicative arithmetic functions*, **18**, 743.
de Leeuw, Karel, Rudin, Walter and Wermer, John. *The isometries of some function spaces*, **11**, 694.
Deliyannis, P. C. *Holomorphic imprimitivities*, **16**, 228.
DeMar, R. F. *Vanishing central differences*, **14**, 64.
——— *A uniqueness theorem for entire functions*, **16**, 69.
DeMarr, R. E. *Order convergence and topological convergence*, **16**, 588.
Deokinandan, B. *On the strong (L) summability of Fourier series*, **19**, 33.
Derwent, J. *A note on numerable covers*, **19**, 1130.
——— *Inverses for fiber spaces*, **19**, 1491.
Deshpandé, J. V. *On continuity of a partial order*, **19**, 383.
deSpautz, J. F. and Lerman, R. A. *Equations equivalent to nonlinear differential equations*, **18**, 441.
Diaz, J. B. and Metcalf, F. T. *On a result of Hadamard concerning the sign of the precession of a heavy symmetrical top*, **13**, 669.
——— *A complementary triangle inequality in Hilbert and Banach spaces*, **17**, 88.
Dickinson, David. *On quasi-orthogonal polynomials*, **12**, 185.
——— See Barrucand, Pierre.
Dickman, R. F., Jr. *Compactness of mappings on products of locally connected generalized continua*, **18**, 1093.
——— *Some characterizations of the Freudenthal compactification of a semicompact space*, **19**, 631.
Dickson, D. G. *Infinite order differential equations*, **15**, 638.
——— *Zeros of exponential sums*, **16**, 84.
Diener, K.-H. and Grätzer, G. *A note on absolutely free algebras*, **18**, 551.
Dierker, Paul. *Note on collapsing $K \times I$ where K is a contractible polyhedron*, **19**, 425.
Dilworth, R. P. See Gleason, A. M.
Distler, R. J. *The domain of univalence of certain classes of meromophic functions*, **15**, 923.
Ditzian, Z. and Nadkarni, M. *On the problem of evanescent processes*, **18**, 668.
Dixmier, Jacques. *Localization of a theorem of Glimm*, **19**, 364.
Djorup, F. M. See Appel, K. I.
Donoghue, W. F., Jr. *On the lifting property*, **16**, 913.
Dornhoff, Larry. *Simple groups are scarce*, **19**, 692.
Dorroh, J. R. *The localization of the strict topology via bounded sets*, **20**, 413.
Doss, Raouf. *On bounded functions with almost periodic differences*, **12**, 488.
——— *On the transform of a singular or an absolutely continuous measure*, **19**, 361.
Douglas, R. G. *On the measure theoretic character of an invariant mean*, **16**, 30.
——— *On the inversion invariance of invariant means*, **16**, 642.
——— *On majorization, factorization, and range inclusion of operators on Hilbert space*, **17**, 413.
——— *On extremal measures and subspace density. II*, **17**, 1363.
——— See Brown, Arlen.
Dowker, Y. N. and Lederer, G. *On ergodic measures*, **15**, 65.
Dowson, H. R. *On the commutant of a complete Boolean algebra of projections*, **19**, 1448.
Doyle, P. H. *On monotone unions of manifolds*, **19**, 854.
Doyle, P. H. and Hocking, J. G. *Some results on tame disks and spheres in E^3*, **11**, 832.
——— *A decomposition theorem for n-dimensional manifolds*, **13**, 469.

Doyle, P. H. and Hocking, J. G. *Special n-manifolds with boundary*, **16**, 133
Drăgilă, Pavel. *Sur un système de couples de réseaux parallèles*, **11**, 255.
Drasin, David and Earle, C. J. *On the boundedness of automorphic forms*, **19**, 1039.
Dressel, F. G. See Gergen, J. J.
Dristy, Forrest. See Andrews, J. J.
Drobot, S. *A note on continued fractions*, **14**, 197.
Dubins, L. E. See Blackwell, David.
Dubinsky, E. *Echelon spaces of order* ∞, **16**, 1178.
Duda, Edwin. *A locally compact metric space is almost invariant under a closed mapping*, **16**, 473.
——— *Reflexive compact mappings*, **17**, 688.
Dudley, R. M. *Random walks on abelian groups*, **13**, 447.
——— *Pathological topologies and random walks on abelian groups*, **15**, 231.
Duffin, R. J. *The reciprocal of a Fourier series*, **13**, 965.
Duffin, R. J. and Nehari, Z. *Note on polyharmonic functions*, **12**, 110.
Duncan, R. L. *The Schnirelmann density of the k-free integers*, **16**, 1090.
Dunham, C. B. *Simultaneous Chebyshev approximation of functions on an interval*, **18**, 472.
Dunton, M. *Bounds for pairs of cubic residues*, **16**, 330.
Durbin, J. R. *Finite supersolvable wreath products*, **17**, 215.
Duren, P. L. *Coefficient estimates for univalent functions*, **13**, 168.
——— *Smoothness of functions generated by Riesz products*, **16**, 1263.

Eagon, J. A. *The Grothendieck group of finitely generated modules*, **19**, 1341.
Eagon, J. A. and Fraser, M. M. *A note on the Koszul complex*, **19**, 251.
Earle, C. J. *On the homotopy classes of self-mappings of bordered Riemann surfaces*, **15**, 622.
——— See Drasin, David.
Earle, C. J. and Marden, A. *Projections to automorphic functions*, **19**, 274.
Eaves, D. M. *Random generalized functions of locally finite order*, **19**, 1457.
Eberhart, Carl. *Tychonoff cubes are coset spaces*, **19**, 185.
Ebey, Sherwood. *The operation of the universal domain on the plane*, **13**, 722.
Edelstein, Michael. *An extension of Banach's contraction principle*, **12**, 7.
——— *On nonexpansive mappings*, **15**, 689.
——— *A short proof of a theorem of L. Janos*, **20**, 509.
Edelstein, M., Herzog, F. and Kelly, L. M. *A further theorem of the Sylvester type*, **14**, 359.
Edgar, H. M. *Some remarks on the Diophantine equation* $x^3+y^3+z^3=x+y+z$, **16**, 148.
Edmunds, D. E. Σ*-symmetric locally convex spaces*, **14**, 697.
Edrei, Albert and Shah, S. M. *A conjecture of R. Nevanlinna concerning the genus of a meromorphic function*, **11**, 319.
Edwards, C. H., Jr. *Open 3-manifolds which are simply connected at infinity*, **14**, 391.
Eggan, L. C. See Blair, R. L.
Eggan, L. C. and Niven, Ivan. *A remark on one-sided approximation*, **12**, 538.
Eisenberg, E. *Duality in homogeneous programming*, **12**, 783.
Effros, E. G. *Convergence of closed subsets in a topological space*, **16**, 929.
Elliott, E. O. *An extension theorem for obtaining measures on uncountable product spaces*, **19**, 1089.
Ellis, Robert. *Universal minimal sets*, **11**, 540.
Embry, M. R. *Nth roots of operators*, **19**, 63.

Engert, Martin. *A characterization of differential operators*, **18**, 87.
England, J. W. *A characterization of orbits*, **17**, 207.
——— *On periodicity in limit sets*, **18**, 1095.
England, J. W. and Martin, N. F. G. *On the entropy of isometries of compact metric spaces*, **19**, 799.
Enochs, Edgar. *Torsion free covering modules*, **14**, 884.
——— *Homotopy groups of compact Abelian groups*, **15**, 878.
——— *Totally integrally closed rings*, **19**, 701.
Entringer, R. C. *Some properties of certain sets of coprime integers*, **16**, 515.
——— *The number of coprime chains with largest member n*, **16**, 806.
Epstein, Bernard. *On the mean-value property of harmonic functions*, **13**, 830.
Epstein, Bernard and Minker, Jack. *Extremal interpolatory problems in the unit disc*, **11**, 777.
Epstein, D. B. A. *Free products with amalgamation and 3-manifolds*, **12**, 669.
——— *Embedding punctured manifolds*, **16**, 175.
Epstein, I. J. *Periodic solutions of systems of differential equations*, **13**, 690.
——— *Conditions for a matrix to commute with its integral*, **14**, 266.
——— *Exponential solutions of linear systems of differential equations whose coefficient matrix is skew symmetric*, **17**, 48.
Erdös, P. See Darling, D. A.
Erdös, Paul and Stein, Sherman. *Sums of distinct unit fractions*, **14**, 126.
Ernest, John. *Embedding numbers for finite groups*, **13**, 567.
Etgen, G. J. *A note on trigonometric matrices*, **17**, 1226.
Eustice, Dan. *Orthogonal series and probability*, **18**, 465.
Evans, J. P. and Walsh, J. L. *Approximation by bounded analytic functions to functions represented by Dirichlet series*, **12**, 875.
Evens, Leonard. *An extension of Tate's theorem on cohomological triviality*, **16**, 289.
——— *Steenrod operations and transfer*, **19**, 1387.
Everett, C. J. *An inequality on doubly stochastic matrices*, **16**, 310.
Ewing, G. M. *Lipschitzian parameterizations and existence of minima in the calculus of variations*, **11**, 87.

Faber, R. L. *The existence of gauge forms on affine varieties*, **19**, 1075.
Fadell, Edward. See Brown, R. F.
Faith, C. C. *Algebraic division ring extensions*, **11**, 43.
——— *Correction to "Galois extensions,"* **11**, 670.
——— *Radical extensions of rings*, **12**, 274.
Faith, Carl and Utumi, Yuzo. *Maximal quotient rings*, **16**, 1084.
Farkas, H. M. *Special divisors on compact Riemann surfaces*, **19**, 315.
——— *Weierstrass points and analytic submanifolds of Teichmueller space*, **20**, 35.
Farrell, O. J. and Bolster, M. F. *On approximation by functions of lesser valence*, **13**, 158.
Farrell, R. H. *Dense algebras of functions in L_p*, **13**, 324.
Faudree, Ralph. *Embedding theorems for ascending nilpotent groups*, **18**, 148.
——— *A note on the automorphism group of a p-group*, **19**, 1379.
Federer, Herbert. *The area of a nonparametric surface*, **11**, 436.
——— *Approximation of integral currents by cycles*, **12**, 882.
Fein, Burton. *Lifting modular representations of finite groups*, **19**, 217.
Feit, Walter. *A theorem on factorizable groups*, **11**, 658.

Fejes Tóth, L. *Minkowskian distribution of discs*, **16**, 999.
Feldman, Jacob. *Nonexistence of quasi-invariant measures on infinite-dimensional linear spaces*, **17**, 142.
Fell, J. M. G. *A new proof that nilpotent groups are* CCR, **13**, 93.
——— *A Hausdorff topology for the closed subsets of a locally compact non-Hausdorff space*, **13**, 472.
Feller, E. H. and Swokowski, E. W. *Reflective rings with the ascending chain condition*, **12**, 651.
Felscher, Walter. *On criteria of definability*, **19**, 834.
Ferguson, J. D. *Entropy for noninvertible transformations*, **15**, 895.
Feustel, C. D. *Homotopic arcs are isotopic*, **17**, 891.
Fife, P. C. *Domains of uniqueness for parabolic equations*, **19**, 1413.
Fillmore, J. P. *A note on split dilations defined by higher residues*, **18**, 171.
Fillmore, P. A. *Perspectivity in projection lattices*, **16**, 383.
——— *On topology induced by measure*, **17**, 854.
Fillmore, P. A. and Topping, D. M. *Sums of irreducible operators*, **20**, 131.
Fine, A. I. *Covering theorems and the axiom of choice*, **19**, 787.
Fine, N. J. and Gillman, L. *Remote points in* $\beta\mathbf{R}$, **13**, 29.
Fine, N. J. and Wilf, H. S. *Uniqueness theorems for periodic functions*, **16**, 109.
Fink, A. M. *Eigenvalue of the square of a function*, **20**, 73.
Finkelstein, Mark. *Growth estimates of convex functions*, **18**, 412.
Finlayson, H. C. *An approximation method for Wiener integrals of certain unbounded functionals*, **18**, 798.
Fischer, P. C. *A note on bounded-truth-table reducibility*, **14**, 875.
Fisher, Stephen. *Norm-compact sets of representing measures*, **19**, 1063.
Fitch, James. See Askey, Richard.
FitzGerald, C. H. *On analytic continuation to a schlicht function*, **18**, 788.
Fitzpatrick, Ben, Jr. *On dense subspaces of Moore spaces*, **16**, 1324.
——— See Cook, Howard.
Flanders, Harley. *Satellites of half exact functors, a correction*, **15**, 834.
Flatto, Leopold. *Partial differential equations and difference equations*, **16**, 858.
——— *On polynomials characterized by a certain mean value property*, **17**, 598.
Florence, J. B. *Infinite subclasses of recursively enumerable classes*, **18**, 633.
Floyd, E. E. See Burdick, R. O.
Foata, Dominique. *On the Netto inversion number of a sequence*, **19**, 236.
Foguel, S. R. *Existence of invariant measures for Markov processes*, **13**, 833.
——— *A counterexample to a problem of Sz.-Nagy*, **15**, 788.
——— *An* L_p *theory for a Markov process with a sub-invariant measure*, **16**, 398.
——— *Weak limits of powers of a contraction in Hilbert space*, **16**, 659.
——— *Existence of invariant measures for Markov processes.* II, **17**, 387.
——— *Convex combinations of Markov transition functions*, **19**, 345.
Foland, N. E. *A characterization of the almost periodic homeomorphisms on the closed 2-cell*, **16**, 1031.
Folkman, J. H. *On functions that commute with full functions*, **17**, 383.
Ford, Jo. See Ball, B. J.
Forelli, Frank. *Invariant subspaces in* L^1, **14**, 76.
Fort, M. K., Jr. *Neighborhood extensions of continuous selections*, **11**, 682.
——— *Sequences of homeomorphisms on the n-sphere*, **12**, 361.
——— *A wild sphere which can be pierced at each point by a straight line segment*, **14**, 994.

Fort, M. K., Jr. See Brahana, T. R.
Fossum, R. M. *Grothendieck groups and divisor groups*, **18**, 560.
Foster, B. L. *Short proof of a theorem of Rado on graphs*, **15**, 865.
Foulis, D. J. *Baer *-semigroups*, **11**, 648.
Fox, R. H. and Smythe, N. *An ideal class invariant of knots*, **15**, 707.
Fox, W. C. *Erratum to "A new inequality for the Green's function,"* **12**, 340.
——— *Analyticity without analysis*, **13**, 274.
Fraenkel, A. S. *New proof of the generalized Chinese Remainder Theorem*, **14**, 790.
——— *Distance to the nearest integer and algebraic independence of certain real numbers*, **16**, 154.
Frank, D. L. *A totally bounded, complete uniform space is compact*, **16**, 514.
Frank. W. M. *A bound on determinants*, **16**, 360.
Franke, C. H. *Solvability of linear homogeneous difference equations by elementary operations*, **17**, 240.
——— *A note on the Galois theory of linear homogeneous difference equations*, **18**, 548.
Fraser, M. M. See Eagon, J. A.
Freedman, D. A. *An arcsine law for Markov chains*, **14**, 680.
——— *Determining the time scale of a Markov chain*, **15**, 87.
Freeman, R. S. *Some remarks on boundary value problems*, **16**, 1253.
Freese, R. W. *Criteria for inner product spaces*, **19**, 953.
Freyd, Peter. *Redei's finiteness theorem for commutative semigroups*, **19**, 1003.
Fridy, J. A. *A note on absolute summability*, **20**, 285.
Friedberg, Michael. *A note on Haar-like measure for group-extremal semigroups*, **17**, 1079.
Friedman, Avner. *On fundamental solutions of elliptic equations*, **12**, 533.
Friedman, Neal. *Remarks on a quadratic form of Duren and Schiffer*, **18**, 212.
——— See Blum, J. R.
Fulks, W. *A mean value theorem for the heat equation*, **17**, 6.
Fulp, R. O. and Hill, Paul. *Reflexive semigroups*, **16**, 1096.
Fulton, C. M. *Conjugate radii of quadric hypersurfaces*, **12**, 357.
——— *Parallel vector fields*, **16**, 136.
——— *Parallel umbilical hypersurfaces*, **16**, 1039.
——— *Golab's theorem*, **17**, 1099.
——— *Umbilical hypersurfaces in affinely connected spaces*, **19**, 1487.
Fusaro, B. A. *A nonuniqueness result for an Euler-Poisson-Darboux (EPD) problem*, **18**, 381.
——— *A simple existence and uniqueness proof for a singular Cauchy problem*, **19**, 1504.

Gagen, T. M. *A characterization of Janko's simple group*, **19**, 1393.
Gagliardo, Emilio. *On integral transformations with positive kernel*, **16**, 429.
Gaifman, Haim and Specker, E. F. *Isomorphism types of trees*, **15**, 1.
Gaines, Robert. See Bebernes, J. W.
Galbraith, A. S. *On the zeros of solutions of ordinary differential equations of the second order*, **17**, 333.
Gale, David, Klee, Victor and Rockafellar, R. T. *Convex functions on convex polytopes*, **19**, 867.
Ganea, T. *On the homogeneity of infinite products of manifolds*, **17**, 1128.
Gardner, L. T. *An invariance theorem for representations of Banach algebras*, **16**, 983.
——— *Square roots in Banach algebras*, **17**, 132.
Garner, J. B. *Errata in theorems by Tomlinson Fort*, **12**, 553.

Garner, J. B. and Burton, L. P. *Solutions of linear differential systems satisfying boundary conditions in the large*, 12, 100.
Garsia, A. M. and Rodemich, E. *On functions satisfying the mean value property with respect to a product measure*, 17, 592.
Gasper, George. See Askey, Richard.
Gassner, B. J. *Equal-difference* BIB *designs*, 16, 378.
Gaughan, E. D. *The index problem for infinite symmetric groups*, 15, 527.
Gelbaum, B. R. *Free topological groups*, 12, 737.
——— *Note on the tensor product of Banach algebras*, 12, 750.
——— *Von Neumann's theorem on Abelian families of operators*, 15, 391.
Gentile, E. R. *On rings with one-sided field of quotients*, 11, 380.
George, J. H. *On Okamura's uniqueness theorem*, 18, 764.
George, M. D. *Completely well-posed problems for nonlinear differential equations*, 15, 96.
——— *The spectrum of an operator in Banach space*, 16, 980.
Gergen, J. J. and Dressel, F. G. *Second order linear and nonlinear differential equations*, 16, 767.
Germansky, B. *Über die extremalen Polynome eines durch zwei Knoten unterteilten Kreises*, 13, 619.
Getoor, R. K. and Woll, J. W., Jr. *Multiplicative functionals of a Markov process*, 15, 80.
Giambalvo, V. *The* mod *p cohomology of* $BO\langle 4k\rangle$, 20, 593.
Gibson, P. M. *A short proof of an inequality for the permanent function*, 17, 535.
——— *An inequality between the permanent and the determinant*, 19, 971.
Giffen, C. H. *Unique factorization for polynomials*, 14, 365.
Gilbert, J. D. *A note on a theorem of Fuchs*, 12, 433.
Gilbert, R. C. *Perturbation of a Sturm-Liouville operator by a finite function*, 16, 743.
——— *An asymptotic phase for a Sturm-Liouville operator with unbounded potential*, 18, 967.
——— *Spectral multiplicity of selfadjoint dilations*, 19, 477.
Gilbert, R. P. *A note on the singularities of harmonic functions in three variables*, 13, 229.
Gil de Lamadrid, Jesús. *On finite dimensional approximations of mappings in Banach spaces*, 13, 163.
——— *Some simple applications of the closed graph theorem*, 15, 509.
Gillette, Richard and Van Buskirk, James. *Monotone n-frames are tame*, 20, 381.
Gillman, Leonard. *Countably generated ideals in rings of continuous functions*, 11, 660.
——— See Fine, N. J.
Gilmartin, M. *Nondifferentiability of retractions of* C^n *to subvarieties*, 16, 1028.
Gilmer, R. W., Jr. *Rings in which the unique primary decomposition theorem holds*, 14, 777.
——— *Integral domains which are almost Dedekind*, 15, 813.
——— *A note on the quotient field of the domain* $D[[X]]$, 18, 1138.
Gilmore, Maurice, *Some Whitehead products on odd spheres*, 20, 375.
Ginsburg, Michael. *On the homology of fiber spaces*, 15, 423.
Ginsburg, Seymour and Spanier, E. H. *Distinguishability of a semi-group by a machine*, 12, 661.
——— *Bounded regular sets*, 17, 1043.
Glaser, L. C. *Contractible complexes in* S^n, 16, 1357.
Glasser, M. L. *A note on the Littlewood-Tauber Theorem*, 20, 39.
Gleason, A. M. and Dilworth, R. P. *A generalized Cantor theorem*, 13, 704.

Glicksberg, Irving. *Some special transformation groups*, **11**, 315.
——— *Function algebras with closed restrictions*, **14**, 158.
——— *Bishop's generalized Stone-Weierstrass theorem for the strict topology*, **14**, 329.
Godino, Charles, *Outer automorphisms of certain p-groups*, **17**, 922.
Goes, Günther. *Arithmetic means of Fourier-Stieltjes-sine-coefficients*, **14**, 10.
Goffman, Casper. *A remark concerning the area of a nonparametric surface*, **11**, 463.
——— *Complete sequences of functions*, **12**, 998.
——— See Bradford, J. C.
Goffman, Casper and Neugebauer, C. J. *On approximate derivatives*, **11**, 962.
——— *Linearly continuous functions*, **12**, 997.
Goffman, Casper and Waterman Daniel. *Basic sequences in the space of measurable functions*, **11**, 211.
——— *Approximately continuous transformations*, **12**, 116.
——— *Functions whose Fourier series converge for every change of variable*, **19**, 80.
Goldberg, J. L. *On the Sheffer A-type of polynomials generated by* $A(t)\psi[xB(t)]$, **17**, 170.
Goldberg, K. *Generating functions for formal power series in noncommuting variables*, **11**, 988.
——— *Hadamard matrices of order cube plus one*, **17**, 744.
Goldberg, S. I. See Bishop, R. L.
Goldberg, Seymour and Kruse, A. H. *The existence of compact linear maps between Banach spaces*, **13**, 808.
Goldberg, Seymour and Thorp, E. O. *On some open questions concerning strictly singular operators*, **14**, 334.
Goldfeld, Morris. *Densities in arithmetic progressions*, **19**, 1389.
Goldman, Malcolm. *On asymptotic occupancy times of the Wiener process*, **13**, 640.
Goldstein, Myron. *Normal operators*, **20**, 41.
Goldstein, R. A. *Equality of minimal and maximal extensions of partial differential operators in* $L_p(R^n)$, **17**, 1031.
Goldstein, R. Z. *Embedding a p-sphere in a product of p-spheres*, **19**, 621.
Goodman, A. W. *Analytic functions that take values in a convex region*, **14**, 60.
——— *On the convexity of the level curves of a polynomial*, **17**, 358.
Goodman, A. W. and Hummel, J. A. *A note on multivalent starlike functions*, **16**, 284.
Goodman, R. W. *One-sided invariant subspaces and domains of uniqueness for hyperbolic equations*, **15**, 653.
Goodner, D. B. *The closed convex hull of certain extreme points*, **15**, 256.
——— *On the continuous function space of a basically disconnected space*, **16**, 932.
Gordon, Basil. *Two new representations of the partition function*, **13**, 869.
——— *On a theorem of Motzkin concerning power series with periodic gaps*, **17**, 537.
Gordon, Hugh. See Comfort, W. W.
Gordon Louis and Lasher, Sim. *An elementary proof of integration by parts for the Perron integral*, **18**, 394.
Gorenstein, Daniel. See Alperin, J. L.
Gorenstein, Daniel and Herstein, I. N. *On the structure of certain factorizable groups*. II, **11**, 214.
Gorman, W. J. III. *The homeomorphic transformation of c-sets into d-sets*, **17**, 825.
——— *Lebesgue equivalence to functions of the first Baire class*, **17**, 831.
Gosselin, R. P. *Some integral inequalities*, **13**, 378.
Goto, Morikuni. *Note on a topology of a dual space*, **12**, 41.
——— *On an arcwise connected subgroup of a Lie group*, **20**, 157.
——— *A remark on a theorem of A. Weil*, **20**, 163.

