

THE ANNUAL MEETING OF THE SOCIETY

The forty-third Annual Meeting of the American Mathematical Society was held at Duke University, Durham, and the University of North Carolina, Chapel Hill, North Carolina, from Tuesday to Thursday, December 29–31, 1936, in conjunction with the meetings of the Mathematical Association of America. The morning session on Thursday was held at the University of North Carolina and the other sessions at Duke University. In number of papers offered, it was one of the largest of the Annual Meetings. The arrangements as made by the committee, of which Professor J. M. Thomas was chairman and Professors E. T. Browne, W. W. Elliott, J. W. Lasley, and J. H. Roberts were the other local members, were beautifully carried out, and the meeting proved to be one of the most scientifically interesting and socially pleasant in the annals of the Society. At the dinner on Wednesday evening, on motion of Professor T. R. Hollcroft, the Society passed a hearty vote of thanks to the officers of the inviting institutions and to the Committee on Arrangements.

Through the generosity of Duke University, rooms in the dormitories of the men's campus were available to the members of the two mathematical organizations and their families. The facilities for golf were taken advantage of by several members of the Society.

On Tuesday evening there was a concert of negro spirituals given under the auspices of Duke University by a negro choir, and on Thursday evening Professor Marston Morse tendered the visitors a delightful piano recital. The dinner on Wednesday evening was held in one of the beautiful dining halls of Duke University, and tea was served on several afternoons by the ladies of the department of mathematics. On Thursday afternoon President Graham and Dean House of the University of North Carolina were hosts at a reception and tea for the visiting mathematicians and their guests.

There being no quorum present at the meeting of the Board of Trustees at Duke University, an adjourned meeting was held in New York City on January 2, 1937. The Council held a meeting at Duke University at 9:30 p.m. on Tuesday.

The scientific meetings opened on Tuesday morning with sectional sessions, one section being devoted to Analysis, another to Algebra and Statistics, and a third to Geometry. The presiding officers at these sectional sessions were Professors Wiener, MacDuffee, and Snyder and Carver, respectively. On Tuesday afternoon there was a general session, with President Lefschetz presiding, at which Professor J. M. Thomas gave an address, at the invitation of the Program Committee, entitled *Differential systems*. This address was followed by a general session for the presentation of short papers, with Professor Tamarkin presiding.

Wednesday morning was also devoted to sectional sessions, Professors Lefschetz and Flexner presiding at the section for Topology, and Professor Hurwitz at the section for Analysis and Geometry.

At a general session on Wednesday afternoon, presided over by Professor R. L. Moore, Professor Solomon Lefschetz delivered his retiring address as President of the Society. His subject was *The role of algebra in topology*.

On Thursday morning a general session was held for the presentation of short papers. President R. L. Moore presided.

On the Monday preceding the meetings of the Society there was a conference on Topology of which Professor G. T. Whyburn was in charge. A separate report of this conference will appear in an early number of this Bulletin.

The attendance included the following two hundred eight members:

C. R. Adams, R. B. Adams, V. W. Adkisson, R. P. Agnew, A. A. Albert, C. B. Allendoerfer, R. C. Archibald, C. S. Atchison, W. L. Ayres, Reinhold Baer, R. P. Bailey, N. H. Ball, A. A. Bennett, Garrett Birkhoff, H. L. Black, Salomon Bochner, H. F. Bohnenblust, J. D. Bond, J. W. Bower, J. W. Bradshaw, Richard Brauer, H. E. Bray, F. L. Brooks, E. T. Browne, H. E. Buchanan, R. C. Bullock, R. S. Burington, F. W. Burton, L. E. Bush, W. E. Byrne, W. D. Cairns, R. H. Cameron, A. D. Campbell, Leonard Carlitz, R. D. Carmichael, H. C. Carter, W. B. Carver, J. W. Cell, W. F. Cheney, E. W. Chittenden, J. M. Clarkson, W. S. Claytor, M. D. Clement, L. W. Cohen, Nancy Cole, J. B. Coleman, E. G. H. Comfort, L. P. Copeland, W. H. H. Cowles, M. J. Cox, H. B. Curry, D. R. Curtiss, J. H. Curtiss, D. C. Dearborn, L. L. Dines, Arnold Dresden, F. G. Dressel, D. M. Dribin, W. L. Duren, L. A. Dye, L. P. Eisenhart, W. W. Elliott, Arnold Emch, W. W. Flexner, F. A. Foraker, L. R. Ford, J. S. Frame, T. C. Fry, L. L. Garner, J. J. Gergen, F. J. Gerst, Michael Goldberg, W. C. Graustein, C. H. Graves, J. A. Greenwood,