Gottlieb, D. H. *A certain class of incidence matrices*, **17**, 1233.
Gottschalk, W. H. and Hedlund, G. A. *A characterization of the Morse minimal set*, **15**, 70.
Gould, Gerald. See Mahowald, Mark.
Gould, H. W. *The Lagrange interpolation formula and Stirling numbers*, **11**, 421.
——— *Stirling number representation problems*, **11**, 447.
Grace, E. E. *A totally nonaposyndetic, compact, Hausdorff space with no cut point*, **15**, 281.
Graham, Nancy. *Note on M-groupoids*, **15**, 525.
Graham, R. L. *On quadruples of consecutive kth power residues*, **15**, 196.
Grandy, R. E. *A note on the recursive unsolvability of primitive recursive arithmetic*, **17**, 146.
Grätzer, G. *On the spectra of classes of algebras*, **18**, 729.
——— See Diener, K.-H.
Graves, L. M. *The Weierstrass condition for multiple integral variational problems involving higher derivatives*, **11**, 750.
Gray, Alfred. *Spaces of constancy of curvature operators*, **17**, 897.
——— *Almost complex submanifolds of the six sphere*, **20**, 277.
Gray, E. and Schild, A. *A new proof of a conjecture of Schild*, **16**, 76.
Gray, W. J. *Topological transformation groups with a fixed end point*, **18**, 290.
Greathouse, Charles. *Cellularity at the boundary of a manifold*, **16**, 1334.
Greenberg, L. *Note on normal subgroups of the modular group*, **17**, 1195.
Greenberg, M. J. *Unit Witt vectors*, **13**, 72.
——— *Perfect closures of rings and schemes*, **16**, 313.
Greenstein, D. S. *On a criterion for determinate moment sequences*, **13**, 120.
——— *On redundancy of powers and the moment problem*, **13**, 625.
Greenwood, P. E. *A convolution equation on a compact interval*, **16**, 8.
Gregorac, R. J. *A note on certain generalized free products*, **18**, 754.
——— *A note on finitely generated groups*, **18**, 756.
Greibach, S. A. *A note on pushdown store automata and regular systems*, **18**, 263.
Greub, W. and Stamm, E. *On the multiplication of tensor fields*, **17**, 1112.
Greub, Werner and Tondeur, Phillippe. *On sectional curvatures and characteristic of homogeneous spaces*, **17**, 444.
Griffith, Phillip. *Purely indecomposable torsion-free groups*, **18**, 738.
——— *A counterexample to a theorem of Chase*, **19**, 923.
Groemer, Helmut. *The number of lattice points on the boundary of a star body*, **11**, 757.
Gross, Fletcher. *Solvable groups admitting a fixed-point-free automorphism of prime power order*, **17**, 1440.
——— *A note on fixed-point-free solvable operator groups*, **19**, 1361.
Gross, Fred. *Entire functions of bou ıded index*, **18**, 974.
Grossman, M. W. *A Choquet boundary for the product of two compact spaces*, **16**, 967.
Grossman, Nathaniel. *Hilbert manifolds without epiconjugate points*, **16**, 1365.
——— *On real projective spaces as Finsler manifolds*, **18**, 325.
——— *Two applications of the technique of length-decreasing variations*, **18**, 327.
Grünbaum, Branko. *A variant of Helly's theorem*, **11**, 517.
——— *Projections onto some function spaces*, **13**, 316.
——— *A generalization of theorems of Kirszbraun and Minty*, **13**, 812.
Grünbaum, Branko and Motzkin, T. S. *On components in some families of sets*, **12**, 607.
Gudder, S. P. *Dispersion-free states and the exclusion of hidden variables*, **19**, 319.
Guggenheimer, H. *A simple proof of Frobenius's intergration theorem*, **13**, 24.

Guggenheimer, H. *Topology and elementary geometry. II. Symmetries*, **15**, 164.
Guinn, T. and Landesman, E. M. *Minimal solutions to a class of parabolic partial differential equations*, **20**, 19.
Gupta, Hansraj. *A sum involving the Möbius function*, **19**, 445.
Gutwirth, A. *An inequality for certain pencils of plane curves*, **12**, 631.

Hachigian, Jack. *Homeomorphisms of the unit ball*, **19**, 1293.
——— See Cohen, Haskell.
Haddock, A. G. *Some theorems related to a theorem of E. Helly*, **14**, 636.
Hadlock E. H. and Muwafi, Amin. *On the equivalence of a ternary quadratic form*, **19**, 1157.
Hagan, M. R. *Equivalence of connectivity maps and peripherally continuous transformations*, **17**, 175.
Hahn, F. J. *Recursion of set trajectories in a transformation group*, **11**, 527.
Hajian, A. B. *On ergodic measure preserving transformations defined on an infinite measure space*, **16**, 45.
Halberstam, H. *Footnote to the Titchmarsh-Linnik divisor problem*, **18**, 187.
Halfar, Edwin. *Conditions implying continuity of functions*, **11**, 688.
Halkin, Hubert. *A property of nonseparated convex sets*, **17**, 1389.
Hall, C. E. *Projective topological groups*, **18**, 425.
Hall, D. W., Siry, J. W. and Vanderslice, B. R. *The chromatic polynomial of the truncated icosahedron*, **16**, 620.
Hallam, T. G. *Asymptotic expansions in a nonhomogeneous differential equation*, **18**, 432.
——— *Weakly bounded systems of differential equations*, **19**, 1242.
Halmos, P. R. *On Foguel's answer to Nagy's question*, **15**, 791.
——— *Permutations of sequences and the Schröder-Bernstein theorem*, **19**, 509.
Halpern, Edward. *On the primitivity of Hopf algebras over a field with prime characteristic*, **11**, 117.
——— *A note on divided powers in a Hopf algebra*, **11**, 547.
Halpern, Herbert. *The maximal GCR ideal in an AW*-algebra*, **17**, 906.
——— *Finite sums of irreducible functionals on C*-algebras*, **18**, 352.
Halpern, J. D. *Bases in vector spaces and the axiom of choice*, **17**, 670.
Hamsher, R. M. *Commutative, noetherian rings over which every module has a maximal submodule*, **17**, 1471.
——— *Cummutative rings over which every module has a maximal submodule*, **18**, 1133.
Hancock, V. R. *On complete semimodules*, **11**, 71.
Handel, David. *A note on the parallelizability of real Stiefel manifolds*, **16**, 1012.
——— *On stable vector bundles over real projective spaces*, **17**, 1125.
Hano, Jun-ichi. *On compact complex coset spaces of reductive Lie groups*, **15**, 159.
Hans, R. J. *On the Reinhardt-Mahler Theorem*, **20**, 391.
Hansell, R. W. *Monotone subnets in partially ordered sets*, **18**, 854.
——— *On a conjecture of DeMarr on partially ordering topological spaces*, **19**, 586.
Hanson, D. L. See Blum, J. R.
Hanson, D. L. and Katz, Melvin. *On the oscillation of sums of random variables*, **17**, 864.
Hanson, D. L. and Koopmans, L. H. *A probability bound for integrals with respect to stochastic processes with independent increments*, **16**, 1173.
Harary, Frank and Norman, R. Z. *Dissimilarity characteristic theorems for graphs*, **11**, 332.
Harary, Frank and Palmer, Ed. *Enumeration of mixed graphs*, **17**, 682.

Hare, W. R. See Kenelly, J. W.
Hare, W. R., Jr. and Kenelly, J. W. *Intersections of maximal starshaped sets*, **19**, 1299.
Harley, P. W. *On suspending homotopy spheres*, **19**, 1123.
Harris, M. E. *Some results on coherent rings*, **17**, 474.
Harris, W. A., Jr. *Linear systems of difference equations with a regular singularity*, **19**, 1228.
Harrison, M. A. *The number of isomorphism types of finite algebras*, **17**, 731.
Harrold, O. G., Jr. *Pseudo-isotopically contractible spaces*, **16**, 186.
Hartman, Philip. *A lemma in the theory of structural stability of differential equations*, **11**, 610.
——— *On the local linearization of differential equations*, **14**, 568.
——— *On a class of perturbations of the harmonic oscillator*, **19**, 533.
Hartnett, W. E. See Calabi, L.
Harzheim, E. *An elementary number theoretical remark*, **17**, 534.
Hastings, S. P. *On the asymptotic growth of solutions to a nonlinear equation*, **17**, 40, 1474.
——— *Variation of parameters for nonlinear differential-difference equations*, **19**, 1211.
Hasumi, Morisuke and Seever, G. L. *The extension and lifting properties of Banach spaces*, **15**, 773.
Hawkins, J. B. and Kammerer, W. J. *A class of linear transformations which can be written as the product of projections*, **19**, 739.
Hay, Louise. *Isomorphism types of index sets of partial recursive functions*, **17**, 106.
Hayden, T. L. *A convergence problem for continued fractions*, **14**, 546.
Hayden, T. L. and Merkes, E. P. *On classes of univalent continued fractions*, **16**, 252.
Head, T. J. *Dense submodules*, **13**, 197.
——— *Note on the occurrence of direct factors in groups*, **15**, 193.
Heard, E. A. *A sequential F. and M. Riesz theorem*, **18**, 832.
Heath, R. W. *A regular semi-metric space for which there is no semi-metric under which all spheres are open*, **12**, 810.
——— *A paracompact semi-metric space which is not an M_3-space*, **17**, 868.
Heble, M. and Rosenblatt, M. *Idempotent measures on a compact topological semigroup*, **14**, 177.
Hedlund, G. A. See Gottschalk, W. H.
Headstrom, G. W. *Equi-absolute convergence of eigenfunction expansions*, **14**, 483.
Heerema, Nicholas. *Derivations and embeddings of a field in its power series ring*, **11**, 188.
——— *Embeddings of a p-adic field and its residue field in their power series rings*, **14**, 574.
——— *Equivalence of tamely ramified v-rings*, **17**, 1207.
Heinzer, W. J. *Some properties of integral closure*, **18**, 749.
——— *J-noetherian integral domains with 1 in the stable range*, **19**, 1369.
Heller, Alex. *A simple proof of the Künneth theorem*, **11**, 676.
——— *Indecomposable representations and the loop-space operation*, **12**, 640.
Heller, Robert, Jr. *Some convergence theorems for continued fractions*, **11**, 805.
Helmberg, Gilbert. *On convergence classes of sets*, **13**, 918.
Helton, B. W. *Logarithms of matrices*, **19**, 733.
Hemminger, R. L. *On reconstructing a graph*, **20**, 185.
Hempel, John. *A simply connected 3-manifold is S^3 if it is the sum of a solid torus and the complement of a torus knot*, **15**, 154.
Henderson, David and Livesay, G. R. *Another generalization of Brouwer's fixed point theorem*, **19**, 176.

Henderson, G. W. *The* mod 2 *homology of the image of an exactly* 2 *to* 1 *map from a sphere*, **18**, 723.
Henderson, Mason. *Certain finite nonprojective geometries without the axiom of parallels*, **16**, 115.
Henniger, J. *Power series with almost periodic coefficients*, **18**, 53.
Hentzel I. R. *A note on modules and radicals*, **19**, 1385.
Herman, G. T. *A new hierarchy of elementary functions*, **20**, 557.
Herman R. H. *Operator representation theorems*, **19**, 372.
Hermann, Robert. *A sufficient condition that a mapping of Riemannian manifolds be a fibre bundle*, **11**, 236.
——— *Variational completeness for compact symmetric spaces*, **11**, 544.
——— *A Poisson kernel for certain homogeneous spaces*, **12**, 892.
——— *On the existence of a fundamental domain for Riemannian transformation groups*, **13**, 489.
Herstein, I. N. *A theorem of Levitzki*, **13**, 213.
——— See Gorenstein, Daniel.
Hertz, C. S. *A maximal theorem*, **12**, 229.
——— *A class of negative definite functions*, **14**, 670.
Hertzig, David. *Forms of algebraic groups*, **12**, 657.
——— *Rational normal matrices satisfying the incidence equation*, **14**, 878.
Herzog, F. See Edelstein, M.
Herzog, Fritz and Kelly, L. M. *A generalization of the theorem of Sylvester*, **11**, 327.
Herzog, J. O. *Phragmén-Lindelöf theorems for second order quasi-linear elliptic partial differential equations*, **15**, 721.
Heuer, G. A. and Lindberg, J. A., Jr. *Algebraic extensions of continuous function algebras*, **14**, 337.
Hewgill, Denton. See Clark, Colin.
Hewitt, Edwin and Zuckerman, H. S. *On a theorem of P. J. Cohen and H. Davenport*, **14**, 847.
Hewitt, G. C. *The existence of free unions in classes of abstract algebras*, **14**, 417.
Hicks, N. *An example concerning affine connexions*, **11**, 952.
——— *On the Ricci and Weingarten maps of a hypersurface*, **16**, 491.
Hildebrandt, T. H. *Linear continuous functionals on the space* (BV) *with weak topologies*, **17**, 658.
Hildebrant, J. A. *On compact divisible abelian semigroups*, **19**, 405.
Hill, Paul. *Limits of sequences of finitely generated abelian groups*, **12**, 946.
——— *Remarks on a paper of Hobby and Wright*, **13**, 80.
——— *A solution to the nonvanishing semicharacter extension problem*, **17**, 1178.
——— *Sums of countable primary groups*, **17**, 1469.
——— *The isomorphic refinement theorem for direct sums of closed groups*, **18**, 913.
——— See Comfort, W. W.
——— See Fulp, R. O.
Hilliker, D. L. *Algebraically dependent functions of a complex and p-adic variable*, **19**, 1052.
Hillman, A. P., Mead, D. G., O'Keefe, K. B. and O'Keefe, E. S. *Ideals generated by products*, **17**, 717.
——— *A dynamic programming generalization of xy to n variables*, **17**, 720.
Hillman, K. L. and Thron, W. J. *A general convergence criterion for continued fractions* $K(a_n/b_n)$, **16**, 1256.
Hilton, P. J. *Remark on loop spaces*, **15**, 596.

Hilton, P. J. and Spanier, E. H. *On the imbeddability of certain complexes in euclidean spaces*, **11**, 523.
Himmelberg, C. J. *Preservation of pseudo-metrizability by quotient maps*, **17**, 1378.
——— *Quotient uniformities*, **17**, 1385.
——— *Quotients of completely regular spaces*, **19**, 864.
Hinkel, J. S. See Bridgland, T. F.
Hinrichs, L. A. *Integer topologies*, **15**, 991.
Hinton, D. B. *A criterion for n-n oscillations in differential equations of order 2n*, **19**, 511.
Hirokawa, Hiroshi. *On the absolute Cesàro summability of Fourier series*, **13**, 236.
Hirsch, M. W. *Immersions of almost parallelizable manifolds*, **12**, 845.
——— *A proof of the nonretractibility of a cell onto its boundary*, **14**, 364.
——— *On piecewise linear immersions*, **16**, 1029.
Hirschman, I. I., Jr. *Multiplier transformations*. III, **13**, 851.
Hobby, C. R. and Rice, J. R. *A moment problem in L_1 approximation*, **16**, 665.
Hobby, Charles and Wright, C. R. B. *A generalization of a theorem of N. Itô on p-groups*, **11**, 707; **12**, 1000.
Hochschild, G. *On the algebraic hull of a Lie algebra*, **11**, 195.
——— *The universal representation kernel of a Lie group*, **11**, 625.
——— *On linearization of Lie group extensions*, **13**, 874.
——— *Rationally injective modules for algebraic linear groups*, **14**, 880.
——— *An addition to Ado's theorem*, **17**, 531.
Hochschild, G. P. and Rosenberg, Alex. *Operations on* Tor *and* Ext, **13**, 88.
Hochstadt, Harry. *A stability criterion for Hill's equations*, **13**, 601.
——— *A new proof of a stability estimate of Lyapunov*, **14**, 525.
——— *Estimates on the stability intervals for Hill's equation*, **14**, 930.
——— *Hill's equations with half-periodic coefficients*, **19**, 483.
Hocking, J. G. See Doyle, P. H.
Hodel, R. E. *Total normality and the hereditary property*, **17**, 462.
Hoechsmann, Klaus. *Algebras split by a given purely inseparable field*, **14**, 768.
Hoffman, A. J. *On the line graph of a projective plane*, **16**, 297.
Hoffman, A. J. and McAndrew, M. H. *The polynomial of a directed graph*, **16**, 303.
Hogan, G. T. and Kappe, W. P. *On the H_p-problem for finite p-groups*, **20**, 450.
Holder, L. I. See Boyer, B. J.
Holland, Charles. *A totally ordered integral domain with a convex left ideal which is not an ideal*, **11**, 703.
——— *A class of simple lattice-ordered groups*, **16**, 326.
Hollister, H. A. *Groups in which every maximal partial order is isolated*, **19**, 467.
——— *On a condition of Ohnishi*, **19**, 1337.
Homer, R. H. *Regular extensions and the solvability of operator equations*, **12**, 415.
Hoo, C. S. *Remarks on the bordism algebra of involutions*, **17**, 1083.
——— *A note on a theorem of Ganea, Hilton and Peterson*, **19**, 909.
Horadam, E. M. *The Euler ϕ function for generalized integers*, **14**, 754.
Horelick, Brindell. *Pointed minimal sets and S-regularity*, **20**, 150.
Horn, Alfred. *A property of free Boolean algebras*, **19**, 142.
Horn, R. A. *On boundary values of a schlicht mapping*, **18**, 782.
Hornich, Hans, *A property of the real not regular functions C^∞*, **17**, 321.
Horstman, W. G. See Brahana, T. R.
Hostinsky, L. A. *Splitting criteria for modular lattices*, **11**, 23.
Howarth, J. C. *Automorphisms of a finite Abelian group which reduce to the identity on a subgroup or factor group*, **12**, 422.

Howland, J. L. *Symmetrizing kernels and the integral equations of first kind of classical potential theory*, **19**, 1.
Hoyt, W. L. *Embeddings of Picard varieties*, **15**, 26.
Hsiang, F. C. *On the absolute summability of a Fourier series and its conjugate series*, **11**, 32.
——— *On the Gibbs phenomenon for harmonic means*, **11**, 284.
Hsiang, Wu-yi. *On the distributive law*, **11**, 348.
Hsieh, Po-Fang. *On an analytic simplification of a system of linear ordinary differential equations containing a parameter*, **19**, 1201.
Hsü, Chin-shui. *A remark on the characterization of homothetic transformation and inversion*, **11**, 685.
——— *Generalization of Cohn-Vossen's theorem*, **11**, 845.
——— *A theorem on convex surfaces*, **13**, 9.
——— *Theorems on direct sums of modules*, **13**, 540.
——— *Boundedness of limits*, **13**, 979.
Hsu, N. C *Note on certain combinatorial designs*, **13**, 682.
——— *Elementary proof of Hu's theorem on isotone mappings*, **17**, 111.
Hudson, A. L. *Example of nonacyclic continuum semigroup S with zero and S=ESE*, **14**, 648.
——— *Note on point-wise periodic semigroups*, **15**, 700.
Hudson, S. N. *Transformation groups in the theory of topological loops*, **15**, 872; **17**, 770.
Huffstutler, R. G. and Stein, F. M. *The approximate solution of certain nonlinear differential equations*, **19**, 998.
Hughs, R. E. *Functions of* BVC *type*, **12**, 698.
Humm, M. M. and Kleinfeld, Erwin. *On extensions of Cayley algebras*, **17**, 1203.
Hummel, J. A. *Extremal problems in the class of starlike functions*, **11**, 741.
——— *The Grunsky coefficients of a schlicht function*, **15**, 142.
——— See Goodman, A. W.
Hunt, R. A. and Weiss, Guido. *The Marcinkiewicz interpolation theorem*, **15**, 996.
Hunter, L. C. *On induced topologies in quasi-reflexive Banach spaces*, **11**, 161.
Hunter, R. P. *On a conjecture of Koch*, **12**, 138.
——— *A remark on a decomposition space of Bing*, **13**, 777.
Hunter, Ulysses. *An abstract formulation of some theorems on cluster sets*, **16**, 909.
Hursch, J. L., Jr. *An example of two uniformities equal in height and proximity*, **18**, 719.
Husain, Taqdir and Mahowald, Mark. *Barrelled spaces and the open mapping theorem*, **13**, 423.
Husemoller, D. H. *Analytic maps between Riemann surfaces*, **13**, 412.
Hyllengren, Anders. *On the quotient of entire functions of lower order less than one*, **14**, 465.

Indritz, Jack. *An inequality for Hermite polynomials*, **12**, 981.
Innis, George, *The uniformization of a hyperbolic Riemann surface*, **17**, 567.
Insel, A. J. *A compact topology for a lattice*, **14**, 382.
——— *A relationship between the complete topology and the order topology of a lattice*, **15**, 847.
Irwin, J. M., Richman, Fred and Walker, E. A. *Countable direct sums of torsion complete groups*, **17**, 763.
Isaac Richard. *A proof of the Martingale convergence theorem*, **16**, 842.
——— *On regular functions for certain Markov processes*, **17**, 1308.
Isaacs, I. M. *A note on IC-p groups*, **17**, 1451.

Isbell, J. R. *Homogeneous games.* II, **11**, 159.
——— *Directed unions and chains*, **17**, 1467.
——— *Remarks on decompositions of categories*, **19**, 899.
——— *A set whose square can map onto a perfect set*, **20**, 254.
——— *A counterexample in weighted majority games*, **20**, 590.
Isbell, J. R. and Thomas, E. S., Jr. *Mazur's theorem on sequentially continuous linear functionals*, **14**, 644.
Isbell, J. R. and Wright, F. B. *Another equivalent form of the axiom of choice*, **17**, 174.
Iseki, Shô. *A proof of a functional equation related to the theory of partitions*, **12**, 502.
——— *A problem on partitions connected with Waring's problem*, **19**, 197.
Ishiguro, Kazuo. *On the circle method of summation of a Cauchy product series*, **13**, 695.
Itô, Jun-Iti. *The coefficient problem of regular functions*, **12**, 53.
Ito, Yuji. *Uniform integrability and the pointwise ergodic theorem*, **16**, 222.
Itzkowitz, G. L. *The existence of homomorphisms in compact connected Abelian groups*, **19**, 214.
Iversen, Birger. *On flat extensions of Noetherian rings*, **16**, 1401.

Jabotinsky, E. *l-sequences for nonembeddable functions*, **17**, 738.
Jackson, Lloyd and Schrader, Keith. *On second order differential inequalities*, **17**, 1023.
Jackson, S. B. *A note on arcs of finite cyclic order*, **12**, 364.
Jacobson, Bernard. *Sums of distinct divisors and sums of distinct units*, **15**, 179.
Jain, S. K. *Polynomial rings with a pivotal monomial*, **17**, 942.
Jakimovski, Amnon. *Tauberian constants for the Abel and Cesàro transformations*, **14**, 228.
Jamison, Benton. *Eigenvalues of modulus one*, **16**, 375.
Janos, Ludvik. *A converse of Banach's contraction theorem*, **18**, 287.
Janowitz, M. F. *On the antitone mappings of a poset*, **15**, 529.
——— *The center of a complete relatively complemented lattice is a complete sublattice*, **18**, 189.
Jans, J. P. *Verification of a conjecture of Gerstenhaber*, **11**, 335.
——— *Duality in Noetherian rings*, **12**, 829.
——— *Note on* QF-1 *algebras*, **20**, 225.
Janusz, G. J. *Primitive idempotents in group algebras*, **17**, 520.
Jaworowski, J. W. *Coinciding directions for imbeddings of spaces*, **19**, 415.
Jenkins, J. A. *On a paper of Reich concerning minimal slit domains*, **13**, 358.
——— *On a result of Nehari*, **17**, 62.
——— *On an inequality considered by Robertson*, **19**, 549.
Jensen, Chr. U. *Remark on a characterization of certain ring class fields by their absolute Galois group*, **14**, 738.
——— *A remark on arithmetical rings*, **15**, 951.
Jerison, Meyer and Rudin, Walter. *Translation-invariant functionals*, **13**, 417.
Jerrard, R. P. and Rubel, L. A. *On the curvature of the level lines of a harmonic function*, **14**, 29.
Jewett, R. I. *A variation on the Stone-Weierstrass theorem*, **14**, 690.
John, Fritz. *On symmetric matrices whose eigenvalues satisfy linear inequalities*. **17**, 1140.
——— *A note on my paper "On symmetric matrices whose eigenvalues satisfy linear inequalities,"* **19**, 1004.
Johnson, B. E. *Isometric isomorphisms of measure algebras*, **15**, 186.
——— *Symmetric maximal ideals in* $M(G)$, **18**, 1040.

Johnson, B. E. *Separate continuity and measurability*, **20**, 420.
Johnson, G. G. and Tonne, P. C. *Functions of boundea variation and moment-sequences of continuous functions*, **19**, 1097
Johnson, H. H. *On the pseudo-group structure of analytic functions on an algebra*, **12**, 218.
——— *On infinite prolongations of differential systems*, **12**, 588.
——— *Lie groups associated with pseudo groups*, **14**, 84.
——— *Bracket and exponential for a new type of vector field*, **15**, 432.
——— *A new type of vector field and invariant differential systems*, **15**, 675.
——— *Algebraic aspects of prolongations*, **16**, 123.
Johnson, K. G. *Algebras of Riemann integrable functions*, **13**, 437.
——— *$B(S,\Sigma)$ algebras*, **15**, 247.
Johnson, R. A. *On the Lebesque decomposition theorem*, **18**, 628.
Johnson, R. E. *Structure theory of faithful rings*, III. *Irreducible rings*, **11**, 710.
——— *Unique factorization in a principal right ideal domain*, **16**, 526.
——— *Prime matrix rings*, **16**, 1099.
——— *Free products of ordered semigroups*, **19**, 697.
Johnson, R. E. and Levy, L. S. *Regular elements in semiprime rings*, **19**, 961.
Joichi, J. T. *On closed operators with closed range*, **11**, 80.
——— *Normed linear spaces equivalent to inner product spaces*, **17**, 423.
——— *More characterizations of inner product spaces*, **19**, 1185.
Joichi, J. T. See Bartle, R. G.
Jones, F. B. *Another cutpoint theorem for plane continua*, **11**, 556.
Jones, John, Jr. *On the boundedness of solutions of second order nonlinear differential systems*, **17**, 1280.
——— *On semiconnected mappings of topological spaces*, **19**, 174.
Jones, O. T. and Retherford, J. R. *On similar bases in barrelled spaces*, **18**, 677.
Jordan, J. H. *The distribution of kth power residues and nonresidues*, **19**, 678.
Jurkat, W. B. *On Cauchy's functional equation*, **16**, 683.

Kac, M. *A remark on Wiener's Tauberian theorem*, **16**, 1155.
Kadish, A. *A uniqueness theorem for some nonlinear boundary value problems*, **20**, 27.
Kadison, R. V. *The trace in finite operator algebras*, **12**, 973.
Kadota, T. T. *Term-by-term differentiability of Mercer's expansion*, **18**, 69.
Kahane, J.-P. *Geometrical properties of equipotential surfaces*, **13**, 617.
——— *Another theorem on bounded analytic functions*, **18**, 827.
Kahn, D. S. *An example in Čech cohomology*, **16**, 584.
——— *A differential in the Adams spectral sequence*, **20**, 188.
Kahn, D. W. *A note on H-spaces and Postnikov systems of spheres*, **15**, 300.
Kalisch, G. K. *On isometric equivalence of certain Volterra operators*, **12**, 93.
——— *On fractional integrals of pure imaginary order in L_p*, **18**, 136.
Kalman, J. A. *Triangle inequality in l-groups*, **11**, 395.
Kalmbach, Gudrun. *Deformation retracts and weak deformation retracts of noncompact manifolds*, **20**, 539.
Kammerer, W. J. See Hawkins, J. B.
Kammerer, W. J. and Kasriel, R. H. *On contractive mappings in uniform spaces*, **15**, 288.
Kan, D. M. and Whitehead, G. W. *On the realizability of singular cohomology groups*, **12**, 24.
Kane, Julius. *A uniqueness theorem for the reduced wave equation*, **12**, 967.

Kannappan, Pl. *The functional equation* $f(xy)+f(xy^{-1})=2f(x)f(y)$ *for groups*, **19**, 69.
Kaplan, Samuel. *Closure properties of* $C(X)$ *in its second dual*, **17**, 401.
Kaplansky, Irving. *Decomposability of modules*, **13**, 532.
Kappe, W. P. See Hogan G. T.
Karlin, Samuel and McGregor, James. *Total positivity of fundamental solutions of parabolic equations*, **13**, 136.
Karp, C. R. *A note on the representation of* α*-complete Boolean algebras*, **14**, 705.
Karrer, Guido. *On the existence of cross sections in locally flat bundles*, **12**, 621.
Kartsatos, A. G. *Properties of bounded solutions of nonlinear equations of second order*, **19**, 1057.
Kasriel, R. H. *A characterization of certain quasi-open mappings*, **13**, 778.
——— See Kammerer, W. J.
Kasriel, R. H. and Nashed, M. Z. *Stability of solutions of some classes of nonlinear operator equations*, **17**, 1036.
Kassimatis, C. *On the de la Vallée Poussin derivative*, **16**, 1171.
——— *Generalized derivatives and the de la Vallée Poussin derivative*, **17**, 633.
Katz, Melvin. See Hanson, D. L.
Kaufman, Robert. *Extension of functionals and inequalities on an Abelian semi-group*, **17**, 83.
——— *Operators with closed range*, **17**, 767.
——— *Semicharacters on subsemigroups of an abelian topological group*, **17**, 1097.
——— *Maximal semicharacters*, **17**, 1314.
——— *Semigroups and de Leeuw's convexity theorem*, **17**, 1317.
——— *Remark on invariant means*, **18**, 120.
——— *A maximality theorem in Fourier analysis*, **18**, 806.
——— *Some irregular distributions modulo* 1, **19**, 592.
——— *Density of integer sequences*, **19**, 1501.
Kawata, T. *A remark on the general summability theorem*, **16**, 779.
Keesling, J. E. *Open mappings and closed subsets of the domain in general metric spaces*, **20**, 238.
Keisler, H. J. *Unions of relational systems*, **15**, 540.
Keisler, J. E. See Anderson, R. D.
Kelley, J. E. *Semi-peanian characterizations of* E^2 *and* S^2, **12**, 907.
Kelly, J. B. *Partitions with equal products*, **15**, 987.
Kelly, L. M. See Edelstein, M.
——— See Herzog, Fritz.
Kelman, R. B. *Short proof of a theorem of Wintner on asymptotic integrations of the adiabatic oscillator*, **13**, 663.
Kemp, R. R. D. *Remarks on systems of nonlinear Volterra equations*, **14**, 961.
Kenelly, J. W. See Hare, W. R. Jr.,
Kennedy, P. B. *A problem on bounded analytic functions*, **15**, 325.
Kennedy, P. B. and Szüsz, P. *On a bounded increasing power series*, **17**, 580.
Keogh, F. R. *On a theorem of Fejér and Riesz*, 20, 45.
Keogh, F. R. and Merkes, E. P. *A coefficient inequality for certain classes of analytic functions*, **20**, 8.
Kertész, A. *A characterization of the Jacobson radical*, **14**, 595.
Kesava Menon, P. *Certain Hadamard designs*, **13**, 524.
——— *On difference sets whose parameters satisfy a certain relation*, **13**, 739.
Kesten, H. See Ciesielski, Z.
Kesten, J. F. See Supnick, Fred.

Keynes, H. B. *On the proximal relation being closed*, **18**, 518.
Kiefer, J. and Wolfowitz, J. *On a problem connected with the Vandemonde determinant*, **16**, 1092.
Kim, J. B. *Completely 0-simple and homogeneous n regular semigroups*, **17**, 724.
Kim, Jehpill. *On $(n-1)$-dimensional factors of I^n*, **15**, 679.
Kim, Soon-Kyu. *A theorem on the Hurewicz fibering*, **20**, 171.
King, J. P. *An extension of the Taylor summability transform*, **16**, 25.
——— *Almost summable sequences*, **17**, 1219.
——— *Some results for Borel transforms*, **19**, 991.
Kingman, J. F. C. *Stationary measures for branching processes*, **16**, 245.
Kingman, J. F. C. and Orey, Steven. *Ratio limit theorems for Markov chains*, **15**, 907.
Kinney, J. R. *Note on a singular function of Minkowski*, **11**, 788.
——— *Boundary behavior of Blaschke products in the unit circle*, **12**, 484.
——— *Tangential limits of functions of the class S_α*, **14**, 68.
Kinoshita, S. *A note on the genus of a knot*, **13**, 451.
——— *Notes on covering transformation groups*, **19**, 421.
Kinukawa, Masakiti. *On the spectral synthesis of bounded functions*, **14**, 468.
Kirby, R. C. *On the annulus conjecture*, **17**, 178.
Kirk, W. A. *On locally isometric mappings of a G-space on itself*, **15**, 584.
——— *A theorem on local isometries*, **17**, 453.
——— See Belluce, L. P.
Kirwan, W. E. *A note on extremal problems for certain classes of analytic functions*, **17**, 1028.
Kishore, Nand. *The Rayleigh function*, **14**, 527.
——— *The Rayleigh polynomial*, **15**, 911.
Kister, J. M. *Uniform continuity and compactness in topological groups*, **13**, 37.
——— *Homotopy types of ANR's*, **19**, 195.
Klambauer, Gabriel. *A note on Nyman's function system*, **13**, 312.
Klee, Victor. *A question of Katětov concerning the Hilbert parallelotope*, **12**, 900.
——— See Gale, David.
Kleiman, S. L. *On the vanishing of $H^n(X, \mathfrak{F})$ for an n-dimensional variety*, **18**, 940.
Kleinecke, David. *Almost-finite, compact and inessential operators*, **14**, 863.
Kleinfeld, Erwin. See Humm, M. M.
Kleinfeld, Erwin and Kokoris, L. A. *Flexible algebras of degree one*, **13**, 891.
Kleisli, H. *Every standard construction is induced by a pair of adjoint functors*, **16**, 544.
Kleitman, D. *On a combinatorial problem of Erdös*, **17**, 139.
Kleppner, Adam. *On the intertwining number theorem*, **12**, 731.
Klimko, E. M. and Sucheston, Louis. *An operator ergodic theorem for sequences of functions*, **20**, 272.
Klingenberg, Wilhelm. *On compact Kaehlerian manifolds with positive holomorphic curvature*, **12**, 350.
Klotz, Tilla. *Some uses of the second conformal structure on strictly convex surfaces*, **14**, 793.
——— *A complete R_Λ-harmonically immersed surface in E^3 on which $H \neq 0$*, **19**, 1296.
Knapp, A. W. *Regular boundary points in Markov chains*, **17**, 435.
Knebelman, M. S. and Yano, K. *On homothetic mappings of Riemann spaces*, **12**, 300.
Knill, R. J. *The cone axiom implies the homotopy axiom*, **17**, 200.
Knopfmacher, J. *Homology and presentations of algebras*, **17**, 1424.
——— *On the isomorphism problem for Lie algebras*, **18**, 898.
Knopp, M. I. *A note on subgroups of the modular group*, **14**, 95.
Kobayashi, E. T. *A remark on the existence of a G-structure*, **16**, 1329.

Kobayashi, Shoshichi. *On automorphism groups of homogeneous complex manifolds*, **12**, 359.
——— *On complete Bergman metrics*, **13**, 511.
Kober, H. *The extended Weyl integral and related operations*, **19**, 285.
Koch, C. F. and Marr, J. M. *A characterization of unions of two star-shaped sets*, **17**, 1341.
Koch, R. J. and Krule, I. S. *Weak cutpoint ordering on hereditarily unicoherent continua*, **11**, 679.
Koh, Kwangil. *On a semiprimary ring*, **19**, 205.
——— *On some characteristic properties of self-injective rings*, **19**, 209.
Koh, Kwangil and Mewborn, A. C. *Prime rings with maximal annihilator and maximal complement right ideals*, **16**, 1073.
——— *The weak radical of a ring*, **18**, 554.
Koh, S. S. *Note on the homotopy properties of the components of the mapping space* X^{S^p}, **11**, 896.
Kohlbecker, E. E. See Bateman, P. T.
Kohls, C. W. *A note on countably generated ideals in rings of continuous functions*, **12**, 744.
——— *On convex ideals*, **18**, 359.
Kokoris, L. A. *Flexible nilstable algebras*, **13**, 335.
——— See Kleinfeld, Erwin.
Kolchin, Ellis and Lang, Serge. *Existence of invariant bases*, **11**, 140.
Kolettis, George, Jr. *Semi-complete primary abelian groups*, **11**, 200.
Kolman, Bernard. *On a theorem in complete* $\mathfrak{A}$*-adic rings*, **19**, 681.
Konheim, A. G. See Adler, R. L.
Koopmans, L. H. See Hanson, D. L.
Korányi, Adam. *A Schwarz lemma for bounded symmetric domains*, **17**, 210.
——— *Analytic invariants of bounded symmetric domains*, **19**, 279.
Korevaar, J. See Anselone, P. M.
Korevaar, Jacob. *Distribution proof of Weiner's Tauberian theorem*, **16**, 353.
Kosinski, A. *Note on star-shaped sets*, **13**, 931.
Krakowski, Fred. *On the content of polynomials*, **16**, 810.
Krall, A. M. *The adjoint of a differential operator with integral boundary conditions*, **16**, 738.
Krause, E. F. *Groups of exponent* 8 *satisfy the* 14*th Engel congruence*, **15**, 491.
——— *On the collection process*, **15**, 497.
Kreith, Kurt. *A new proof of a comparison theorem for elliptic equations*, **14**, 33.
——— *Differential operators with a purely continuous spectrum*, **14**, 809.
——— *Oscillation theorems for elliptic equations*, **15**, 341.
——— *An abstract oscillation theorem*, **19**, 17.
——— *A strong comparison theorem for selfadjoint elliptic equations*, **19**, 989.
——— *A remark on a comparison theorem of Swanson*, **20**, 549.
Krengel, U. See Chacon, R. V.
Kripke, S. A. *"Flexible" predicates of formal number theory*, **13**, 647.
Krishna, J. G. *On relations among some constants of an entire function*, **14**, 497.
Krishnarao, G. V. *Note on a Whitehead product*, **17**, 1131.
Krule, I. S. See Koch, R. J.
Kruse, A. *A simple proof of a theorem of Isbell*, **18**, 546.
Kruse, A. H. See Goldberg, Seymour.
Krzywoblocki, M. Z. v. *On the geometry of streamlines in hydromagnetic fluid flows when the magnetic field is along a fixed direction*, **17**, 608.

Kuczma, Marek. *A remark on commutable functions and continuous iterations*, **13**, 847.
Kuelbs, J. D. *Measures on $C(Y)$ when Y is a compact metric space*, **18**, 248.
——— *A Cameron-Martin translation theorem for a Gaussian measure on $C(Y)$*, **19**, 109.
——— *Additive functionals on $C(Y)$*, **19**, 354.
Kulik, Stephen. *A method of approximating the zeros of functions by quadratic formulas*, **12**, 476.
Kumari, Sulaxana. *On the behaviour of the Fourier coefficients*, **14**, 243.
——— *On the logarithmic means of the successively derived conjugate series of a Fourier series*, **14**, 256.
Kumpel, P. G., Jr. *Lie groups and products of spheres*, **16**, 1350.
Kunz, Ernst. *Remark on the purity of the branch locus*, **20**, 378.
Kuo, Tzee-Nan. *A theorem on the cohomology ring of nilpotent groups*, **17**, 1460.
Kupka, Ivan. *Counterexample to the Morse-Sard theorem in the case of infinite-dimensional manifolds*, **16**, 954.
Kurepa, Svetozar. *A note on logarithms of normal operators*, **13**, 307.
Kurss, Herbert. *A limit point criterion for nonoscillatory Sturm-Liouville differential operators*, **18**, 445.
Kurtz, L. C. *Inclusion theorems for generalized Hausdorff summability methods*, **20**, 385.
Kurtz, L. C. and Shah, S. M. *On the L^1 norm and the mean value of a trigonometric series*, **19**, 1023.
Kurtz, L. C. and Tucker, D. H. *Vector-valued summability methods on a linear normed space*, **16**, 419.
Kuttler, J. R. and Sigillito, V. G. *An inequality for a Stekloff eigenvalue by the method of defect*, **20**, 357.
Kwee, B. *The relation between the sequence-to-sequence and the series-to-series versions of quasi-Hausdorff summability methods*, **19**, 45.
Kwun, K. W. *A fundamental theorem on decompositions of the sphere into points and tame arcs*, **12**, 47.
——— *Upper semicontinuous decompositions of the n-sphere*, **13**, 284.
——— *On 3 manifolds that are not simply connected*, **13**, 291.
——— *Uniqueness of the open cone neighborhood*, **15**, 476.
——— *Open manifolds with monotone union property*, **17**, 1091.
——— *Compactifications of n-space by an arc*, **19**, 1133.
Kwun, K. W. and Raymond, Frank. *Generalized cells in generalized manifolds*, **11**, 135.

LaBach, W. A. *Local flatness of combinatorial manifolds in codimension one*, **18**, 382.
——— *Note on the annulus conjecture*, **18**, 1079.
Labelle, Gilbert. *Concerning polynomials on the unit interval*, **20**, 321.
Lacey, H. E. and Morris, P. D. *Continuous linear operators on spaces of continuous functions*, **17**, 848.
——— *On universal spaces of the type $C(X)$*, **19**, 350.
Lacher, C. *Locally flat strings and half-strings*, **18**, 299.
Lacher, R. C. *Cell-like spaces*, **20**, 598.
Lachlan, A. H. *Effective inseparability for sequences of sets*, **16**, 647.
——— *On a problem of G. E. Sacks*, **16**, 972.
——— *Complete recursively enumerable sets*, **19**, 99.
Lagnese, J. E. *A solution of Hadamard's problem for a restricted class of operators*, **19**, 981.

Lagnese, J. E. *Note on a theorem of C. T. Taam concerning bounded solutions of nonlinear differential equations*, 20, 351.
Laha, R. G. *On functions having non-negative derivatives at the origin*, 12, 175.
——— *On a class of unimodal distributions*, 12, 181.
Lakshmikantham, V. *Upper and lower bounds of the norm of solutions of differential equations*, 13, 615.
——— *Upper and lower bounds of the norm of solutions of differential systems*, 14, 509.
Lakshminarasimhan, T. V. *A note on means of entire function*, 16, 1277.
Lal, S. N. *On the absolute harmonic summability of the factored Fourier series*, 14, 311.
Lambert, H. W. *Some comments on the structure of compact decompositions of* S^3, 19, 180.
Lamperti, John. *A contribution to renewal theory*, 12, 724.
Lancaster, G. M. *Note on a theorem by Sen*, 19, 1119.
Landesman, E. M. *A generalized Lax-Milgram Theorem*, 19, 339.
Landesman, M. See Guinn, T.
Landweber, P. S. *Steenrod representability of stable homology*, 18, 523.
——— *The bordism class of a quasi-symplectic manifold*, 19, 614.
Lang, Serge. See Kolchin, Ellis.
Langenhop, C. E. *Bounds on the norm of a solution of a general differential equation*, 11, 795.
——— *On the stabilization of linear systems*, 15, 735.
Lappan, Peter. *A property of angular cluster sets*, 19, 1060.
Lardy, L. J. *On the identity in a measure algebra*, 19, 807.
Larsen, K. M. *An external harmonic function*, 20, 333.
Larsen, R. *Measures with separable orbits*, 19, 569.
Lasher, Sim. See Gordon, Louis.
Lashof, R. K. See Curtis, M. L.
Latimer, J. F. See Tamura, Takayuki.
Laufer, H. B. *Some remarks about a theorem of Hartogs*, 17, 1244.
Lausch, H. *Formations of groups and* π*-decomposability*, 20, 203.
Laush, G. See Park, S.
Lawson, H. B., Jr. *Stretching phenomena in mappings of spheres*, 19, 433.
Lax, P. D. See Adams, J. F.
Lazer, A. C. *On the asymptotic behavior of solutions of the differential equation* $y''+p(x)y=0$, 16, 1295.
Leach, E. B. *Regular sequences and frequency distributions*, 11, 566.
——— *A note on inverse function theorems*, 12, 694.
——— *On a related function theorem*, 14, 687.
Leadbetter, M. R. *On crossings of arbitrary curves by certain Gaussian processes*, 16, 60.
——— *On three basic results in the theory of stationary point processes*, 19, 115.
Leader, Solomon. *On duality in proximity spaces*, 13, 518.
——— *On pseudometrics for generalized uniform structures*, 16, 493.
——— *Metrization of proximity spaces*, 18, 1084.
Leadley, J. D. and Ritchie, R. W. *Conditions for the power associativity of algebras*, 11, 399.
Leaf, G. K. *An approximation theorem for a class of operators*, 16, 991; 18, 1141.
Leahey, W. J. *A note on a theorem of I. Niven*, 16, 1130.
——— *A new proof of a theorem of Kummer*, 17, 497.
Leavitt, W. G. and Armendariz, E. P. *Nonhereditary semisimple classes*, 18, 1114.