Margaret Gurney, K. W. Halbert, D. W. Hall, Israel Halperin, G. A. Hedlund, Archibald Henderson, H. C. Hicks, A. O. Hickson, Einar Hille, A. W. Hobbs, T. R. Hollcroft, Charles Hopkins, M. G. Humphreys, C. C. Hurd, W. A. Hurwitz, W. L. Hutchings, Dunham Jackson, Nathan Jacobson, E. D. Jenkins, Fritz John, F. E. Johnston, Edward Kasner, A. J. Kempner, R. B. Kershner, P. W. Ketchum, S. C. Kleene, J. R. Kline, Morris Kline, J. C. Knipp, H. L. Krall, J. H. Kusner, G. A. Larew, J. W. Lasley, C. G. Latimer, Solomon Lefschetz, A. M. M. Lehr, F. E. LeSturgeon, Jack Levine, F. P. Lewis, J. B. Linker, S. B. Littauer, R. G. Lubben, James McGiffert, J. C. C. McKinsey, E. J. McShane, C. C. MacDuffee, E. L. Mackie, Saunders MacLane, J. D. Mancill, A. J. Maria, W. T. Martin, F. F. Middleswart, E. R. C. Miles, A. N. Milgram, Paul Miller, W. L. Miser, U. G. Mitchell, R. L. Moore, T. W. Moore, E. M. Morenus, Richard Morris, Marston Morse, E. J. Moulton, S. B. Myers, John von Neumann, Rufus Oldenburger, E. G. Olds, Oystein Ore, F. W. Owens, H. B. Owens, H. V. Park, K. B. Patterson, A. M. Pegram, T. S. Peterson, B. J. Pettis, H. B. Phillips, G. B. Price, W. C. Randels, J. F. Randolph, H. W. Raudenbush, R. G. D. Richardson, R. F. Rinehart, J. H. Roberts, M. S. Robertson, H. A. Robinson, S. L. Robinson, H. G. Russell, S. T. Sanders, G. E. Schweigert, Hyman Serbin, W. E. Sewell, C. G. Shover, James Singer, C. E. Smith, Virgil Snyder, H. E. Spencer, M. E. Stark, N. E. Steenrod, H. E. Stelson, R. W. Stokes, E. B. Stouffer, D. J. Struik, R. R. Struik, Otto Szász, J. D. Tamarkin, J. M. Thomas, H. S. Thurston, E. W. Titt, C. B. Tompkins, J. I. Tracey, A. W. Tucker, S. M. Ulam, H. E. Vaughan, Oswald Veblen, T. L. Wade, R. J. Walker, J. L. Walsh, S. E. Warschawski, Warren Weaver, D. L. Webb, V. H. Wells, C. H. Wheeler, Hassler Whitney, G. T. Whyburn, Norbert Wiener, A. H. Wilson, A. S. Winsor, Aurel Wintner, L. S. Winton, F. L. Wren, M. M. Young, Oscar Zariski, H. S. Zuckerman.