Leblanc, Leon. *Nonhomogeneous polyadic algebras*, **13**, 59.
——— *Duality for Boolean equalities*, **13**, 74.
Lebow, Arnold. *A note on normal dilations*, **16**, 995.
——— *A Schroeder-Bernstein theorem for projections*, **19**, 144.
Lederer, G. See Dowker, Y. N.
Lee, M. P. and Madan, M. L. *On the Galois cohomology of the ring of integers in an algebraic number field*, **20**, 405.
Lee, Yu-Lee. *Some characterizations of semi-locally connected spaces*, **16**, 1318.
——— *On the construction of upper radical properties*, **19**, 1165.
Lees, Milton. *The solution of positive-symmetric hyperbolic systems by difference methods*, **12**, 195.
Leger, G. *A note on free Lie algebras*, **15**, 517.
——— *A particular class of Lie algebras*, **16**, 293.
Lehman, R. S. See Bellman, Richard.
Lehmer, D. H. and Lehmer, Emma. *On runs of residues*, **13**, 102.
Lehmer, Emma. See Lehmer, D. H.
Leighton, Walter. *Comparison theorems for linear differential equations of second order*, **13**, 603.
Leininger, C. W. *A note on the Hausdorff moment problem*, **16**, 1146.
——— *Some properties of a generalized Hausdorff mean*, **20**, 88.
——— *Convergence-preservation criteria for a generalized Hausdorff mean*, **20**, 97.
Leland, K. O. *A characterization of analyticity*. II, **19**, 519.
Lelek, A. *On totally paracompact metric spaces*, **19**, 168.
Lemire, F. W. *Irreducible representations of a simple Lie algebra admitting a one-dimensional weight space*, **19**, 1161.
Leonard, H. S., Jr. *On finite groups whose p-Sylow subgroup is a T.I. set*, **19**, 667.
Leonard, J. L. See Bruckner, A. M.
Leonard, W. W. *Small modules*, **17**, 527.
Leptin, H. *On locally compact groups with invariant means*, **19**, 489.
Leptin, H. and Robertson, L. *Every locally compact MAP group is unimodular*, **19**, 1079.
Lerman, R. A. See deSpautz, J. F.
Levi, Howard. *Plane geometries in terms of projections*, **16**, 503.
Levin, J. J. *The asymptotic behavior of the solution of a Volterra equation*, **14**, 534.
——— *The qualitative behavior of a nonlinear Volterra equation*, **16**, 711.
Levin, J. J. and Nohel, J. A. *Note on a nonlinear Volterra equation*, **14**, 924.
Levine, H. I. *Homotopic curves on surfaces*, **14**, 986.
Levine, J. *Imbedding and immersion of real projective spaces*, **14**, 801.
Levine, Norman. *A note on the Lipschitz condition in metric spaces*, **13**, 314.
Levinger, B. W. *A generalization of Pellet's theorem concerning the zeros of a polynomial*, **18**, 767.
——— *Convexity and minimal Gerschgorin sets*, **19**, 21.
Levinson, N. *The prime number theorem from* log $n!$, **15**, 480.
——— *On an inequality of Opial and Beesack*, **15**, 565.
Levit, R. J. *A variant of Tchebichef's minimax problem*, **18**, 925; 1143.
Lévy, Azriel. *Axiomatization of induced theories*, **12**, 251.
Levy, L. S. See Johnson, R. E.
Lewin, M. *On a coefficient problem for bi-univalent functions*, **18**, 63.
Lewittes, Joseph. *A note on parts and hyperbolic geometry*, **17**, 1087.
Li, Ta. *A new class of integral transforms*, **11**, 290.
—— *A note on integral transforms*, **12**, 556.

Libera, R. J. *Some classes of regular univalent functions*, **16**, 755.
Lick, D. R. *Sets of convergence of exponential series*, **19**, 1013.
Lillo, J. C. *Approximate similarity and almost periodic matrices*, **12**, 400.
Lima, E. L. *Commuting vector fields on S^2*, **15**, 138.
Lindberg, J. A., Jr. *On the completion of tractable normed algebras*, **14**, 319.
——— See Heuer, G. A.
Lindenstrauss, Joram. *On the extension of operators with range in a $C(K)$ space*, **15**, 218.
——— *On projections with norm 1—An example*, **15**, 403.
——— See Corson, H. H.
Lindström, B. and Zetterström, H.-O. *A combinatorial problem in the k-adic number system*, **18**, 166.
Lindström, Bernt, *Determinants on semilattices*, **20**, 207.
——— See Clements, G. F.
Lininger, Lloyd. *On topological transformation groups*, **20**, 191.
Lipman, Joseph. *Some properties of localization and normalization*, **16**, 1120.
Lipschutz, Seymour. *On powers of elements in S-groups*, **13**, 181.
——— *Note on a paper by Shepperd on the braid group*, **14**, 225.
——— *An extension of Greendlinger's results on the word problem*, **15**, 37.
——— *Powers in eighth-groups*, **16**, 1105.
——— *Generalization of Dehn's result on the conjugacy problem*, **17**, 759.
Lissner, David. *Automorphisms of generalized Witt algebras have fixed points*, **14**, 205.
Liu, H. C. and Macintyre, A. J. *Cartwright's theorem on functions bounded at the integers*, **12**, 460.
Liu, Shih-Chao. *A theorem on general recursive functions*, **11**, 184.
——— *Proof of a conjecture of Routledge*, **11**, 967.
Liu, Teng-sun. *On vanishing algebras*, **14**, 162.
Liulevicius, Arunas. *Zeroes of the cohomology of the Steenrod algebra*, **14**, 972.
——— *Which multiplicative sequences are modified Chern classes?* **18**, 530.
Livesay, G. R. See Henderson, David.
Livingston, A. E. *On the radius of univalence of certain analytic functions*, **17**, 352.
Lloyd, S. P. *On decomposition into stochastically independent components*, **14**, 292.
——— *On extreme averaging operators*, **14**, 305.
——— *On finitely additive set functions*, **14**, 701.
——— *On the L_2 space of a Banach limit*, **20**, 429.
Loc, Nguyen-xuan. *Fixed points and openness in a locally convex space*, **18**, 987.
Locke, Phil. *On the asymptotic behavior of solutions of an nth-order nonlinear equation*, **18**, 383.
Lodato, M. W. *On topologically induced generalized proximity relations*, **15**, 417.
Loeb, P. A. *A minimal compactification for extending continuous functions*, **18**, 282.
Lomonaco, S. J. *Uncountably many mildly wild non-Wilder arcs*, **19**, 895.
Long, C. A. *Schwartz distributions analytic in a parameter and associated semi-analytic functions*, **18**, 615.
Lorch, Lee and Szego, Peter. *Monotonicity of the differences of zeros of Bessel functions as a function of order*, **15**, 91.
——— *A Bessel function inequality connected with the stability of least square smoothing*, **17**, 330.
Lorentz, G. G. *Relations between function spaces*, **12**, 127.
Lorentz, G. G. and Zeller, K. *Summation of sequences and summation of series*, **15**, 743.
Losey, Gerald. *A note on groups of prime power exponent satisfying an Engel congruence*, **15**, 209.
——— *On the structure of π-regular semigroups*, **15**, 955.

Lou, Betty and Passman, D. S. *Generalized Frobenius complements*, **17**, 1166.
Love, E. R. *Variations on a theme of Widder*, **16**, 260.
Loveland, L. D. *Sufficient conditions for a closed set to lie on the boundary of a 3-cell*, **19**, 649.
——— See Burgess, C. E.
Lubin, Jonathan. *Galois endomorphisms of the torsion subgroup of certain formal groups*, **20**, 229.
Luenberger, D. G. *Invertible solutions to the operator equation* $TA-BT=C$, **16**, 1226.
Luft, Erhard. *On the combinatorial Schoenflies conjecture*, **16**, 1008.
Lundell, A. T. *Homotopy periodicity of the classical Lie groups*, **18**, 683.
Lyndon, R. C. *Grunshko's Theorem*, **16**, 822.
——— *Equations in free metabelian groups*, **17**, 728.
Lyndon, R. C. and Ullman, J. L. *Groups of elliptic linear fractional transformations*, **18**, 1119.
Lynn, I. L. *Linearly orderable spaces*, **13**, 454.

McAndrew, M. H. *On the product of directed graphs*, **14**, 600.
——— See Hoffman, A. J.
McArthur, C. W. *A note on subseries convergence*, **12**, 540.
McCandless, B. H. *Test spaces for normal spaces*, **13**, 514.
——— *Adjunction spaces and the hereditary property*, **18**, 695.
McCarthy, C. A. *Commuting Boolean algebras of projections*. II. *Boundedness in* L_p, **15**, 781.
McCarthy, P. J. *Maximal fields disjoint from certain sets*, **18**, 347.
McCarty, George. *The value of J at a Samelson product*, **19**, 164.
McConnell, Alan. *A note on the Brauer group*, **17**, 956.
McCord, M. C. *Spaces with acyclic point complements*, **17**, 886.
——— *Homotopy type comparison of a space with complexes associated with its open covers*, **18**, 705.
McCoy, J. W. *An extension of the concept of* L_n *sets*, **16**, 177.
McCrimmon, Kevin. *Bimodules for composition algebras*, **17**, 480.
——— *Finite power-associative division rings*, **17**, 1173.
——— *A note on quasi-associative algebras*, **17**, 1455.
——— *A note on reduced Jordan algebras*, **19**, 964.
——— *Jordan algebras with interconnected idempotents*, **19**, 1327.
McCulloh, L. R. *Cyclic extensions without relative integral bases*, **17**, 1191.
McGregor, James. See Karlin Samuel.
McIntosh, Alan. *On the closed graph theorem*, **20**, 397.
McLachlan, E. K. *Extremal elements of a convex cone of subadditive functions*, **12**, 77.
McLaughlin, T. G. *A theorem on productive functions*, **14**, 444.
——— *Retraceable sets and recursive permutations*, **17**, 427.
——— *A theorem on intermediate reducibilities*, **19**, 87.
McMillan, D. R., Jr. *Homeomorphisms on a solid torus*, **14**, 386.
——— *Piercing a disk along a cellular set*, **19**, 153.
McNabb, A. *On the flux of diffusing matter through boundaries*, **13**, 170.
——— *A note on the boundedness of solutions of linear parabolic equations*, **13**, 262.
McQuillan, D. L. *Ramification in elliptic modular function fields*, **14**, 414.
McShane, E. J. *The radius of gyration of a convex body*, **13**, 922.
——— *On the solutions of the differential equation* $y''+p^2y=0$, **17**, 55.
McShane, E. J. and Warfield, R. B., Jr. *On Filippov's implicit functions lemma*, **18**, 41.

McWilliams, R. D. *On the w*-sequential closure of a cone*, 14, 191.
——— *Iterated w*-sequential closure of a Banach space in its second conjugate*, 16, 1195.
MacCamy, R. C. *Pairs of Carleman-type integral equations*, 16, 871.
——— See Voytuk, J. A.
MacCluer, C. R. *On extreme points of the numerical range of normal operators*, 16, 1183.
MacGregor, T. H. *The radius of convexity for starlike functions of order 1/2*, 14, 71.
——— *The radius of univalence of certain analytic functions*, 14, 514.
——— *The radius of univalence of certain analytic functions. II*, 14, 521.
——— *A covering theorem for convex mappings*, 15, 310.
——— *A class of univalent functions*, 15, 311.
——— *Translations of the image domains of analytic functions*, 16, 1280.
MacNerney, J. S. *Characterization of regular Hausdorff moment sequences*, 15, 366.
MacRae, R. E. *On the homological dimension of certain ideals*, 14, 746.
Machover, Maurice. *Generalized eigenfunction expansion of the Green's function*, 16, 348.
Machtinger, L. A. *Multiple transivity of primitive permutation groups*, 16, 168, 1417.
Macintyre, A. J. *Convergence of* $i^{i^{i^{\cdots}}}$, 17, 67.
——— See Chiang, Pou-Shun.
——— See Liu, H. C.
Macintyre, A. J. and Wilbur, W. J. *A proof of the power series expansion without differentiation theory*, 18, 419.
Mack, John. *On a class of countably paracompact spaces*, 16, 467.
Mackey, G. W. *Some remarks on symplectic automorphisms*, 16, 393.
Macki, J. W. and Wong, J. S. W. *Oscillation theorems for linear second order ordinary differential equations*, 20, 67.
Madan, M. L. See Lee, M. P.
Maddox, B. H. *Absolutely pure modules*, 18, 155.
Madison, B. See Selden, J.
Magill, K. D., Jr. *Some embedding theorems*, 16, 126.
——— *Another S-admissible class of spaces*, 18, 295.
Mahavier, W. S. *A chainable continuum not homeomorphic to an inverse limit on* [0, 1] *with only one bonding map*, 18, 284.
Mahowald, Mark. *On the measurability of functions in two variables*, 13, 410.
——— *On the embeddability of the real projective spaces*, 13, 763.
——— *On embedding manifolds which are bundles over spheres*, 15, 579.
——— *A short proof of the James periodicity of* $\pi_{k+p}(V_{k+m,m})$, 16, 512.
——— *On the metastable homotopy of* $O(n)$, 19, 639.
——— See Copeland, A. H., Jr.
——— See Husain, Taqdir.
Mahowald, Mark and Gould, Gerald. *Quasi-barrelled locally convex spaces*, 11, 811
Majindar, K. N. *On incomplete and balanced incomplete block designs*, 14, 223.
Mallows, C. L. *An even simpler proof of Opial's inequality*, 16, 173.
Malm, D. G. *A note on exact sequences*, 14, 637.
Mamangakis, S. E. *Remark on* $\pi(x)=o(x)$, 13, 664.
Mancuso, V. J. *Retraction in m-paracompact spaces*, 18, 1080.
Mandan, S. R. *Cevian simplexes*, 11, 837.
Mandelker, Mark. *Prime ideal structure of rings of bounded continuous functions*, 19, 1432.
Maneri, Carl. *Simple* $(-1, 1)$ *rings with an idempotent*, 14, 110.
Manis, M. E. *Valuations on a commutative ring*, 20, 193.

Mann, Avino'am. *On $\mathfrak{F}$-normalizers and $\mathfrak{F}$-covering subgroups*, **19**, 1159.
Mann, L. N. *A note on counting isotropy subgroups*, **16**, 476.
——— *Differentiable actions of compact abelian Lie groups on S^n*, **16**, 480.
Maravić, Manojlo. *On an application of slowly oscillating functions*, **17**, 969.
Marcus, Marvin, *The Hadamard theorem for permanents*, **15**, 967.
——— *Harnack's and Weyl's inequalities*, **16**, 864.
——— *Permanents of direct products*, **17**, 226.
——— *An inequality for linear transformations*, **18**, 793.
——— See Bullen Peter.
Marcus, Marvin and Minc, Henryk. *Some results on doubly stochastic matrices*, **13**, 571.
——— *An inequality for the elementary symmetric functions of characteristic roots*, **17**, 510.
Marcus, Marvin and Newman, Morris. *Generalized functions of symmetric matrices*, **16**, 826.
Marcus, Solomon. *On commutativity of the second-order cross partial derivatives*, **12**, 562.
Marden, A. See Earle, C. J.
Marden, Morris. *On the derivative of an entire function*, **19**, 1045.
Mardešić, Sibe. *On the Hahn-Mazurkiewicz theorem in nonmetric spaces*, **11**, 929.
Margulies, G. *Peterson's theorem on surfaces corresponding by parallelism*. I, **12**, 577.
Marica, John. *A note on unary algebras*, **14**, 792.
Marjanović, M. *A further extension of Banach's contraction principle*, **19**, 411.
Marr, J. M. See Koch, C. F.
Martin, D. A. *Completeness, the recursion theorem, and effectively simple sets*, **17**, 838.
Martin, J. F. P. *Two theorems in stability theory*, **17**, 636.
Martin, J. M. *Homogeneous countable connected Hausdorff spaces*, **12**, 308.
Martin, Joseph. *Tame arcs on disks*, **16**, 131.
Martin, Joseph and Rolfsen, Dale. *Homotopic arcs are isotopic*, **19**, 1290.
Martin, N. F. G. *A note on metric density of sets of real numbers*, **11**, 344.
——— See England, J. W.
Martindale, W. S. III. *Lie isomorphisms of primitive rings*, **14**, 909.
Marx, M. L. *Whyburn's conjecture for C^2 maps*, **19**, 660.
Massey, W. S. *Normal vector fields on manifolds*, **12**, 33.
——— *On the Stiefel-Whitney classes of a manifold*. II, **13**, 938.
Máté, Attilla. *A new proof of a theorem of P. Erdös*, **18**, 159.
Mather, John. *Invariance of the homology of a lattice*, **17**, 1120.
Mathews, J. C. and Anderson, R. F. *A comparison of two modes of order convergence*, **18**, 100.
Mathsen, R. M. *A disconjugacy condition for $y'''+a_2y''+a_1y'+a_0y=0$*, **17**, 627.
Matlis, Eben. *Divisible modules*, **11**, 385.
Matsushima, Yatarō. *Hausdorff interval topology on a partially ordered set*, **11**, 233.
——— *On the kernel of a topological semigroup with cut points*, **12**, 20.
Mattuck, Arthur. *On symmetric products of curves*, **13**, 82.
——— *The field of multisymmetric functions*, **19**, 764.
Matula, D. W. *The Base Conversion Theorem*, **19**, 716.
Maurer, W. D. *Conformal equivalence of countable dense sets*, **18**, 269.
Maurer, W. D. and Rhodes, J. L. *A property of finite simple non-abelian groups*, **16**, 552.
Maurice, M. A. See de Groot, J.
Mayer, A. L. *The cohomology ring of a compact Lie group with bi-invariant metric*, **16**, **460**.

Mayoh, B. H. *Groups and semigroups with solvable word problems*, **18**, 1038.
Mead, D. G. *A note on the ideal* [*uv*], **14**, 607.
——— *A necessary and sufficient condition for membership in* [*uv*], **17**, 470.
——— See Hillman, A. P.
Megibben, Charles. *Modules over an incomplete discrete valuation ring*, **19**, 450.
Meisters, G. H. *On the equation* $ax-xb=c$ *in division rings*, **12**, 428.
Melzak, Z. A. *The isoperimetric problem of the convex hull of a closed space curve*, **11**, 265.
——— *A countable interpolation problem*, **11**, 304.
——— *A note on sets of constant width*, **11**, 493.
Meng, Ching-Hwa. *On the numerical range of an operator*, **14**, 167.
Menon, M. V. *Reduction of a matrix with positive elements to a doubly stochastic matrix*, **18**, 244.
Menon, P. K. *Difference sets in abelian groups*, **11**, 368.
Merkel, R. B. See Tamura, Takayuki.
Merkes, E. P. See Hayden, T. L.
——— See Keogh, F. R.
Merkes, E. P., Robertson, M. S. and Scott, W. T. *On products of starlike functions*, **13**, 960.
Merkes, E. P. and Scott, W. T. *Starlike hypergeometric functions*, **12**, 885.
Merrill, Samuel III. *Analytic embeddings and mean square approximation*, **18**, 836.
Metcalf, F. T. See Chu, S. C.
——— See Diaz, J. B.
Mewborn, A. C. See Koh, Kwangil.
Meyer, K. R. *On computing the index in three dimensions*, **19**, 760.
Meyer-König, W. and Zeller, K. *On Borel's method of summability*, **11**, 307.
Meyers, N. G. *Mean oscillation over cubes and Hölder continuity*, **15**, 717.
Michael, Ernest. *On a theorem of Rudin and Klee*, **12**, 921.
——— *A note on intersections*, **13**, 281.
——— *A linear mapping between function spaces*, **15**, 407.
——— *Three mapping theorems*, **15**, 410.
——— *A short proof of the Arens-Eells embedding theorem*, **15**, 415.
——— *A selection theorem*, **17**, 1404.
Michler, Gerhard, *On quasi-local noetherian rings*, **20**, 222.
Mihalek, R. J. *Modularity relations in lattices*, **11**, 9.
Miles, E. P., Jr. and Young, E. C. *Basic sets of polynomials for generalized Beltrami and Euler-Poisson-Darboux equations and their iterates*, **18**, 981.
Miller, C. F. III. *On Britton's Theorem* A, **19**, 1151.
Miller, Keith. *Existence theory for certain ordinary differential equations with a monotone singularity*, **18**, 1006.
Millett, K. C. *Normal structures for locally flat embeddings*, **20**, 580.
Mills, W. H. *Some complete cycles on the n-cube*, **14**, 628.
——— See Bierstedt, R. G.
Milnor, J. *On the Betti numbers of real varieties*, **15**, 275.
———See Barratt, M. G.
Minc, Henryk. *A note on an inequality of M. Marcus and M. Newman*, **14**, 890.
——— *A lower bound for permanents of* (0, 1)*-matrices*, **18**, 1128.
——— See Marcus, Marvin.
Minker, Jack. See Epstein, Bernard.
Minty, G. J. *On the simultaneous solution of a certain system of linear inequalities*, **13**, 11.

Miranker, W. L. *A well posed problem for the backward heat equation*, **12**, 243.
Mishra, B. P. *Multiplication theorems on strongly summable series*, **17**, 992.
Mitchell, Josephine. *Remarks on Cauchy's integral formula in matric spaces*, **11**, 299.
Mitrović, Dragiša. *The homogenous Hilbert boundary problem in a Banach algebra.* I, **17**, 1303.
——— *The homogeneous Hilbert boundary problem in a Banach algebra.* II, **18**, 680.
Miyoshi, Takeo. See Morishima, Taro.
Mond, B. *A matrix version of Rennie's generalization of Kantorovich's inequality*, **16**, 1131.
Mond, B. See Shisha, O.
Monk, Donald. *On pseudo-simple universal algebras*, **13**, 543.
Montague, Stephen and Thomas, Gomer. *A condition for a finite group to be nilpotent*, **17**, 1205.
Moran, D. A. *A remark on the Brown-Casler Mapping Theorem*, **18**, 1078.
Mordell, L. J. *Irrational power series*, **12**, 522.
——— *On a cubic congruence in three variables.* II, **14**, 609.
——— *Irrational power series.* III, **16**, 819.
——— *Some quartic diophantine equations of genus*, 3, **17**, 1152.
——— *Addendum to "Some quartic diophantine equations of genus 3,"* **18**, 190.
——— See Chowla, S.
Mordeson, J. N. and Vinograde, B. *Tensor products of simple pure inseparable field extensions*, **20**, 209.
Morgan, R. C. *Uniqueness theorem for the reduced wave equation under an Nth order differential boundary condition*, **17**, 780.
Morishima, Taro and Miyoshi, Takeo. *On the Diophantine equation* $x^p+y^p=cz^p$, **16**, 833.
Moroney, R. M. *The Haar problem in* L_1, **12**, 793.
——— *Note on a theorem of Nehari*, **13**, 407.
Morris, P. D. See Lacey, H. E.
Moser, D. E. *The Taylor and other methods of summability*, **11**, 90.
Mosher, R. E. *Note on the generalized Whitney sum*, **20**, 383.
Mostert, P. S. *Reasonable topologies for homeomorphism groups*, **12**, 598.
——— *A fibering theorem for topological semigroups*, **14**, 87.
Motzkin, T. S. *Determinants whose elements have equal norm*, **11**, 871.
——— *Power series with gaps*, **11**, 875.
——— See Grünbaum, Branko.
Mount, K. R. *On regular local rings*, **14**, 432.
Moyer R. D. *A general uniqueness theorem*, **17**, 602.
——— *On the nonidentity of weak and strong extensions of differential operators*, **19**, 487.
Mrówka, S. See Blefko, R.
Mrówka, S. G. and Pervin, W. J. *On uniform connectedness*, **15**, 446.
Mudholkar, G. S. *The integral of an invariant unimodal function over an invariant convex set—An inequality and applications*, **17**, 1327.
Mueller, B. J. *Three results for locally compact groups connected with the Haar measure density theorem*, **16**, 1414.
Muhly, H. T. *Complete ideals in local rings*, **11**, 361.
——— *Local varieties and asymptotic equivalence*, **13**, 555.
Muldowney, J. S. *Linear systems of differential equations with periodic solutions*, **18**, 22.

Mullins, R. E. *The essential set of function algebras*, **18**, 271.
Munkholm, H. J. *Induced monomial representations, Young elements and metacyclic groups*, **19**, 453.
Munkres, James. *Obstructions to extending diffeomorphisms*, **15**, 297.
Murasugi, Kunio. *Non-amphicheirality of the special alternating links*, **13**, 771.
——— *On the center of the group of a link*, **16**, 1052; **18**, 1142.
Murphy, G. P. *Lines in a planar space*, **19**, 1106.
Musielak, J. See Bojanic, R.
Muwafi, Amin. See Hadlock E. H.
Myhill, John. *Note on degrees of partial functions*, **12**, 519.
——— *The converse of Moore's Garden-of-Eden theorem*, **14**, 685.

Nachbin, Leopoldo. *On the finite dimensionality of every irreducible unitary representation of a compact group*, **12**, 11.
Nadkarni, M. See Ditzian, Z.
Nadler, S. B., Jr. *A characterization of the differentiable submanifolds of* R^n, **17**, 1350; **19**, 1508.
Nagahara, Takasi. *A note on Galois theory of commutative rings*, **18**, 334.
Nagami, K. and Roberts, J. H. *Metric-dependent dimension functions*, **16**, 601.
Naito, T. *On a problem of Wolk in interval topologies*, **11**, 156.
Nakai, Mitsuru. *Finite interpolation for analytic functions with finite Dirichlet integrals*, **17**, 362.
——— *Existence of positive harmonic functions*, **17**, 365.
Nakano, Hidegoro. See Brown, Leon.
Namioka, I. *A substitute for Lebesgue's bounded convergence theorem*, **12**, 713.
——— *On a recent theorem by H. Reiter*, **17**, 1101.
Narain, Roop *The G-functions as unsymmetrical Fourier kernels*. I, **13**, 950.
——— *The G-functions as unsymmetrical Fourier kernels*. II, **14**, 18.
——— *The G-functions as unsymmetrical Fourier kernels*. III, **14**, 271.
Narasimhan, Raghavan. *Holomorphic mappings of complex spaces*, **11**, 800.
Nashed, M. Z. *A decomposition relative to convex sets*, **19**, 782.
——— See Kasriel, R. H.
Nash-Williams, C. St. J. A. *On Hamiltonian circuits in finite graphs*, **17**, 466.
Negrepontis, Stelios. *Absolute Baire sets*, **18**, 691.
——— See Comfort, W. W.
Nehari, Zeev. *Bounds for the solutions of a class of nonlinear partial differential equations*, **14**, 829.
——— See Duffin, R. J.
Nelson, Edward. *The distinguished boundary of the unit operator ball*, **12**, 994.
——— *A proof of Liouville's theorem*, **12**, 995.
Netanyahu, E. and Reichaw, M. *A theorem on infinite positive matrices*, **20**, 13.
Neugebauer, C. J. *Darboux functions of Baire class one and derivatives*, **13**, 838.
——— *Differentiability almost everywhere*, **16**, 1205.
——— See Goffman, Casper.
Neuwirth, J. and Newman, D. J. *Positive* $H^{1/2}$ *functions are constants*, **18**, 958.
Neuwirth, L. *The algebraic determination of the topological type of the complement of a knot*, **12**, 904.
——— *A remark on knot groups with a center*, **14**, 378.
——— *On Stallings fibrations*, **14**, 380.
Newman, D. J. $1-1+1-1+\cdots=\frac{1}{2}$, **11**, 440.

Newman, D. J. *Insertion of ± signs in e^x*, **11**, 444.
——— *Another proof of the minimax theorem*, **11**, 692.
——— *One-one polynomial maps*, **11**, 867.
——— *The nonexistence of projections from L^1 to H^1*, **12**, 98.
——— *Pseudo-uniform convexity in H^1*, **14**, 676.
——— *Uniqueness theorems for convolution-type equations*, **16**, 629.
——— *An L^1 extremal problem for polynomials*, **16**, 1287.
——— *Successive differences of bounded sequences*, **17**, 285.
——— *The distance from $U(Z)\cdot H^p$ to 1*, **19**, 252.
——— See Neuwirth, J.
Newman, D. J. and Raymon, L. *A class of curves on which polynomials approximate efficiently*, **19**, 595.
Newman, M. and Smart, J. R. *Note on a subgroup of the modular group*, **14**, 102.
Newman, M. F. *On subgroup commutators*, **14**, 724.
Newman, Morris. *Irrational power series*, **11**, 699.
——— *A note on modular groups*, **14**, 124.
——— *Normal subgroups of the modular group which are not congruence subgroups*, **16**, 831.
——— *Maximal normal subgroups of the modular group*, **19**, 1138.
——— See Marcus, Marvin.
Nielsen, R. M. See Brace, J. W.
Nishiura, Togo, *The Geöcze k-area and a cylindrical property*, **12**, 795.
——— *Semi-compact spaces and dimension*, **12**, 922.
Nitsche, J. C. C. *On differential equations of mode 2*, **16**, 902.
——— *Note on the nonexistence of minimal surfaces*, **19**, 1303.
Niven, Ivan. *Minkowski's theorem on nonhomogeneous approximation*, **12**, 992.
——— See Eggan, L. C.
Niven, Ivan and Zuckerman, H. S. *Lattice points in regions*, **18**, 364.
Nohel, J. A. See Levin, J. J.
Nomizu, Katsumi. *Holonomy, Ricci tensor and Killing vector fields*, **12**, 594.
Nomizu, Katsumi and Ozeki, Hideki. *The existence of complete Riemannian metrics*, **12**, 889.
Norman, Edward. *A discrete analogue of the Weierstrass transform*, **11**, 596.
——— See Wei, J.
Norman, R. Z. See Harary, Frank.
Norris, M. J. See Blum, J. R.
Novikoff, Albert. *A characterization of operators mapping a cone into its dual*, **16**, 356.
Novoa, L. G. *Ten axioms for three dimensional Euclidean geometry*, **19**, 146.
Nower, Leon. *On distributions with support at the origin*, **19**, 1043.
Nunke, R. J. *On direct products of infinite cyclic groups*, **13**, 66.
Nunnally, Ellard. *A factorization of stable homeomorphisms of E^n*, **19**, 387.
Nussbaum, A. E. *On a theorem by I. Glicksberg*, **13**, 645.
——— *On the reduction of C*-algebras*, **15**, 567.

Oberai, K. K. *Spectrum of spectral operator*, **19**, 325.
Oberg, R. J. *On the local existence of solutions of certain functional-differential equations*, **20**, 295.
Obrock, Arthur. *An inequality for certain schlicht functions*, **17**, 1250.
Odeh, F. *Note on differential operators with a purely continuous spectrum*, **16**, 363.
Oehmke, R. H. *On flexible power-associative algebras of degree two*, **12**, 151.

Oehmke, R. H. *On a class of Lie algebras*, **16**, 1107.
Ogawa, H. and Protter, M. H. *A lower bound for the first eigenvalue of second order elliptic operators*, **19**, 292.
Ogawa, Hajimu. *Lower bounds for solutions of hyperbolic inequalities*, **16**, 853.
——— *Lower bounds for solutions of differential inequalities in Hilbert space*, **16**, 1241.
Oikawa, Kôtaro. *Sario's lemma on harmonic functions*, **11**, 425.
——— *On the uniqueness of the prolongation of an open Riemann surface of finite genus*, **11**, 785.
——— See Tamura, Jirô.
O'Keefe, E. S. See Hillman, A. P.
——— See O'Keefe, K. B.
O'Keefe, K. B. *A symmetry theorem for the differential ideal* $[uv]$, **12**, 654.
——— *Unusual power products and the ideal* Ly^2, **17**, 753.
——— See Hillman, A. P.
O'Keefe, K. B. and O'Keefe, E. S. *The differential ideal* $[uv]$, **17**, 750.
Olsen, J. See Chacon, R. V.
Olubummo, A. *On the existence of an absolutely minimal norm in a Banach algebra*, **11**, 718.
——— *Weakly compact* $B^{\sharp}$*-algebras*, **14**, 905.
——— *A note on perturbation theory for semi-groups of operators*, **15**, 818.
O'Neil, Richard. *Two elementary theorems on the interpolation of linear operators*, **17**, 76.
O'Neill, Barrett. *Immersion of manifolds of nonpositive curvature*, **11**, 132.
——— *Isometric immersions which preserve curvature operators*, **13**, 759.
——— *Construction of Riemannian coverings*, **19**, 1278.
Onishi, H. *On cohomological triviality*, **18**, 1117.
Onuchic, Nelson. *On the Nachbin uniform structure*, **11**, 177.
——— *On the uniform stability of a perturbed linear functional differential equation*, **19**, 528.
Oppelt, J. A. *On p-mixed Abelian groups*, **18**, 344.
Oppenheim, A. *On the Diophantine equation* $x^3+y^3+z^3=x+y+z$, **17**, 493.
Ore, Oystein. *Sex in graphs*, **11**, 533.
——— *Addendum to "Sex in graphs,"* **12**, 510.
Orey, Steven. *Sums arising in the theory of Markov chains*, **12**, 847.
——— See Kingman, J. F. C.
Orland, G. H. *On a class of operators*, **15**, 75.
——— See Berberian, S. K.
Ornstein, A. J. *Rings with restricted minimum condition*, **19**, 1145.
Ornstein, Donald. *On the existence of stationary optimal strategies*, **20**, 563.
Osborn, Howard. *Intrinsic characterizations of tangent spaces*, **16**, 591.
——— *The Morse index theorem*, **18**, 759.
——— *Correction to my paper "The Morse index theorem,"* **20**, 337.
Osborn, J. M. *Commutative algebras satisfying an identity of degree four*, **16**, 1114.
——— *A norm on separable noncommutative Jordan algebras of degree 2*, **20**, 423.
Osofsky, B. L. *Cyclic injective modules of full linear rings*, **17**, 247.
——— *Noninjective cyclic modules*, **19**, 1383.
Ostrowski, A. M. *On some conditions for nonvanishing of determinants*, **12**, 268.
Outcalt, D. L. and Yaqub, Adil. *A generalization of Wedderburn's theorem*, **18**, 175.
Owen, Guillermo, *Discriminatory solutions of n-person games*, **17**, 653.
——— *n-person games with only* 1, $n-1$, *and n-person coalitions*, **19**, 1258.

Owings, J. C., Jr. *A canonical linear order for the maximal chains of a tree*, 20, 280.
Ozawa, Mitsuru. *Meromorphic functions on certain Riemann surfaces*, 16, 747.
Ozeki, Hideki. See Nomizu, Katsumi.

Padmanabhan, R. *Two identities for lattices*, 20, 409.
Page, S. S. *Rigidity of generalized uniserial and Frobenius algebras*, 20, 199.
Paige, E. C. *A generalization of a commutator theorem of Mikusinski*, 17, 1417.
Painter, Page, *Isomorphisms between semigroups of integers*, 18, 1100.
Pakshirajan, R. P. *A property of regular measures in locally compact Hausdorff spaces*, 12, 628.
Palais, R. S. *Extending diffeomorphisms*, 11, 274.
——— *Logarithmically exact differential forms*, 12, 50.
——— See Adler, R. L.
Palais, R. S. and Richardson, W. R., Jr. *Uncountably many inequivalent analytic actions of a compact group on R^n*, 14, 374.
Palais, R. S. and Stewart, T. E. *Torus bundles over a torus*, 12, 26.
Paley, Hiram. *On Galois subrings of a full ring of linear transformations*, 12, 941.
Palmer, Ed. See Harary, Frank.
Palmer, T. W. *Totally bounded sets of precompact linear operators*, 20, 101.
Pan, T. K. *Conformal vector fields in compact Riemannian manifolds*, 14, 653.
Papangelou, F. *A lemma on the Galton-Watson process and some of its consequences*, 19, 1469.
Pareigis, Bodo. *Cohomology of groups in arbitrary categories*, 15, 803.
Park, S. and Laush, G. *Knopp's core theorem and subsequences of a bounded sequence*, 13, 971.
Parker, E. T. *Nonextendibility conditions on mutually orthogonal latin squares*, 13, 219.
——— *Remarks on balanced incomplete block designs*, 14, 729.
Parry, William. *Ergodic and spectral analysis of certain infinite measure preserving transformations*, 16, 960.
——— *On the coincidence of three invariant σ-algebras associated with an affine transformation*, 17, 1297.
Parthasarathy, T. *A note on compound simple games*, 17, 1334.
——— *Product for simple games*. II, 20, 107.
Pasiencier, Samuel. *Homogeneous almost complex spaces of positive characteristic*, 15, 601.
Pasiencier, Samuel and Wang, Hsien-Chung. *Commutators in a semi-simple Lie group*, 13, 907.
Passman, D. S. *On groups with enough finite representations*, 14, 782.
——— *Character kernels of discrete groups*, 17, 487.
——— *A note on the action of P-groups on abelian groups*, 17, 915.
——— *On the semisimplicity of modular group algebras*, 20, 515.
——— See Lou, Betty.
Patty, C. W. *Homotopy groups of certain deleted product spaces*, 12, 369.
——— *A note on the homology of deleted product spaces*, 14, 800.
Payne, S. E. *Symmetric representations of nondegenerate generalized n-gons*, 19, 1331.
Paz, Azaria. *Definite and quasidefinite sets of stochastic matrices*, 16, 634.
Pearcy, Carl. *W*-algebras with a single generator*, 13, 831.
——— *On certain von Neumann algebras which are generated by partial isometries*, 15, 393.
——— *On commutators of operators on Hilbert space*, 16, 53.
——— See Brown, Arlen.

Pearcy, Carl. See Deckard, Don.
Peck, N. T. *A note on representing measures*, **17**, 863.
——— *Representation of functions in $C(X)$ by means of extreme points*, **18**, 133.
Peddicord, Richard. *The number of full sets with n elements*, **13**, 825.
Pederson, R. N. *On an inequality of Opial, Beesack and Levinson*, **16**, 174.
——— *A note on the local coefficient problem*, **20**, 345.
Pełczyński, A. *Some linear topological properties of separable function algebras*, **18**, 652.
Peleg, Bezalel. *On minimal separating collections*, **19**, 26.
Pellicciaro, E. J. *A compatibility theorem for two point boundary problems*, **19**, 746.
Peng, T. A. *Finite groups with pro-normal subgroups*, **20**, 232.
Pereyra, C. B. *An extension of a theorem of E. Stein*, **19**, 1396.
Persinger, C. A. *A characterization of tame 2-spheres in E^3*, **17**, 213.
Pervin, W. J. See Mrówka, S. G.
——— See Sieber, J. L.
Pervin, W. J. and Biersterfeldt, H. J., Jr. *Regular topologies posets*, **17**, 903.
Petersen, G. M. *Almost convergence and the Buck-Pollard property*, **11**, 469.
——— *Summability of a class of Fourier series*, **11**, 994.
——— See Burkill, H.
Peterson, D. C. *Extending functions to operate on proper classes*, **20**, 553.
Petersson, H. P. *Isotopisms of Jordan algebras*, **20**, 477.
Petrie, Ted. *The Eilenberg-Moore, Rothenberg-Steenrod spectral sequence for K theory*, **19**, 193.
Petro, J. W. *Some results on the asymptotic completion of an ideal*, **15**, 519.
Petryshyn, W. V. *On the generalized overrelaxation method for operation equations*, **14**, 917.
——— *On the inversion of matrices and linear operators*, **16**, 893.
Petty, C. M. *Surface area of a convex body under affine transformations*, **12**, 824.
Peyser, Gideon. *On the differentiability of solutions of symmetric hyperbolic systems*, **14**, 963.
Pfeffer, W. F. *A note on the lower derivative of a set function and semihereditary systems of sets*, **18**, 1020.
Pfeifer, G. L. *The Stone-Čech compactification of an irreducibly connected space*, **20**, 531.
Phelps, R. R. *A representation theorem for bounded convex sets*, **11**, 976.
——— *Extreme points of polar convex sets*, **12**, 291.
——— *A Banach space characterization of purely atomic measure spaces*, **12**, 447.
——— *The range of Tf for certain linear operators T*, **16**, 381.
——— *Čebyšev subspaces of finite dimension in L_1* **17**, 646.
——— See Cantor, D. G.
Phillips, R. C. *Interval clans with nondegenerate kernel*, **14**, 396.
Phillips, R. S. See Adams, J. F.
Pierce, R. S. *A note on free algebras*, **14**, 845.
Pierce, W. A. *Isomorphisms of Pickert-Moulton planes*, **19**, 976.
Pinl, M. *On affinely connected manifolds whose torsion can be transformed into constant components*, **11**, 505.
Piranian, G. *The derivative of a monotonic discontinuous function*, **16**, 243.
——— *The shape of level curves*, **17**, 1276.
——— *Bounded functions with large circular variation*, **19**, 1255.
Piranian, George, Shields, A. L. and Wells, J. H. *Bounded analytic functions and absolutely continuous measures*, **18**, 818.
Pitcher, T. S. *The asymptotic behavior of a decomposition due to Harzheim*, **19**, 938.
Pitman, Jane. See Darroch, J. N.

Pixley, A. F. *Distributivity and permutability of congruence relations in equational classes of algebras*, **14**, 105.
Plaat, Otto. *Linear difference operators on periodic functions*, **18**, 257.
——— *A note on asymptotic stability*, **19**, 1225.
Pless, Vera. *On Witt's theorem for non-alternating symmetric bilinear forms over a field of characteristic* 2, **15**, 979.
——— *On the invariants of a vector subspace of a vector space over a field of characteristic two*, **16**, 1062.
Plunkett, R. L. *Openness of the derivative of a complex function*, **11**, 671.
Pollak, Barth. *On the commutator subgroup of the orthogonal group over the 2-adic numbers*, **13**, 736.
Pollak, H. O. and Shepp, L. A. *The estimation of some determinants of Toeplitz-type*, **16**, 919.
Pollard, Harry. *The semi-group property of Poisson transformation and Snow's inversion formula*, **14**, 285.
——— *Some nonlinear Tauberian theorems*, **18**, 399.
Pommerenke, Ch. *On the hyperbolic capacity and conformal mapping*, **14**, 941.
Poole, J. T. *A note on variational methods*, **15**, 929.
——— *On starlike functions*, **19**, 495.
Porcelli, P. See Connell, E. H.
Porter, G. J. *Homotopical nilpotence of* S^3, **15**, 681.
Portmann, W. O. *Hausdorff-analytic functions of matrices*, **11**, 97.
——— *A sufficient condition for a matric function to be a primary matric function*, **11**, 102.
Posner, E. C. *Prime rings satisfying a polynomial identity*, **11**, 180.
——— *Differentiably simple rings*, **11**, 337.
——— *Summability-preserving functions*, **12**, 73.
——— See Rumsey, Howard, Jr.
Pour-El, M. B. *Gödel numberings versus Friedberg numberings*, **15**, 252.
Pousson, H. R. *Systems of Toeplitz operators on* H^2, **19**, 603.
Price, J. J. *On an inequality involving group characters*, **14**, 869.
——— *A density theorem for Walsh functions*, **18**, 209.
——— *On a theorem of Haar*, **18**, 1056.
——— *An algebraic characterization of certain orthonormal systems*, **19**, 268.
Price, Martin. *Variation convergence for Bernstein polynomials*, **19**, 551.
Prill, David. *Cones in complex affine space are topologically singular*, **18**, 178.
Protter, M. H. See Ogawa, H.
Pruitt, W. E. *Strong ratio limit property for R-recurrent Markov chains*, **16**, 196.
Pryce, J. D. *Weak compactness in locally convex spaces*, **17**, 148.
Pucci, Carlo. *Maximum and minimum first eigenvalues for a class of elliptic operators*, **17**, 788.
Pursell, L. E. *Rings of continuous functions on open convex subsets of* R^n, **19**, 581.
Putnam, C. R. *Absolute continuity of certain unitary and half-scattering operators*, **13**, 844.
Putnam, Hilary. *On hierarchies and systems of notations*, **15**, 44.
Putnam, Hilary and Smullyan, R. M. *Exact separation of recursively enumerable sets within theories*, **11**, 574.

Quigley, Frank. *Maximal subfields of an algebraically closed field not containing a given element*, **13**, 562.

Quillen, D. G. *The geometric realization of a Kan fibration is a Serre fibration*, **19**, 1499.
Quintas, L. V. See Supnick, Fred.
Quintas, L. V. and Supnick, Fred. *Semi-homogeneous functions*, **14**, 620.
——— *Extreme Hamiltonian circuits. Resolution of the convex-even case*, **16**, 1058.