It was announced that the following persons had been elected to membership in the Society:

Miss Vera Adela Ames, Miss Fine's School, Princeton, N. J. ;
 Dr. Marion Taylor Bird, University of Wisconsin;
 Dr. Joel Lee Brenner, University of Minnesota;
 Mr. Paul William Charton, National Union Radio Corporation, Newark, N. J. ;
 Professor Horace Alpheus Giddings, Armour Institute of Technology;
 Mr. Dick Wick Hall, University of Virginia;
 Professor Dorothy Scott Hooper (Mrs. W. J.), Principia College, Elsau, Ill. ;
 Dr. Cuthbert C. Hurd, Michigan State College;
 Mr. William Gregory Madow, Columbia University;
 Mr. Anthony Perry Morse, Brown University;
 Miss Mildred Ardell Norval, Mayo Clinic, Rochester, Minn. ;
 Dean George Anthony O'Donnell, S. J., Boston College;
 Mr. Harry Siller, New York University;
 Mr. Renato L. Vitale, Board of Transportation, 250 Hudson Street, New York, N. Y. ;
 Dr. Donald Loomis Webb, Georgia School of Technology;
 Miss Irene L. Wentz, South Dakota State College, Brookings, S. D. ;
 Mr. Lowell Sheridan Winton, North Carolina State College.

As nominees on the Institutional Memberships of the various institutions listed:

Bowdoin College: Mr. Melchor Prince Fobes.

Bryn Mawr College: Miss Anna Margaret Catherine Grant and Miss Marion Belle Greenbaum.

University of California: Messrs. Francis W. Dresch, John Dyer-Bennet, John W. Green, Arvid T. Lonseth, Kenneth May, and Raymond Kornelius Wakerling.

Case School of Applied Science: Dr. Sidney Wilcox McCuskey.

University of Chicago: Messrs. Harold Chatland, Morris Friedman, and Louis Green, Miss Mary Barbara Haberzette, and Mr. Ivan Morton Niven.

College of the City of New York: Mr. Norman Davidowitz.

Columbia University: Messrs. John Joseph De Cicco, Meyer A. Girshick, and Saul Gorn, Miss Mary Elizabeth Ladue, Messrs. Sam Legvold, Robert Marshak, Charles Frederick Rehberg, and Benham Marquard Rubin, Miss Olive Sinclair, Messrs. David Sole, Walter Charles Strodt, and Jacob Wolfowitz.

Duke University: Messrs. Theodore Samuel George, Arthur Leroy Lanckton, Abram Venable Martin, Paul Miller, and Atwell Rufus Turquette.

Haverford College: Mr. Warren Brooke Morgan, Jr. (University of Wisconsin).

Iowa State College: Mr. George Gross.

The State University of Iowa: Messrs. Lloyd A. Knowler, Herbert Adesla Luther, and Abraham Charles Olshen.

The Johns Hopkins University: Messrs. Irvin S. Cohen, Philip Hartman, Martin Hirshfeld, Lee Alexander Lorch, Harry Townsend Muhly, and John William Popow.

University of Kentucky: Mr. Kenneth Liebert Palmquist.

Massachusetts Institute of Technology: Messrs. Brewster Huntington Gere, Fred Lincoln Lamareau, and Brockway McMillan.

University of Michigan: Miss Edith R. Schneckenburger, and Miss Ruth Gertrude Simond.

Northwestern University: Messrs. Mason E. Wescott, Richard Arthur Leibler, William Norman Smith, and Howard Herbert Campaigne.

Prudential Insurance Company: Messrs. William Chodorcoff and Edward M. Neumann.

Stanford University: Mrs. Helen Glover Brown, Miss Dorothy Manning, and Mr. William Howard Myers.

University of Virginia: Mr. William Thomas Puckett, Jr.

University of Washington: Miss Helen M. Copenhagen and Mr. Joseph P. Dean.

Wesleyan University: Messrs. Anthony Robert Parente and Kiyotaka Yoneda (Kwansei Gakuin, near Kobe, Japan).

Western and Southern Life Insurance Company: Messrs. Charles Matthew Williams, and William Joseph Williams.

University of Wisconsin: Messrs. R. C. F. Bartels, Arnold Didrik Hestenes, Harold Callander Trimble, George Whaples, and Delbert Edward Zilmer.

Yale University: Messrs. W. B. Caton and James Edmonds Eaton, and Dr. Israel Halperin.

It was also announced that the following persons had been admitted to membership in the Society in accordance with reciprocity agreements:

Professor Thomas MacFarland Cherry, Melbourne University, Melbourne, Australia;

Professor Kurt Friedrichs, Technische Hochschule, Braunschweig;

Professor Georg Prange, Technische Hochschule, Hannover.

The secretary reported that the ordinary membership in the Society is now 1968, including 139 nominees of institutional members and 80 life members. There are also 87 institutional members. The total attendance of members at all meetings in 1936 was 1317; the number of papers read was 483; the number of members attending at least one meeting was 800.

At the annual election which closed on December 30, and at which 257 votes were cast, the following officers were elected:

President, Professor R. L. Moore.

Vice-President, Professor J. L. Walsh.

Associate Secretary, Professor T. R. Hollcroft.

Treasurer, Professor P. A. Smith.

Member of the Editorial Committee of the Bulletin, Professor E. R. Hedrick.

Members of the Editorial Committee of the Transactions, Professors Einar Hille and C. C. MacDuffee.

Members of the Editorial Committee of the Colloquium Publications, Professors J. D. Tamarkin, G. C. Evans, and J. R. Kline.

Members of the Council, Professors W. L. Ayres, G. A. Hedlund, and H. L. Rietz, Dr. Warren Weaver, and Professor G. T. Whyburn.

Members of the Board of Trustees, Professor W. B. Fite, Dr. Robert Henderson, Professors W. R. Longley and G. W. Mullins, and Dean R. G. D. Richardson.

The reports of the Treasurer and of the auditors (Mr. S. A. Joffe and Professor A. E. Meder, Jr.) showed a balance of \$14,962.11 exclusive of the balances in the Colloquium, Sinking Fund, and special funds. The Society's investments including Endowment Fund, Sinking Fund, and other special funds had

a market value on November 30, 1936, of \$92,866.95. The net interest income for the year was \$3,448.50; dues from Institutional Memberships amounted to \$6,180.00; dues from Contributing Memberships, \$1,206.00; and dues from Ordinary Memberships were \$12,188.99. The Colloquium Fund showed a balance of \$7,807.68. The total received from the sale of the Society's publications was \$10,611.94. The trustees adopted a budget for 1937 showing estimated expenditures and receipts as \$35,950 and \$29,550, respectively. The Librarian reported that the Library of the Society now contained 8,854 volumes.

The following appointments were reported: as tellers for the election at the annual meeting, Professors A. O. Hickson and R. A. Johnson; as auditors of the accounts for 1936, Mr. S. A. Joffe and Professor A. E. Meder, Jr.; as representative on the National Research Council for the period beginning July 1, 1937, and to succeed Professor Marston Morse, Professor Solomon Lefschetz; as representatives on the Council of the American Association for the Advancement of Science for the year 1937, Professors C. N. Moore and Oswald Veblen; as the nominating committee for 1937, Professors F. D. Murnaghan (chairman), C. R. Adams, H. J. Ettlinger, T. H. Hildebrandt, and H. P. Robertson; as committee on arrangements for the 1937 Summer Meeting, Professors F. W. Owens (chairman), L. L. Dines, Orrin Frink, T. R. Hollcroft, and C. C. Wagner; as committee on the selection of Gibbs Lecturers for the years 1937 and 1938, Professors G. A. Bliss, J. R. Kline, and J. D. Tamarkin.

An invitation from the College of William and Mary to hold the Annual Meeting of 1938 at Williamsburg was received. The City of Ottawa, Canada, invited the Society to hold the 1938 Summer Meeting in that city in connection with the American Association for the Advancement of Science. The Council voted thanks for these invitations.

It was reported that, beginning April 1, 1937, Dr. Alta Odoms is resigning her position as Editorial Assistant in the New York office and that Dr. Mildred M. Sullivan has been engaged to succeed her and to begin work in January, 1937.