Radjavi, Heydar. See Behzad, Mehdi.
Raghavendran, R. *Toeplitz-Hausdorff theorem on numerical ranges*, **20**, 284.
Rahman, Q. I. *On entire functions defined by a Dirichlet series: Correction*, **11**, 624.
——— *On asymmetric entire functions*, **14**, 507.
Raimi, R. A. *Convergence, density, and r-density of bounded sequences*, **14**, 708.
Rainwater, John. *Weak convergence of bounded sequences*, **14**, 999.
——— *A remark on regular Banach algebras*, **18**, 255.
Rajagopalan, M. *Ergodic properties of automorphisms of a locally compact group*, **17**, 372.
Rajeswara Rao, K. V. *Lindelöfian meromorphic functions*, **15**, 109.
——— *Remarks on the classification of Riemann surfaces*, **15**, 632.
——— *Imbedding closed Riemann surfaces in C^n*, **19**, 30.
Rakotch, E. *A note on contractive mappings*, **13**, 459.
Ramanujacharyulu, C. *A new general series of balanced incomplete block designs*, **17**, 1064.
Ramirez, D. E. *Weakly almost periodic functions and Fourier-Stieltjes transforms*, **19**, 1087.
Ramsay, R. T. *On compactification and structure of topological groups*, **20**, 585.
Randol, Burton and Rickert, Neil. *Functions whose higher powers are othogonal to a given function*, **18**, 495.
Rao, M. M. *Almost every Orlicz space is isomorphic to a strictly convex Orlicz space*, **19**, 377.
Rapaport, E. S. *Groups of order* 1, **15**, 828.
Ratliff, L. J., Jr. *Note on analytically unramified semi-local rings*, **17**, 274.
Ratti, J. S. *On high indices theorems*, **17**, 1001.
——— *Tauberian theorems for absolute summability*, **18**, 775.
——— *On strong Riesz summability factors of infinite series. I*, **18**, 959.
Rayburn, Marlon. *On the Borel fields of a finite set*, **19**, 885.
Raymon, L. See Newman, D. J.
Raymond, Frank. *The orbit spaces of totally disconnected groups of transformations on manifolds*, **12**, 1.
——— See Kwun, K. W.
Read, G. A. *On the location of singularities at the boundary of the domain of overconvergence*, **17**, 1258.
Reay, J. R. *A new proof of the Bonnice-Klee theorem* **16**, 585.
——— See Bonnice W. E.
Redheffer, R. M. *Differential and integral inequalities*, **15**, 715.
Ree, Rimhak. *Commutators in semi-simple algebraic groups*, **15**, 457.
Reich, Edgar. *A counterexample of Koebe's for slit mappings*, **11**, 970.
——— *Elementary proof of a theorem on conformal rigidity*, **17**, 644.
Reichaw, M. See Netanyahu, E.
Reichbach, M. *Remarks on a theorem of M. Altman*, **12**, 330.
——— *Fixed points and openness*, **12**, 734.
——— *The power of topological types of some classes of 0-dimensional sets*, **13**, 17.
——— *A note on absolute G_δ-spaces*, **14**, 806.

Reid, J. D. *A note on torsion free abelian groups of infinite rank*, **13**, 222.
——— *On quasi-decompositions of torsion free Abelian*, **13**, 550.
Reid, W. T. *Remarks on the Morse index theorem*, **20**, 339.
Reiner, Irving. *The nonuniqueness of irreducible constituents of integral group representations*, **11**, 655.
——— *Subgroups of the unimodular groups*, **12**, 173.
——— *On the number of irreducible modular representations of a finite group*, **15**, 810.
——— *Nilpotent elements in rings of integral representations*, **17**, 270.
Remage, Russell, Jr. *On minimal sets in the plane*, **13**, 41, 1000.
Rennison, J. F. *A note on the extension of associative products*, **17**, 1375.
Restrepo, R. A. *Some differential equations on closed manifolds*, **12**, 315.
Retherford, J. R. *A note on unconditional bases*. **15**, 899.
——— *A semishrinking basis which is not shrinking*, **19**, 766.
——— See Jones, O. T.
Reynolds, W. F. *Block idempotents of twisted group algebras*, **17**, 280.
Rhee, C. J. *Homotopy groups for cellular set-valued functions*, **19**, 874.
Rhoades, B. E. *Some Hausdorff matrices not of type* M, **15**, 361.
Rhodes, F. *On lifting transformation groups*, **19**, 905.
Rhodes, J. L. See Maurer, W. D.
Rice, J. R. See Hobby, C. R.
Rice, P. M. *Killing knots*, **19**, 254.
Richards, Ian. *On the Fourier inversion theorem for* R^1, **19**, 145.
Richardson, R. W., Jr. See Palais, R. S.
Richman, Fred. *Generalized quotient rings*, **16**, 794.
——— See Irwin, J. M.
Rickart, C. E. *The maximal ideal space of functions locally approximable in a function algebra*, **17**, 1320.
Rickert, N. W. *Convolution of* L^p *functions*, **18**, 762.
——— See Randol, Burton.
Rider, Daniel. *Translation-invariant Dirichlet algebras on compact groups*, **17**, 977.
Rieffel, M. A. *On the continuity of certain intertwining operators, centralizers, and positive linear functionals*, **20**, 455.
Rim, D. S. *An exact sequence in Galois cohomology*, **16**, 837.
——— See Buchsbaum, D. A.
Rinehart, G. S. *Note on the global dimension of a certain ring*, **13**, 341.
Rinehart, R. F. *Differentiable intrinsic functions of complex matrices*, **12**, 565.
Rinehart, R. F. and Wilson, J. C. *The relation between continuity and differentiability functions on algebras*, **14**, 134.
Riordan, John. *Enumerations for permutations in difference form*, **13**, 107.
Ritchie, R. W. See Leadley, J. D.
Ritter, W. E. *Notation systems and an effective fixed point property*, **17**, 390.
——— *Representability of partial recursive functions in formal theories*, **18**, 647.
Rivlin, T. J. See Adler, R. L.
Robbin, J. W. *On the existence theorem for differential equations*, **19**, 1005.
Roberts, J. B. *Polynomial identities*, **11**, 723.
——— *Some orthogonal functions connected with polynomial identities*. II, **15**, 127.
Roberts, J. H. *Realizability of metric-dependent dimensions*, **19**, 1439.
——— See Nagami, K.
Robertson, A. P. and Robertson, Wendy. *On the space of subsets of a uniform space*, **12**, 321.
Robertson, J. B. *On wandering subspaces for unitary operators*, **16**, 233.

Robertson, Lewis and Schreiber, B. M. *The additive structure of integer groups and p-adic number fields*, **19**, 1453.
——— See Leptin, H.
Robertson, M. S. *Convolutions of schlicht functions*, **13**, 585.
——— *Radii of star-likeness and close-to-convexity*, **16**, 847.
——— See Merkes, E. P.
Robertson, Wendy. See Robertson, A. P.
Robinson, C. E. *A note on Saalfrank's generalization of absolute retract*, **15**, 308.
Robinson, D. A. *A Bol loop isomorphic to all loop isotopes*, **19**, 671.
Robinson, D. J. S. *A note on finite groups in which normality is transitive*, **19**, 933.
Robinson, E. A. *Sums of stationary random variables*, **11**, 77.
Robinson, Julia. *Recursive functions of one variable*, **19**, 815.
——— *Finite generation of recursively enumerable sets*, **19**, 1480.
Robinson, R. L. *An estimate for the enumerative functions of certain sets of integers*, **17**, 232, 1474.
Robinson, S. M. *The intersection of the free maximal ideals in a complete space*, **17**, 468.
Rochberg, Richard. *The equation $(I-S)g=f$ for shift operators in Hilbert space*, **19**, 123.
Rockafellar, R. T. See Bronsted, A.
——— See Gale, David.
Rodabaugh, D. J. *Antiflexible algebras which are not power-associative*, **17**, 237.
Rodemich, E. See Garsia, A. M.
Rodin, Burton. *Reproducing kernels and principal functions*, **13**, 982.
——— *Extremal length of weak homology classes of Riemann surfaces*, **15**, 369.
——— *The sharpness of Sario's generalized Picard theorem*, **15**, 373.
Rodrigues, A. M. *Differential systems on fibered manifolds*, **18**, 580.
Roetman, E. L. *A Volterra equation with a very singular kernel*, **17**, 71.
Rogers, Hartley, Jr. *On universal functions*, **16**, 39.
Rogers, J. W., Jr. *An arc as the inverse limit of a single nowhere strictly monotone bonding map on* [0, 1], **19**, 634.
Rogers, Kenneth. *The Schnirelmann density of the squarefree integers*, **15**, 515.
Rohatgi, V. K. *On convergence rates in the law of large numbers for weighted sums of independent random variables*, **20**, 570.
Roitberg, Joseph. *On the* PL *noninvariance of the span of a smooth manifold*, **20**, 575.
Rolf, H. L. *The free modular lattice, $FM(2+2+2)$, is infinite*, **17**, 960.
Rolfsen, Dale, See Martin, Joseph.
Rooney, P. G. *On the representation of sequences as Fourier coefficients*, **11**, 762.
Roos, B. W. *Note on a theorem of E. A. Robinson on sums of stationary random variables*, **12**, 880.
Roos, B. W. and Sangren, W. C. *Spectra for a pair of singular first order differential equations*, **12**, 468.
Rose, G. F. *Output completeness in sequential machines*, **13**, 611.
Rose, N. J. *On the eigenvalues of a matrix which commutes with its derivative*, **16**, 752.
Roselle, D. P. *Permutations by number or rises and successions*, **19**, 8.
Rosen, Michael. *Two theorems on Galois cohomology*, **17**, 1183.
——— See Brumer, Armand.
Rosen, R. H. *Decomposing 3-space into circles and points*, **11**, 918.
——— *Stellar neighborhoods in polyhedral manifolds*, **14**, 401.
Rosenberg, Alex. See Hochschild, G. P.
Rosenblatt, M. See Heble, M.
Rosenblum, Marvin. *Self-adjoint Toeplitz operators and associated orthonormal functions*, **13**, 590.

Rosenblum, Marvin. *Some Hilbert space extremal problems*, **16**, 687.
——— *The operator equation $BX-XA+Q$ with selfadjoint A and B*, **20**, 115.
Rosenfeld, M. *On a problem of C. E. Shannon in graph theory*, **18**, 315.
Rosenlicht, Maxwell. *Toroidal algebraic groups*, **12**, 984.
——— *On a result of Baer*, **13**, 99.
——— See Bialynicki-Birula, Andrzej.
Rosenstein, G. M., Jr. *A further extension of Lebesgue's covering theorem*, **15**, 683.
Rosenthal, Peter. *A note on unicellular operators*, **19**, 505.
——— *Completely reducible operators*, **19**, 826.
Rosenzweig, S. M. *On the number of inequivalent binary unimodular forms*, **17**, 948.
Ross, K. A. *Extending characters on semigroups*, **12**, 988.
Rossi, Hugo. *A generalization of a theorem of Hans Lewy*, **19**, 436.
Rota, Gian-Carlo. *On the classification of periodic flows*, **13**, 659.
——— *On the maximal ergodic theorem for Abel-limits*, **14**, 722.
Roth, R. *Flag-transitive planes of even order*, **15**, 485.
Rothaus, O. S. *Unitary matrices as boundary values of analytic functions*, **17**, 349.
——— *Order isomorphisms of cones*, **17**, 1284.
Rothenberg, Melvin. *The J functor and the nonstable homotopy groups of the unitary groups*, **15**, 264.
Rothman, N. J. *Linearly quasi-ordered compact semigroups*, **13**, 352.
Rotkiewicz, A. *On the numbers $\phi(a^n \pm b^n)$*, **12**, 419.
Rotman, J. J. *A note on completions of modules*, **11**, 356.
Rourke, C. P. *Covering the track of an isotopy*, **18**, 320.
Rousseau, G. *Completeness in finite algebras with a single operation*, **18**, 1009.
Rovnyak, James. *Ideals of square summable power series*, **13**, 360.
——— *Ideals of square summable power series. II*, **16**, 209.
Roy, Prabir. See Blakley, G. R.
Royster, W. C. *A Poisson integral formula for the ellipse and some applications*, **15**, 661.
——— See Cowling, V. F.
Rubel, L. A. *A complex-variables proof of Hölder's inequality*, **15**, 999.
——— See Jerrard, R. P.
Rubinstein, Zalman. *Some inequalities for polynomials and their zeros*, **16**, 72.
Rudin, M. E. *A technique for constructing examples*, **16**, 1320.
——— *A new proof that metric spaces are paracompact*, **20**, 603.
Rudin, Walter, *Projections on invariant subspaces*, **13**, 429.
——— *An arithmetic property of Riemann sums*, **15**, 321.
——— *A converse to the high indices theorem*, **17**, 434.
——— *Modifications of Fourier transforms*, **19**, 1069.
——— See deLeeuw, Karel.
——— See Jerison, Meyer.
Rumsey, Howard, Jr. and Posner, E. C. *On a class of exponential equations*, **15**, 974.
Rushfield, Norman. *Inner factors and Blaschke products*, **17**, 572.
Russo, B. *Linear mappings of operator algebras*, **17**, 1019.
Ruston, A. F. *A note on the greatest crossnorm*, **13**, 828.
Rutledge, Dorothy. *A generator for a semigroup of nonlinear transformations*, **20**, 491.
Rutter, E. A., Jr. *A remark concerning quasi-Frobenius rings*, **16**, 1372.
Ryan, Robert. *Representative sets and direct sums*, **15**, 387.
Ryff, J. V. *Extreme points of some convex subsets of $L^1(0, 1)$*, **18**, 1026.
Rygg, P. T. *On minimal sets of generators of purely inseparable field extensions*, **14**, 742.

Saalfrank, C. W. *A generalization of the concept of absolute retract*, **12**, 374.

Sachs, David. *Identities in finite partition lattices*, 12, 944.
Sacks, G. E. *A simple set which is not effectively simple*, 15, 51.
——— *On a theorem of Lachlan and Martin*, 18, 140.
Sacksteder, Richard. *A remark on equipartitioning and metric transitivity*, 14, 153.
Saeki, Sadahiro. *On norms of idempotents*. II, 19, 367.
——— *On norms of idempotents*, 19, 600.
Sakai, Shôichirô. *On pure states of C^*-algebras*, 17, 86.
——— *On type I C^*-algebras*, 18, 861.
——— *On the hyperfinite II_1-factor*, 19, 589.
Salehi, Habib. *A transformation theorem on spectral measure*, 18, 610.
Salzer, H. E. *A multi-point generalization of Newton's divided difference formula*, 13, 210.
Samelson, Hans. *A note on the Bockstein operator*, 15, 450.
Sánchez, D. A. *On extremals of composite variational problems*, 19, 555.
Sanders, B. L. *Decompositions and reflexivity in Banach spaces*, 16, 204.
——— *On the existence of Schauder decompositions in Banach spaces*, 16, 987.
Sanderson, D. E. *Isotopy in 3-manifolds*. III. *Connectivity of spaces of homeomorphisms*, 11, 171.
Sandler, Reuben. *Some theorems on the automorphism groups of planar ternary rings*, 15, 984.
——— *The collineation groups of free planes*. II: *A presentation for the group G_2*, 16, 181.
Sandomierski, F. L. *Nonsingular rings*, 19, 225.
Sangren, W. C. See Roos, B. W.
Sankoff, D. See Dawson, D. A.
Sansone, F. J. *The summation of certain series of infinite regressive isols*, 16, 1135.
Santaló, L. A. *Horospheres and convex bodies in hyperbolic space*, 19, 390.
Sanwal, J. C. *On complete locally euclidean spaces*, 19, 1183.
Sato, Daihachiro. *A simple example of a transcendental entire function that together with all its derivatives assumes algebraic values at all algebraic points*, 14, 996.
Satyanarayana, M. *Local quotient rings*, 19, 1313.
Saworotnow, P. P. *On a realization of a complemented algebra*, 15, 964, 1417.
——— *Discrete complemented algebra*, 17, 499.
Sawyer, S. *Some topological properties of the function $n(y)$*, 18, 35.
Saxena, R. K. *An inversion formula for a kernel involving a Mellin-Barnes type integral*, 17, 771.
——— *On the formal solution of dual integral equations*, 18, 1.
Scarborough, C. T. *Closed graphs and closed projections*, 20, 465.
Schaal, Werner. *On the expression of a number as the sum of two squares in totally real algebraic number fields*, 16, 529.
Schaefer, H. H. *On the point spectrum of positive operators*, 15, 56.
Schaefer, Paul. *Almost convergent and almost summable sequences*, 20, 51.
Schafer, J. A. *The dual of the flabby is the bar*, 16, 594.
Schafer, R. D. *On a class of quadratic algebras*, 13, 187.
Schäffer, J. J. *Proof of a conjecture about measurable sets on the real line*, 13, 134.
——— *More about invertible operators without roots*, 16, 213.
Schaufele, C. B. *Kernels of free abelian representations of a link group*, 18, 535.
Scheick, J. T. *Polynomial approximation of functions analytic in a disk*, 17, 1238.
Schenkman, Eugene. See Auslander, L.
Schenkman, Eugene and Scott, W. R. *A generalization of the Cartan-Brauer-Hua theorem*, 11, 396.

Schild, A. See Gary, E.
Schlesinger, E. C. *On transversals of simply connected regions*, **13**, 466.
Schmaedeke, W. W. and Sell, G. R. *The Gronwall inequality for modified Stieltjes integrals*, **19**, 1217.
Schmetterer, L. *Some theorems on the Fourier analysis of positive definite functions*, **16**, 1141.
Schmidt, W. M. *Continuous functions defined on product-spaces*, **12**, 918.
Schneider, Rolf. *A note on branch points of minimal surfaces*, **17**, 1254.
Schneider, W. J. See Barth, K. F.
Schober, Glenn. *Neumann's Lemma*, **19**, 306.
Schori, R. M. *A universal snake-like continuum*, **16**, 1313.
Schrader, Keith. *A note on second order differential inequalities*, **19**, 1007.
——— See Jackson, Lloyd.
Schreiber, B. M. See Robertson, Lewis.
Schreiber, M. *On the spectrum of a contraction*, **12**, 709.
Schue, J. R. *The structure of hyperreducible triangular algebras*, **15**, 766.
——— *Symmetry for the enveloping algebra of a restricted Lie algebra*, **16**, 1123.
Schultz, M. H. *A generalization of the Lax equivalence theorem*, **17**, 1034.
Schuske, Georgellen and Thron, W. J. *Infinite radicals in the complex plane*, **12**, 527.
Schützenberger, M. P. *On a theorem of R. Jungen*, **13**, 885.
——— *On a factorisation of free monoids*, **16**, 21.
——— *On products of finite dimensional stochastic matrices*, **18**, 850.
Schuur, J. D. *The existence of proper solutions of a second order ordinary differential equation*, **17**, 595.
——— *The asymptotic behavior of a solution of the third order linear differential equation*, **18**, 391.
——— *Correction to "The existence of proper solutions of a second order ordinary differential equation,"* **19**, 312.
Schwabauer, Robert. *A note on commutative semigroups*, **20**, 503.
Schwartz, A. J. *On certain conditions for the existence of invariant linear functionals*, **12**, 857.
Scott, W. R. *Maximal fields disjoint from finite sets*, **19**, 1366.
——— See Schenkman, Eugene.
Scott, W. T. See Merkes, E. P.
Seall, Robert and Wetzel, Marion. *Quadratic forms and chain sequences*, **15**, 729.
Seebeck, C. L. III. See Bryant, J. L.
Seeley, R. T. *Extension of C^c functions defined in a half space*, **15**, 625.
Seever, G. L. *A peculiar Banach function space*, **16**, 662.
——— See Hasumi, Morisuke.
Segal, S. L. *A Tauberian relative of the Landau-Ingham Tauberian theorem*, **20**, 287.
Seiden, Esther. *A supplement to Parker's "Remarks on balanced incomplete block designs,"* **14**, 731.
Seidman, T. *Stability for inhomogeneous difference schemes*, **12**, 778.
Seifert, George. *Almost periodic solutions for systems of differential equations near points of nonlinear first approximation*, **11**, 429.
Seitz, Gary. *Finite groups having only one irreducible representation of degree greater than one*, **19**, 459.
Selden, John. *A note on compact semirings*, **15**, 882.
——— *Left zero simplicity in semirings*, **17**, 694.
Selden J. and Madison, B. *Clans on group-supporting spaces*, **18**, 540.

Sell, G. R. *Periodic solutions of fourth-order differential equations*, **17**, 808.
——— *Correction to "Periodic solutions of fourth-order differential equations,"* **18**, 243.
——— See Schmaedeke, W. W.
Sen, R. N. *On conformally-flat Riemannian space of class one*, **17**, 880.
Senechalle, D. A. *A characterization of inner product spaces*, **19**, 1306.
Serrin, James. *Strong convergence in a product space*, **13**, 651.
Sewell, W. E. *The polynomial derivative at a zero angle*, **13**, 224.
Shah, G. M. *On the zeros of Van Vleck polynomials*, **19**, 1421.
Shah, S. M. *On the order of the difference of two meromorphic functions*, **12**, 234, 1000.
——— *On the absolute harmonic summability of Fourier series*, **13**, 244.
——— *Trigonometric series with quasi-monotone coefficients*, **12**, 266.
——— *Entire functions of bounded index*, **19**, 1017.
——— See Edrei, Albert.
——— See Kurtz, L. C.
Shahin, J. K. *Some integral formulas for closed hypersurfaces in Euclidean space*, **19**, 609.
Shapiro, H. L. See Alo, R. A.
Shapiro, H. S. *A remark concerning Littlewood's Tauberian theorem*, **16**, 258.
Shapiro, V. L. *The circulation of vector fields*, **14**, 818.
——— *$U(\epsilon)$-sets for Walsh series*, **16**, 867.
——— *The approximate divergence operator*, **20**, 55.
Sharma, P. L. *On the sequence of Fourier coefficients*, **15**, 337.
Sharp, Henry, Jr. *Quasi-orderings and topologies on finite sets*, **17**, 1344.
Shell, D. L. *On the convergence of infinite exponentials*, **13**, 678.
Shepp, L. A. See Pollak, H. O.
Sher, R. B. *A note on an example of Stallings*, **19**, 619.
——— *Concerning wild Cantor sets in E^3*, **19**, 1195.
Sherman, Thomas. *Representations of Lie algebras by normal operators*, **16**, 1125.
——— *Generalizations of a property of Tchebycheff polynomials*, **19**, 473.
Sheth, I. H. *On hyponormal operators*, **17**, 998.
Shields, A. L. *On fixed points of commuting analytic functions*, **15**, 703.
——— See Piranian, George.
Shinbrot, Marvin. *A class of difference kernels*, **13**, 399.
——— *Note on a nonlinear eigenvalue problem*, **14**, 552.
——— *Asymptotic behavior of solutions of abstract wave equations*, **19**, 1403.
Shisha, O. See Walsh, J. L.
Shisha, O. and Mond, B. *The rapidity of convergence of the Hermite-Fejér approximation to functions of one or several variables*, **16**, 1269.
Shockley, J. E. See Brauer, Alfred.
Shoenfield, J. R. *An uncountable set of incomparable degrees*, **11**, 61.
Showalter, D. *Representation and computation of the pseudoinverse*, **18**, 584.
Shukla, U. *A relative cohomology for associative algebras*, **15**, 461.
Shult, E. E. *A note on splitting in solvable groups*, **17**, 318.
——— *Some analogues of Glauberman's Z^*-theorem*, **17**, 1186.
Sibner, L. M. *A remark on the question of uniqueness for the Tricomi problem*, **19**, 541.
Sibner, R. J. *Hyperbolic generators for Fuchsian groups*, **17**, 963.
Sibuya, Yasutaka. *Stokes multipliers of subdominant solutions of the differential equation $y''-(x^3+\lambda)y=0$*, **18**, 238.
Siciak, Jozef. *A note on functions of several complex variables*, **13**, 686.
Sidney, S. J. and Stout, E. L. *A note on interpolation*, **19**, 380.

Sieber, J. L. and Pervin, W. J. *Connectedness in syntopogeneous spaces*, **15**, 590.
Sigillito, V. G. See Kuttler, J. R.
Silverman, Edward. *Geodesics and Lebesgue area*, **15**, 775.
——— *Kirzbraun's theorem and Kolmogorov's principle*, **17**, 166.
——— *Equicontinuity and n-length*, **20**, 483.
Silverman, R. J. See Bonnice, W. E.
Simon, Hermann. *Artinian and noetherian hypercentral groups*, **17**,1407.
Simpson, Harold. *On F. Supnick's six-conic theorem*, **12**, 931.
Sinclair, A. M. *Continuous derivations on Banach algebras*, **20**, 166.
Sine, R. C. *On a paper of Phelps*, **18**, 484.
——— *On convex combinations of Blaschke products*, **18**, 571.
Singbal- Vedak, K. *A note on semigroups of operators on a locally convex space*, **16**, 696.
Singh, Y. P. *The asymptotic behavior of solutions of linear third order differential equations*, **20**, 309.
Sinkhorn, Richard. *Factor sets for doubly stochastic operators on a Hilbert space*, **16**, 692.
Sion, Maurice. *Topological and measure theoretic properties of analytic sets*, **11**, 769, 1000.
——— *Continuous images of Borel sets*, **12**, 385.
Sioson, F. M. *Free-algebraic characterizations of primal and independent algebras*, **12**, 435.
Siry, J. W. See Hall, D. W.
Sitaram, K. *The quaternion group in plane geometry*, **19**, 857.
Siu, Yum-Tong. *A note on Cartan's Theorems* A *and* B, **18**, 955.
——— *Hilbert Nullstellensatz in global complex-analytic case*, **19**, 296.
——— *Extension of coherent analytic subsheaves*, **19**, 1262.
Slater, M. *The open case for simple alternative rings*, **19**, 712.
Small, L. W. *A change of rings theorem*, **19**, 662.
Smart, J. R. See Newman, M.
Smiley, M. F. *Real Hilbert algebras with identity*, **16**, 440.
——— *Inequalities related to Lidskiĭs*, **19**, 1029.
Smith, H. A. *Tensor products of locally convex algebras*, **17**, 124, 1142.
Smith, J. C., Jr., *Characterizations of metric-dependent dimension functions*, **19**, 1264.
Smith, John. *A remark on class numbers of number field extensions*, **20**, 388.
Smith, K. P. and Wright, F. M. *Existence conditions for the Lane integral*, **18**, 1067.
Smith, Larry. *Cohomology of* $\Omega(G/U)$, **19**, 399.
Smithson, R. E. *Changes of topology and fixed points for multi-valued functions*, **16**, 448.
Smoke, William. *Commutativity of the invariant differential operators on a symmetric space*, **19**, 222.
Smorodinsky, Meir. *The capacity of a general noiseless channel and its connection with Hausdorff dimension*, **19**, 1247.
Smullyan, R. M. *Extended canonical systems*, **12**, 440.
——— *Effectively simple sets*, **15**, 893.
——— See Putnam, Hilary.
Smythe, N. See Fox, R. H.
Snapper, Ernst. *Injective modules under change of rings*, **16**, 788.
Snyder, A. K. *On generating heavy points with positive matrices*, **19**, 973.
Snyder, L. E. *The Baire classification of ordinary and approximate partial derivatives*, **17**, 115.
——— *Approximate Stolz angle limits*, **17**, 416.
——— *Bi-arc boundary functions*, **18**, 808.

Sobczyk, Andrew. *Convex polygons*, **15**, 438.
Solomon, Louis. *On the sum of the elements in the character table of a finite group*, **12**, 962.
Soni, Kusum. *Some relations associated with an extension of Koshliakov's formula*, **17**, 543.
Sorgenfrey, R. H. See Berri, M. P.
Spanier, E. H. See Ginsburg, Seymour.
——— See Hilton, P. J.
Specker, E. F. See Gaifman, Haim.
Spicer, D. Z. *Semisimplicity of group algebras of vector-valued functions*, **19**, 573.
Spira, Robert. *Approximate functional approximations and the Riemann hypothesis*, **17**, 314.
——— *The nonvanishing of the Bernoulli polynomials in the critical strip*, **17**, 1466.
Spitzer, F. and Widom, H. *The circumference of a convex polygon*, **12**, 506.
Sprecher, D. A. *A representation theorem for continuous functions of several variables*, **16**, 200.
——— *On the structure of representations of continuous functions of several variables as finite sums of continuous functions of one variable*, **17**, 98.
Spring, R. F. *Lattice isomorphisms of finite non-abelian groups of exponent p*, **14**, 407.
Srinivasacharyulu, K. *On bounded domains*, **19**, 171.
Srinivasan, T. P. *Simply invariant subspaces and generalized analytic functions*, **16**, 813.
Srinivasan, T. P. and Wang, Ju-kwei. *On the maximality theorem of Wermer*, **14**, 997.
——— *On closed ideals of analytic functions*, **16**, 49.
Srivastava, K. N. *A class of integral euqations involving ultraspherical polynomials as kernel*, **14**, 932; **15**, 1000.
——— *Inversion integrals involving Jacobi's polynomials*, **15**, 635.
——— *On dual series relations involving series of generalized Bateman K-functions*, **17**, 796.
Srivastava, R. S. L. *On the order of integral functions defined by Dirichlet series*, **12**, 702.
Stafney, J. D. *An unbounded inverse property in the algebra of absolutely convergent Fourier series*, **18**, 497.
Stallard, F. W. *Functions of bounded variation as solutions of differential systems*, **13**, 366.
Stamm, E. See Greub, W.
Stampfli, J. G. *Roots of scalar operators*, **13**, 796.
Standish, Charles. *A real inversion formula for a class of convolution transforms*, **13**, 394.
Stanek, Peter. *Concerning a theorem of L. K. Hua and I. Reiner*, **14**, 751.
Stanley, R. L. *The axiom for connected sets*, **12**, 442.
——— *Natural deduction, inference, and consistency*, **16**, 367.
Staples, E. B. *A short and elementary proof that a product of spheres is parallelizable if one of them is odd*, **18**, 570.
Stark, H. M. *On the asymptotic density of the k-free integers*, **17**, 1211.
Stearns, R. E. *On the axioms for a cooperative game without side payments*, **15**, 82.
Steen, L. A. *On uniform approximation by rational functions*, **17**, 1007.
Stein, F. M. See Huffstutler, R. G.
Stein, M. L. *Erratum to "Sufficient conditions for the convergence of Newton's method in complex Banach spaces,"* **13**, 1000.
Stein, S. K. *Finite models of identities*, **14**, 216.
——— See Chakerian, G. D.
Stein, Sherman. See Erdös, Paul.

Steinberg, Robert. *Complete sets of representations of algebras*, 13, 746.
Steiner, A. K. *Complementation in the lattice of T_1-topologies*, 17, 884.
Steiner, A. K. and Steiner, E. F. *A T_1-complement for the reals*, 19, 177.
Steiner, E. F. See Steiner, A. K.
Stepp, J. W. *A note on maximal locally compact semigroups*, 20, 251.
Sterling, N. J. *Prime $(-1, 1)$ rings with idempotent*, 18, 902.
Stewart, D. G. *A note on a cellularity theorem by Doyle*, 18, 1076.
Stewart, T. E. *On groups of diffeomorphisms*, 11, 559.
——— See Palais, R. S.
Stiel, E. F. *On immersions with singular second fundamental form operators*, 17, 699.
——— *Immersions into manifolds of constant negative curvature*, 18, 713.
Stiles, W. J. *A remark on the intersection of shells*, 19, 831.
——— *On inversions in normed linear spaces*, 20, 505.
Stoll, W. See Bojanic, R.
Stoltenberg, R. A. *A completion for a quasi uniform space*, 18, 864.
Stolzenberg, Gabriel. *The maximal ideal space of the functions locally in a function algebra*, 14, 342.
Stone, A. H. *Absolute F_σ spaces*, 13, 495.
——— *A note on paracompactness and normality of mapping spaces*, 14, 81.
Stone, A. P. *Generalized conservation laws*, 18, 868.
Stone, Charles. *Weak convergence of stochastic processes defined on semi-infinite time intervals*, 14, 694.
Stoneham, R. G. *The reciprocals of integral powers of primes and normal numbers*, 15, 200.
Stong, R. E. *Some global properties of hypersurfaces*, 11, 126.
——— *Some characterizations of Riemann N-spheres*, 11, 945.
——— *Some differential geometric properties of submanifolds of Euclidean spaces*, 12, 343.
——— *Relations among Stiefel Whitney classes*, 15, 151.
——— *On the squares of the oriented manifolds*, 17, 706.
——— *Stationary point free group actions*, 18, 1089.
Storer, J. See Turyn, R.
Storey, C. R. *Threads without idempotents*, 12, 814.
Størmer, Erling. *A characterization of pure states of C*-algebras*, 19, 1100.
Stout, E. L. *Interpolation on finite open Riemann surfaces*, 18, 274.
——— See Sidney, S. J.
Strang, Gilbert. *Approximating semigroups and the consistency of difference schemes*, 20, 1.
Strang, W. G. *On the Kantorovich inequality*, 11, 468.
Stratopoulos, G. M. and Wylie, C. R., Jr. *The uniqueness of a certain line involution*, 19, 1283.
Straus, E. G. *On a problem in the theory of partitions*, 13, 192.
Strauss, Aaron. *On the stability of a perturbed nonlinear system*, 17, 803.
Strauss, D. P. *Extremally disconnected spaces*, 18, 305.
Strauss, W. A. *On the solutions of abstract nonlinear equations*, 18, 116.
Strichartz, R. S. *Isomorphisms of group algebras*, 17, 858.
Stringall, R. W. *A problem on endomorphisms of primary Abelian groups*, 17, 742.
Struik, R. R. *Notes on a paper by Sanov. II*, 12, 758.
Stuth, C. J. *A generalization of the Cartan-Brauer-Hua Theorem*, 15, 211.
Sucheston, Louis. See Klimko, E. M.

Sudler, Culbreth, Jr. *Two algebraic identities and the unboundedness of a restricted partition function*, **15**, 16, 1000.
——— *A direct proof of two theorems on two-line partitions*, **16**, 161, 558.
Sundaresan, K. *Orlicz spaces isomorphic to strictly convex spaces*, **17**, 1353.
Sunyer i Balaguer, F. *On entire functions defined by a Dirichlet series*, **11**, 621.
——— *A theorem on overconvergence*, **12**, 495, 1000.
Supnick, Fred. *A theorem concerning six points*, **11**, 498.
——— *On a quadratic diophantine inequality*, **12**, 164.
——— *Contiguous sphere clusters. I. Isomorphic chains*, **12**, 801.
——— See Cohen, H. J.
——— See Quintas, L. V.
Supnick, Fred and Kesten, J. F. *On the rational triangulation of a circle*, **13**, 768.
Supnick, Fred and Quintas, L. V. *Extreme Hamiltonian circuits. Resolution of the convex-odd case*, **15**, 454.
Suryanarayan, E. R. *The geometry of streamlines in hydromagnetic fluid flows when the magnetic field is along a fixed direction*, **16**, 90.
Suryanarayana, D. *On odd perfect numbers. II*, **14**, 896.
——— *On odd perfect numbers. III*, **18**, 933.
Suyemoto, L. and Waltman, P. *Extension of a theorem of A. Wintner*, **14**, 970.
Suzuki, Satoshi. *On the flatness of complete formally projective modules*, **19**, 919.
Swan, R. G. *The nontriviality of the restriction map in the cohomology of groups*, **11**, 885.
——— *An application of graph theory to algebra*, **14**, 367.
——— *Representations of polycyclic groups*, **18**, 573.
Swanson, C. A. *Enclosure theorems for eigenvalues of elliptic operators*, **17**, 18.
——— *A comparison theorem for elliptic differential equations*, **17**, 611.
——— See Clark, Colin.
Swartz, B. K. and Wendroff, B. *Continued function expansions of real numbers*, **11**, 634.
Swift, W. C. *Doubly iterated matrix methods of summability*, **12**, 671.
Swingle, P. M. *The existence of widely connected and biconnected semigroups*, **11**, 243.
——— *Widely connected and biconnected semigroups*, **11**, 249.
Swokowski, E. W. See Feller, E. H.
Szász, F. *The sharpening of a result concerning primitive ideals of an associative ring*, **18**, 910.
Szego, Peter. See Lorch, Lee.
Szeptycki, P. *On restrictions of functions in the spaces* $P^{\alpha,p}$ *and* $B^{\alpha,p}$, **16**, 341.
Szüsz, P. See Kennedy, P. B.

Taam, C. T. *Compact linear transformations*, **11**, 39.
Tachikawa, Hiroyuki. *A characterization of* QF-3 *algebras*, **13**, 701.
——— *Correction to "A characterization of* QF-3 *algebras,"* **14**, 995.
——— *A generalization of quasi-Frobenius rings*, **20**, 471.
Taibleson, M. H. *A note on indefinite integrals*, **16**, 923.
——— *Fourier coefficients of functions of bounded variation*, **18**, 766.
Takaguchi, M. *Commuting projections with assigned ranges*, **20**, 368.
Takesaki, Masamichi. *Remarks on the reduction theory of von Neumann algebras*, **20**, 434.
Tamura, Jirô, Oikawa, Kôtaro and Yamazaki, Keijiro. *Examples of minimal parallel slit domains*, **17**, 283.
Tamura, T. See Chrislock, J. L.

Tamura, Takayuki, Merkel, R. B. and Latimer, J. F. *The direct product of right singular semigroups and certain groupoids*, **14**, 118.
——— *Correction and supplement to the paper "The direct product of right singular semigroups and certain groupoids,"* **16**, 841.
Tanaka, Chuji. *On the boundary values of Blaschke products and their quotients*, 14, 472.
Tang, S. C. *An improvement and generalization of Bellman-Shapiro's theorem on a problem in additive number theory*, **14**, 199.
Targonski, G. I. *On Carleman integral operators*, **18**, 450.
Taussky, O. and Wielandt, H. *Linear relations between higher additive commutators*, 13, 732.
Taylor, D. H. *Circumscribing cubes of a hyperellipsoid*, **16**, 1289.
Taylor, J. L. *The Shilov boundary of the algebra of measures on a group*, **16**, 941.
Taylor, M. E. *Functions of several self-adjoint operators*, **19**, 91.
——— *Fourier series on compact Lie groups*, **19**, 1103.
Teller, J. R. *On partially ordered groups satisfying the Riesz interpolation property*, **16**, 1392.
Thaler, A. I. *On the Newton polytope*, **15**, 944.
Thomas, E. S., Jr. *Some characterizations of functions of Baire class* 1, **17**, 456.
——— See Ball, B. J.
——— See Isbell, J. R.
Thomas, Emery. *A note on certain polynomial algebras*, **11**, 410.
——— *The torsion Pontryagin classes*, **13**, 485.
——— *Submersions and immersions with codimension one or two*, **19**, 859.
Thomas, Gomer. See Montague, Stephen.
Thompson, A. C. *On certain contraction mappings in a partially ordered vector space*, **14**, 438.
Thompson, Maynard. *Complex polynomial interpolation to continuous boundary data*, **20**, 327.
Thornton, M. C. *On closing manifolds fibered over surfaces*, **19**, 890.
Thorp, Edward. *Best possible triangle inequalities for statistical metric spaces*, **11**, 734.
——— See Goldberg, Seymour.
Thorp, Edward and Whitley, Robert. *The strong maximum modulus theorem for analytic functions into a Banach space*, **18**, 640.
Thorpe, J. A. *Parallelizability and flat manifolds*, **16**, 138.
Thron, W. J. See Hillam, K. L.
——— See Schuske, Georgellen.
Tindell, Ralph. *Some wild imbeddings in codimension two*, **17**, 711.
Tits, J. *A theorem on generic norms of strictly power associative algebras*, **15**, 35.
Tobey, M. D. *A two-parameter homogeneous mean value*, **18**, 9.
——— See Carlson, S. C.
Tobin, Seán. *Simple bounds for Burnside p-groups*, **11**, 704.
Toda, Hirosi. *Note on cohomology ring of certain spaces*, **14**, 89.
Todd, Christopher. *Stone-Weierstrass theorems for the strict topology*, **16**, 654.
Tomastik, E. C. *Oscillation of nonlinear matrix differential equations of second order*, **19**, 1427.
Tomber, M. L. See Blair, R. L.
Tomić, M. *A note on lacunary Fourier series*, **11**, 460.
——— *A remark on the Hardy-Littlewood convergence test for Fourier series*, **13**, 671.
——— *A convergence criterion for Fourier series*, **15**, 612.

Tomiyama, Jun. *A remark on representations of* CCR *algebras*, **19**, 1506.
Tomonaga, Yasurô. *A generalization of Hirzebruch polynomial and cobordism decomposition*, **12**, 573.
——— *Integrality of a certain kind of genus*, **12**, 821.
——— *Certain problems of differentiable imbedding*, **14**, 787.
——— *A-genus and indecomposability of differentiable manifolds*, **15**, 586.
Tondeur, Phillippe. See Greub, Werner.
Topping, D. M. *Lebesgue spaces of summable functions*, **12**, 773.
Tonne, P. C. See Johnson, G. G.
——— See Fillmore, P. A.
Townes, S. B. *Notes on the Diophantine equation* $x^2+7y^2=2^{n+2}$, **13**, 864.
Trampus, Anthony. *A spectral mapping theorem for functions of two commuting linear operators*, **14**, 893.
Transue, W. R. R. *On the hyperspace of subcontinua of the pseudoarc*, **18**, 1074.
Traylor, D. R. *A note on metrization of Moore spaces*, **14**, 804.
Trench, W. F. *On the asymptotic behavior of solutions of second order linear differential equations*, **14**, 12.
——— *On the stability of midpoint smoothing with Legendre polynomials*, **18**, 191.
——— *Bounds on the generating functions of certain smoothing operations*, **18**, 200.
Treybig, L. B. *Concerning continuous images of compact ordered spaces*, **15**, 866.
Trutt, David. See de Branges, Louis.
Tsai, C. E. *Von Neumann regularity in Jordan algebras*, **18**, 726.
——— *The prime radical in a Jordan ring*, **19**, 1171.
Tucker, Charles. *Limit of a sequence of functions with only countably many points of discontinuity*, **19**, 118.
Tucker, D. H. *A note on the Riesz representation theorem*, **14**, 354.
——— *A representation theorem for a continuous linear transformation on a space of continuous functions*, **16**, 946.
——— *A note on Bernstein polynomial type approximations*, **18**, 492.
——— *A function which is weakly of bounded variation but does not have the Gowurin ω-property*, **19**, 578.
——— See Kurtz, L. C.
Tucker, H. G. *On quasi-convergence of series of independent random variables*, **16**, 435.
Tull, J. P. *Convolutions of slowly oscillating functions*, **13**, 225.
——— See Bateman, P. T.
Tully, E. J., Jr. *The existence of a total order on a group*, **13**, 217.
——— *A class of naturally partly ordered commutative archimedean semigroups with maximal condition*, **17**, 1133.
Tung, Shih-Hsiung. *Harnack's inequality and theorems on matrix spaces*, **15**, 375.
Turner, R. E. L. *A note on eigenvalues of normal transformations*, **20**, 30.
Turquette, A. R. *Solution to a problem of Rose and Rosser*, **12**, 253.
——— *A general theory of k-place stroke functions in 2-valued logic*, **13**, 822.
——— *Generalizable Kleene logics*, **20**, 361.
Turyn, R. and Storer, J. *On binary sequences*, **12**, 394.
Tutte, W. T. *An algorithm for determining whether a given binary matroid is graphic*, **11**, 905.

Uchiyama, S. *On the mean modulus of trigonometric polynomials whose coefficients have random signs*, **16**, 1185.

Ullman, J. L. See Lyndon, R. C.
Upadhyay, Manjari. *q-differential equations with polynomial solutions*, **18**, 57.
Urbanik, Kazimierz and Wright, F. B. *Absolute-valued algebras*, **11**, 861.
Ursell, J. H. *On two problems of Mostert and Shields*, **14**, 633.
Utumi, Y. *On rings of which any one-sided quotient rings are two-sided*, **14**, 141.
——— See Faith, Carl.
Utz, W. R. and Waltman, Paul. *Asymptotic almost periodicity of solutions of a system of differential equations*, **18**, 597.

Valentine, F. A. *Characterizations of convex sets by local support properties*, **11**, 112.
——— *Local convexity and L_n sets*, **16**, 1305.
——— *Two theorems of Krasnosel'skiĭ type*, **18**, 310.
Van Buskirk, James. See Gillette, Richard.
Vanderslice, B. R. See Hall, D. W.
van Lint, J. H. *Representations of 0 as $\sum_{k=-N}^{N} \epsilon_k k$*, **18**, 182.
Varberg, D. E. *Gaussian measures and a theorem of T. S. Pitcher*, **13**, 799.
Varshney, O. P. *On the absolute harmonic summability of Fourier series*, **11**, 588.
Vasconcelos, W. V. *Reflexive modules over Gorenstein rings*, **19**, 1349.
Vaught, R. L. *Elementary classes closed under descending intersection*, **17**, 430.
Veech, William. *The necessity of Harris' condition for the existence of a stationary measure*, **14**, 856.
——— *A moment theorem*, **19**, 501.
Vegh, Emanuel. *Pairs of consecutive primitive roots modulo a prime*, **19**, 1169.
Vermes, Robert. *On Wronskians whose elements are orthogonal polynomials*, **15**, 124.
Vilms, Jaak. *Curvature of nonlinear connections*, **19**, 1125.
Vinograde, B. See Mordeson, J. N.
Viswanatham, B. *A generalization of Bellman's lemma*, **14**, 15.
Voichick, Michael. *Extreme points of bounded analytic functions on infinitely connected regions*, **17**, 1366.
Voichick, Michael and Zalcman, Lawrence. *Inner and outer functions on Riemann surfaces*, **16**, 1200.
Vosburg, A. C. *Metric entropy of certain classes of Lipschitz functions*, **17**, 665.
Voytuk, J. A. and MacCamy, R. C. *Mixed boundary-value problems in the plane*, **16**, 276.
Vuckovic, V. D. *Creative and weakly creative sequences of r.e. sets*, **18**, 478.

Wachman, Murray. *Generalized Laurent series for singular solutions of elliptic partial differential equations*, **15**, 101.
Wainger, Stephen. *A problem of Wiener and the failure of a principle for Fourier series with positive coefficients*, **20**, 16.
Waldinger, H. V. *A natural linear ordering of basic commutators*, **12**, 140.
——— *On the subgroups of the Picard group*, **16**, 1373.
Walker, E. A. *Quotient groups of reduced Abelian groups*, **12**, 91.
——— See Irwin, J. M.
Walkup, D. W. and Wets, R. J.-B. *Continuity of some convex-cone-valued mappings*, **18**, 229.
Wall, C. T. C. *The action of Γ_{2n} on $(n-1)$-connected $2n$-manifolds*, **13**, 943.
Wallace, D. A. R. *On the radical of a group algebra*, **12**, 133.
Wallen, L. J. *On the magnitude of x^n-1 in a normed algebra*, **18**, 956.
Walsh, Bertram. *Banach algebras of scalar-type elements*, **16**, 1167.

Walsh, Bertram. *Spectral decomposition of quasi-Montel spaces*, **17**, 1267.
Walsh, J. B. *A note on uniform convergence of stochastic processes*, **18**, 129.
Walsh, J. L. *A generalization of Fejér's principle concerning the zeros of extremal polynomials*, **14**, 44.
——— *A theorem of Grace on the zeros of polynomials, revisited*, **15**, 354.
——— See Evans, J. P.
Walsh, J. L. and Shisha, O. *The zeros of infrapolynomials with prescribed values at given points*, **14**, 839.
——— *Extremal polynomials and the zeros of the derivative of a rational function*, **15**, 753.
Walter, Gilbert. *On real singularities of Legendre expansions*, **19**, 1407.
Walters, Peter. *On the relationship between zero entropy and quasi-discrete spectrum for affine transformations*, **18**, 661.
Waltman, Paul. *A bifurcation theorem*, **15**, 627.
——— *On the asymptotic behavior of solutions of a nonlinear equation*, **15**, 918.
——— See Suyemoto, L.
——— See, Utz, W. R.
Wang, Hsien-Chung. See Pasiencier, Samuel.
Wang, J. S. P. *On completely decomposable groups*, **15**, 184.
Wang, Ju-kwei. See Srinivasan, T. P.
Ward, L. E., Jr. *On local trees*, **11**, 940.
——— *Fixed point theorems for pseudo monotone mappings*, **13**, 13.
——— *A weak Tychonoff theorem and the axiom of choice*, **13**, 757.
Warfield, R. B., Jr. See McShane, E. J.
Warne, R. J. *Extensions of completely 0-simple semigroups by completely 0-simple semigroups*, **17**, 524.
——— *Direct decomposition of regular semigroups*, **19**, 1155.
Warschawaski, S. E. *On differentiability at the boundary in conformal mapping*, **12**, 614.
Watari, Chinami. *Contraction of Walsh Fourier series*, **15**, 189.
Waterhouse, W. C. *A classification of almost full formal groups*, **20**, 426.
Waterman, Daniel. *The local finite-area principle in the half-plane*, **17**, 1012.
——— *On the summability of the differentiated Fourier series. II*, **20**, 342.
——— See Goffman, Casper.
Watts, C. E. *Intrinsic characterizations of some additive functors*, **11**, 5.
——— *On the Euler characteristic of polyhedra*, **13**, 304.
Wei, J. and Norman, E. *On global representations of the solutions of linear differential equations as a product of exponentials*, **15**, 327.
Weichsel, P. M. *On a theorem of Iwasawa*, **12**, 148.
——— *The Kronecker product of graphs*, **13**, 47.
———*On p-abelian groups*, **18**, 736.
Weil, C. E. *On approximate and Peano derivatives*, **20**, 487.
Weill, G. G. *On Bergman's kernel function for some uniformly elliptic partial differential equations*, **16**, 1299.
——— See Ahlfors, L.
Weill, L. J. *Stability of bases in complete barrelled spaces*, **18**, 1045.
Weisfeld, Morris. *Tensor products of F-vector spaces*, **19**, 1373.
Weiss, Benjamin. *Measures that vanish on half spaces*, **18**, 123.
——— *Titchmarsh's convolution theorem on groups*, **19**, 75.
Weiss, Guido. See Hunt, R. A.
Weiss, M. L. *Note on a theorem of Beurling*, **19**, 793.

Weiss, M. L. See Bear, H. S.
Weiss, N. J. *An isometry of H^p spaces*, **19**, 1083.
Welland, G. V. *Differentiability almost everywhere of functions of several variables*, **19**, 130.
——— *Fractional differentiation of functions with lacunary Fourier series*, **19**, 135.
Welland, R. R. *Metrizable Köthe spaces*, **11**, 580.
Welland, Robert. *Generalized local integrability*, **13**, 635.
——— *Inclusion relations among Orlicz spaces*, **17**, 135.
——— *Bernstein's theorem for Banach spaces*, **19**, 789.
Wells, B. B., Jr. *Weak compactness of measures*, **20**, 124.
Wells, J. H. *Hausdorff transforms of bounded sequences*, **11**, 84.
——— *Restrictions of Fourier-Stieltjes transforms*, **15**, 243.
——— See Piranian, George.
Wells, R. O., Jr. *Holomorphic approximation on real-analytic submanifolds of a complex manifold*, **17**, 1272.
Wend, D. V. V. *Singularity-free regions for solutions of systems of nonlinear complex differential equations*, **18**, 592.
Wendroff, Burton, *On orthogonal polynomials*, **12**, 554.
——— See Swartz, B. K.
Wenger, R. *Self-injective semigroup rings for finite inverse semigroups*, **20**, 213.
Wermer, J. See Browder, A.
——— See deLeeuw, Karel.
Werner, Helmut. *The existence of surfaces of constant mean curvature with arbitrary Jordan curves as assigned boundary*, **11**, 63.
Wesler, Oscar. *An infinite packing theorem for spheres*, **11**, 324.
West, D. C. *A remark on transitivity in bundles*, **18**, 885.
Weston, K. W. *An equivalence between nonassociative ring theory and the theory of a special class of groups*, **19**, 1356.
Wets, R. J.-B. See Walkup, D. W.
Wetzel, Marion, See Seall, Robert.
Whitehead, G. W. See Kan, D. M.
Whiteley, J. N. *A generalization of a theorem of Newton*, **13**, 144.
———*Notes on a theorem on convolutions*, **16**, 1.
Whiteley, Robert. See Thorp, Edward.
Whitman, A. P. and Conlon, Lawrence. *A note on holonomy*, **16**, 1046.
Whittlesey, E. F. *Analytic functions in Banach spaces*, **16**, 1077.
Whyburn, C. T. *A note on addition chains*, **16**, 1134.
Widder, D. V. *Functions harmonic in a strip*, **12**, 67.
——— *Two convolution transforms which are inverted by convolutions*, **14**, 812.
——— *Fourier cosine transforms whose real parts are non-negative in a strip*, **16**, 1246.
Widom, Harold. *A two-sided absorption problem*, **12**, 862.
——— *Rapidly increasing kernels*, **14**, 501.
——— See Spitzer, F.
Widom, Harold and Wilf, H. S. *Small eigenvalues of large Hankel matrices*, **17**, 338; **19**, 1508.
Wiegand, Roger. *Sheaf cohomology of locally compact totally disconnected spaces*, **20**, 533.
Wielandt, H. See Taussky, O.
Wijsman, R. A. *Existence of local cross-sections in linear Cartan G-spaces under the action of noncompact groups*, **17**, 295.
Wilbur, W. J. See Macintyre, A. J.

Wilcox, C. H. *Addition theorems for arbitrary plane and spherical waves*, **11**, 817.
Wilde, C. O. See Argabright, Loren.
Wilde, C. O. and Argabright, Loren. *Invariant means and factor-semigroups*, **18**, 226.
Wilder, B. E. *Various types of norm-determining manifolds*, **18**, 1014.
Wilf, H. S. *Perron-Frobenius theory of the zeros of polynomials*, **12**, 247.
——— *Subordinating factor sequences for convex maps of the unit circle*, **12**, 689.
——— *Budan's theorem for a class of entire functions*, **13**, 122.
——— *Whittaker's constant for lacunary entire functions*, **14**, 238.
——— *Some applications of the inequality of arithmetic and geometric means to polynomial equations*, **14**, 263.
——— *The stability of smoothing by least squares*, **15**, 933; **17**, 542.
——— See Fine, N. J.
——— See Widom, Harold.
Wilken, D. R. *Maximal ideal spaces and A-convexity*, **17**, 1357.
——— *Lebesgue measure of parts for $R(X)$*, **18**, 508.
Wilkinson, J. B. *A lower bound for the dimension of certain G_δ-sets in completely normal spaces*, **20**, 175.
Willett, D. *A linear generalization of Gronwall's inequality*, **16**, 774.
——— *On an example in second order linear ordinary differential equations*, **17**, 1263.
Williams, J. P. *A "metric" characterization of reflexivity*, **18**, 163.
——— *Operators similar to their adjoints*, **20**, 121.
Williams, R. E. *A note on weak Bezout rings*, **19**, 951.
Williamson, S. G. *Some remarks on a class of matrix inequalities*, **19**, 673.
Wilson, Alan. *The "overconvergence" of bounded normal families of analytic functions*, **12**, 498.
——— *Functions which have harmonic support*, **13**, 998.
Wilson, J. C. See Rinehart, R. F.
Wimp, Jet. *On the zeros of a confluent hypergeometric function*, **16**, 281.
Wing, G. M. See Blum, J. R.
Winter, D. J. *Algebraic group automorphisms having finite fixed point sets*, **18**, 371.
——— *Fixed points and stable subgroups of algebraic group automorphisms*, **18**, 1107.
Winter, D. L. *Finite p-solvable linear groups with a cyclic Sylow p-subgroup*, **18**, 341
——— *On the restrict-induce map of group characters*, **19**, 246.
Wolf, J. A. *The affine group of a Lie group*, **14**, 352.
——— *Curvature in nilpotent Lie groups*, **15**, 271.
——— *Exotic metrics on immersed surfaces*, **17**, 871.
——— *Surfaces of constant mean curvature*, **17**, 1103.
——— *A contact structure for odd dimensional spherical space forms*, **19**, 196.
Wolfowitz, J. *Products of indecomposable, aperiodic, stochastic matrices*, **14**, 733.
——— *The moments of recurrence time*, **18**, 613.
——— See Kiefer, J.
Wolfson, K. G. *Isomorphisms of the endomorphism rings of torsion-free modules*, **13**, 712.
——— *Isomorphisms of the endomorphism rings of a class of torsion-free modules*, **14**, 589.
Wolk, E. S. *On partially ordered sets possessing a unique order-compatible topology*, **11**, 487.
——— *On the interval topology of an l-group*, **12**, 304.
——— *On order-convergence*, **12**, 379.
——— *The comparability graph of a tree*, **13**, 789.
——— *On decompositions of partially ordered sets*, **15**, 197.
——— *A note on "The comparability graph of a tree,"* **16**, 17.

Wolk, E. S. *On theorems of Tychonoff, Alexander, and R. Rado*, **18**, 113.
Woll, J. W., Jr. *A property of homogeneous processes*, **13**, 131.
——— See Getoor, R. K.
Wollenberg, L. S. *Derivations of the Lie algebra polynomials under Poisson bracket*, **20**, 315.
Wonenburger, M. J. *Matrix $\aleph$-rings*, **14**, 211.
Wong, J. S. W. *Remarks on global asymptotic stability of certain quasi-linear differential equations*, **17**, 815.
——— *A uniqueness theorem for certain two-point boundary value problems*, **19**, 249.
——— See Boyd, D. W.
——— See Macki, J. W.
Wong, R. Y. T. *Extending homeomorphisms by means of collarings*, **19**, 1443.
Wong, W. J. *A cohomological characterization of finite nilpotent groups*, **19**, 689.
Wong, Yuen-Fat. *Similarity transformations of hypersurfaces*, **15**, 286.
——— *A theorem on homotopically equivalent $(2k+1)$-manifolds*, **16**, 1022.
Wong, Yung-Chow. *On H. S. Ruse's theorems concerning parallel fields of planes in a Riemannian space with indefinite metric*, **18**, 892.
Wood, J. A. *A generalization of the Mikusinski operational calculus*, **19**, 777.
Worrell, J. M., Jr. *Upper semicontinuous decompositions of developable spaces*, **16**, 485.
Wright, C. R. B. See Hobby, Charles.
Wright, E. M. *Direct proof of the basic theorem on multipartite partitions*, **15**, 469.
Wright, F. B. *The converse of the individual ergodic theorem*, **11**, 415.
——— *Invariant measure, the recurrence theorem, and the ergodic theorem*, **11**, 605.
——— See Isbell, J. R.
——— See Urbanik, Kazimierz.
Wright, F. M. See Smith, K. P.
Wu, Ta-Sun. *Each homogeneous nondegenerate chainable continuum is a coset space*, **12**, 843.
——— *Continuity in topological groups*, **13**, 452.
——— *Proximal relations in topological dynamics*, **16**, 513.
——— *Distal minimal flow is coalescent*, **19**, 429.
——— See Bagley, R. W.
Wulbert, D. E. *Subsets of first countable spaces*, **19**, 1273.
Wulfsohn, Aubrey. *The primitive spectrum of a tensor product of C^*-algebras*, **19**, 1094.
Wylie, C. R., Jr. *Line involutions in S_3 whose singular lines all meet a twisted curve*, **12**, 335.
——— See Stratopoulos, G. M.

Yackel, James. *A characterization of normal Markov chains*, **19**, 1464.
Yamaguchi, Kunio. *On functions satisfying $R\{f(z)/z\}>0$*, **17**, 588.
Yamazaki, Keijiro. See Tamura, Jirô.
Yang, J. S. See Bagley, R. W.
Yang, Kung-Wei. *A note on reflexive Banach spaces*, **18**, 859.
——— *Chromatic number of Cartesian sum of two graphs*, **19**, 617.
——— *Completion of normed linear spaces*, **19**, 801.
Yano, K. See Knebelman, M. S.
Yaqub, Adil. See Outcalt, D. L.
Yasuhara, Mitsuru. *The cut elimination theorem in the unary second order language*, **17**, 1069.
Yeh, J. *Inequalities and a limit theorem for certain Wiener integrals*, **16**, 915.
——— *Differentiability of sample functions in Gaussian processes*, **18**, 105.

Yeh, J. *Correction to "Differentiability of sample functions in Gaussian processes,"* **19,** 843.
Yohe, C. R. *On rings in which every ideal is the annihilator of an element,* **19,** 1346.
Yohe, J. M. *Structure of hereditarily infinite dimensional spaces,* **20,** 179.
Yood, Bertram. *On the extension of modular maximal ideals,* **14,** 615.
Yorke, J. A. *Permutations and two sequences with the same cluster set,* **20,** 606.
Young, E. C. See Miles, E. P., Jr.
Young, G. S. *Fixed-point theorems for arcwise connected continua,* **11,** 880.
——— *Representations of Banach spaces,* **13,** 667.
Young, P. R. *On reducibility by recursive functions,* **15,** 889.
——— *A theorem on recursively enumerable classes and splinters,* **17,** 1050.
——— *An effective operator, continuous but not partial recursive,* **19,** 103.
Younglove, J. N. *A theorem on metrization of Moore spaces,* **12,** 592.
——— *A locally connected, complete Moore space on which every real-valued continuous function is constant,* **20,** 527.
Yuzo, Utumi. See Faith, Carl.

Zaks, Abraham. *Global dimension of Artinian rings,* **18,** 1102.
Zaks, Joseph. *On a minimality property of complexes,* **20,** 439.
——— *On finite decompositions of* E^{2n-1}, **20,** 445.
Zalcman, Lawrence. *Analytic functions and Jordan arcs,* **19,** 508.
——— *Hadamard products of schlicht functions,* **19,** 544.
——— See Voichick, Michael.
Zame, Alan. *On the measure of well-distributed sequences,* **18,** 575.
Zame, W. R. *A characterization of hereditarily indecomposable continua,* **17,** 709.
Zedek, Mishael. *Continuity and location of zeros of linear combinations of polynomials,* **16,** 78.
Zeeman, E. C. *Unknotting 3-spheres in six dimensions,* **13,** 753.
——— See Curtis, M. L.
Zeitlin, David. *On the sums* $\sum_{k=0}^{n} k^p$ *and* $\sum_{k=0}^{n}(-1)^k k^p$, **15,** 642.
——— *On a class of polynomials obtained from generalized Humbert polynomials,* **18,** 28.
Zeller, K. See Lorentz, G. G.
——— See Meyer-König, W.
Zemanian, A. H. *On the pole and zero locations of rational Laplace transformations of non-negative functions.* II, **12,** 870.
Zemmer, J. L. *On a class of doubly transitive groups,* **12,** 644.
Zetterström, H.-O. See Lindström, B.
Zettl, Anton. *Adjoint linear differential operators,* **16,** 1239.
——— *The lack of self-adjointness in three point boundary value problems,* **17,** 368.
——— *Some identities related to Polya's property W for linear differential equations,* **18,** 992.
Ziebur, A. D. *Uniqueness and the convergence of successive approximations,* **13,** 899.
——— *Uniqueness and the convergence of successive approximations.* II, **16,** 335.
Ziemer, W. P. *The area and variation of linearly continuous functions,* **20,** 81.
Zierler, Neal. *Order properties of bounded observables,* **14,** 346.
Zimering, Shimshon. *On the equiconvergence between two Noerland transformations,* **19,** 263.
Zink, R. E. See Darst, R. B.
Zuckerman, H. S. See Hewitt, Edwin.
——— See Niven, Ivan.

On the H_p-problem for finite p-groups. By G. T. HOGAN and W. P. KAPPE... 450
On the continuity of certain intertwining operators, centralizers, and positive linear functionals. By M. A. RIEFFEL... 455
On nonlinear contractions. By D. W. BOYD and J. S. W. WONG... 458
Closed graphs and closed projections. By C. T. SCARBOROUGH... 465
A generalization of quasi-Frobenius rings. By HIROYUKI TACHIKAWA... 471
Isotopisms of Jordan algebras. By H. P. PETERSSON... 477
Equicontinuity and n-length. By EDWARD SILVERMAN... 483
On approximate and Peano derivatives. By C. E. WEIL... 487
A generator for a semigroup of nonlinear transformations. By DOROTHY RUTLEDGE... 491
Two theorems of Euler and a general partition theorem. By G. E. ANDREWS... 499
A note on commutative semigroups. By ROBERT SCHWABAUER... 503
On inversions in normed linear spaces. By W. J. STILES... 505
A short proof of a theorem of L. Janos. By MICHAEL EDELSTEIN... 509
Notes on subdirect products of semigroups and rectangular bands. By J. L. CHRISLOCK and T. TAMURA... 511
On the semisimplicity of modular group algebras. By D. S. PASSMAN... 515
An extension of Banach's mapping theorem. By R. A. BRUALDI... 520
A locally connected, complete Moore space on which every real-valued continuous function is constant. By J. N. YOUNGLOVE... 527
The Stone-Čech compactification of an irreducibly connected space. By G. L. PFEIFER... 531
Sheaf cohomology of locally compact totally disconnected spaces. By ROGER WIEGAND... 533
Deformation retracts and weak deformation retracts of noncompact manifolds. By GUDRUN KALMBACH... 539
A theorem on a mapping from a sphere to the circle and the simultaneous diagonalization of two Hermitian matrices. By YIK-HOI AU-YEUNG... 545
A remark on a comparison theorem of Swanson. By KURT KREITH... 549
Computability by normal algorithms. By R. M. BAER... 551
Extending functions to operate on proper classes. By D. C. PETERSON... 553
A new hierarchy of elementary functions. By G. T. HERMAN... 557
On the existence of stationary optimal strategies. By DONALD ORNSTEIN... 563
On convergence rates in the law of large numbers for weighted sums of independent random variables. By V. K. ROHATGI... 570
On the PL noninvariance of the span of a smooth manifold. By JOSEPH ROITBERG... 575
Normal structures for locally flat embeddings. By K. C. MILLETT... 580
On compactification and structure of topological groups. By R. T. RAMSAY... 585
A counterexample in weighted majority games. By J. R. ISBELL... 590
The mod p cohomology of $BO\langle 4k\rangle$. By V. GIAMBALVO... 593
Cell-like spaces. By R. C. LACHER... 598
A new proof that metric spaces are paracompact. By M. E. RUDIN... 603

SHORTER NOTES

A short proof of a lemma of G. R. MacLane. By K. F. BARTH and W. J. SCHNEIDER... 604
Permutations and two sequences with the same cluster set. By J. A. YORKE... 606
Index to Volume 20... 607

GEORGE BANTA COMPANY, INC., MENASHA, WISCONSIN

CONTENTS

Vol. 20, No. 2 FEBRUARY, 1969 Whole No. 116

Page

A Tauberian relative of the Landau-Ingham Tauberian theorem. By S. L. SEGAL ... 287
On the local existence of solutions of certain functional-differential equations. By R. J. OBERG ... 295
A nonlinear steady state temperature problem for a semi-infinite slab. By DANG DINH ANG ... 303
The asymptotic behavior of solutions of linear third order differential equations. By Y. P. SINGH ... 309
Derivations of the Lie algebra of polynomials under Poisson bracket. By L. S. WOLLENBERG ... 315
Concerning polynomials on the unit interval. By GILBERT LABELLE ... 321
Complex polynomial interpolation to continuous boundary data. By MAYNARD THOMPSON ... 327
An extremal harmonic function. By K. M. LARSEN ... 333
Correction to my paper "The Morse index theorem." By HOWARD OSBORN ... 337
Remarks on the Morse index theorem. By W. T. REID ... 339
On the summability of the differentiated Fourier series. II. By DANIEL WATERMAN ... 342
A note on the local coefficient problem. By R. N. PEDERSON ... 345
Properties of Lusin sets with applications to probability. By R. B. DARST ... 348
Note on a theorem of C. T. Taam concerning bounded solutions of nonlinear differential equations. By J. E. LAGNESE ... 351
An inequality for a Stekloff eigenvalue by the method of defect. By J. R. KUTTLER and V. G. SIGILLITO ... 357
Generalizable Kleene logics. By A. R. TURQUETTE ... 361
Commuting projections with assigned ranges. By M. TAKAGUCHI ... 368
Some Whitehead products on odd spheres. By MAURICE GILMORE ... 375
Remark on the purity of the branch locus. By ERNST KUNZ ... 378
Monotone n-frames are tame. By RICHARD GILLETTE and JAMES VAN BUSKIRK ... 381
Note on the generalized Whitney sum. By R. E. MOSHER ... 383
Inclusion theorems for generalized Hausdorff summability methods. By L. C. KURTZ ... 385
A remark on class numbers of number field extensions. By JOHN SMITH ... 388
On the Reinhardt-Mahler Theorem. By R. J. HANS ... 391
On the closed graph theorem. By ALAN MCINTOSH ... 397
On the Galois cohomology of the ring of integers in an algebraic number field. By M. P. LEE and M. L. MADAN ... 405
Two identities for lattices. By R. PADMANABHAN ... 409
The localization of the strict topology via bounded sets. By J. R. DORROH ... 413
Characterizations for approximately normal algebras. By D. R. CHALICE ... 415
Separate continuity and measurability. By B. E. JOHNSON ... 420
A norm on separable noncommutative Jordan algebras of degree 2. By J. M. OSBORN ... 423
A classification of almost full formal groups. By W. C. WATERHOUSE ... 426
On the L_2 space of a Banach limit. By S. P. LLOYD ... 429
Remarks on the reduction theory of von Neumann algebras. By MASAMICHI TAKESAKI ... 434
On a minimality property of complexes. By JOSEPH ZAKS ... 439
On finite decompositions of E^{2n-1}. By JOSEPH ZAKS ... 445

Continued on inside back cover