Titles and cross references to the abstracts of papers read at the regular sessions follow below. The papers were read as follows: papers numbered 1 to 9 in the Section for Analysis on

Tuesday morning, Professor Norbert Wiener presiding; papers numbered 10 to 18 in the Section for Algebra and Statistics on Tuesday morning, Professor C. C. MacDuffee presiding; papers numbered 19 to 26 in the Section for Geometry on Tuesday morning, Professors Virgil Snyder and W. B. Carver presiding; papers numbered 27 to 33 at the General Session on Tuesday afternoon, Professor J. D. Tamarkin presiding; papers numbered 34 to 43 in the Section for Topology on Wednesday morning, Professors Solomon Lefschetz and W. W. Flexner presiding; papers numbered 44 to 53 in the Section for Analysis and Geometry on Wednesday morning, Professor W. A. Hurwitz presiding; papers numbered 54 to 61 at the General Session on Thursday morning, Professor R. L. Moore presiding; besides, papers numbered 63 to 108 by title. Dr. Hurd was introduced by Professor Tamarkin, Dr. Helmer by Professor Courant, Mr. Daly and Mr. Traber by Professor T. Y. Thomas, Dr. Halperin by Professor von Neumann, Dr. Brenner and Mr. Whiteman by Professor Kline, and Mr. Hutchison by Professor Cohen. The joint paper by Drs. R. H. Cameron and Martin was read by Dr. Martin, that of Dr. E. A. Cameron and Professor Lasley by Dr. Cameron, that of Professor Adams and Mr. Morse by Professor Adams, that of Dr. Halperin and Professor von Neumann by Dr. Halperin, that of Mr. Hall and Dr. Schweigert by Mr. Hall, that of Professor Adkisson and Dr. MacLane by Prof. Adkisson, and that of Professor Walsh and Dr. Sewell by Dr. Sewell. The papers whose abstract numbers are followed by the letter *t* were read by title.

1. *On problems of the calculus of variations for which transversality is equivalent to orthogonality*, by Professor J. D. Mancill. (Abstract 43-1-41.)

2. *Asymptotic theory of linear differential equations singular in a parameter and in the variable of differentiation*, by Dr. C. C. Hurd. (Abstract 43-1-29.)

3. *On the preservation of Hölder properties of initial conditions in the solutions of wave equations*, by Dr. E. G. H. Comfort. (Abstract 43-1-16.)

4. *Polynomials in infinitely many variables*, by Dr. Olaf Helmer. (Abstract 43-1-72.)

5. *A note on Fredholm-Stieltjes integral equations*, by Dr. F. G. Dressel. (Abstract 43-1-19.)

6. *Contractible problems of Bolza*, by Professor W. L. Duren. (Abstract 42-11-418.)

7. *On the possible behavior of an analytic function at a set of isolated points*, by Dr. P. W. Ketchum. (Abstract 43-1-37.)

8. *Analytic continuation of diagonals and Hadamard compositions of multiple power series*, by Dr. R. H. Cameron and Dr. W. T. Martin. (Abstract 43-1-9.)

9. *Quotients of almost periodic functions*, by Dr. R. H. Cameron. (Abstract 43-1-8.)

10. *A theorem on determinant expansion and some applications* (preliminary report), by Professor F. L. Wren. (Abstract 43-1-65.)

11. *Algebraic concomitants by tensor algebra: Reduction*, by Professor T. L. Wade. (Abstract 42-11-426.)

12. *Restricted absolute permutations*, by Dr. J. A. Greenwood. (Abstract 43-1-69.)

13. *Real canonical binary trilinear forms*, by Professor Rufus Oldenburger. (Abstract 43-1-47.)

14. *Pseudo- k -fold transitive groups*, by Dr. S. L. Robinson. (Abstract 43-1-52.)

15. *Quartic fields with the symmetric group*, by Dr. D. M. Dribin (National Research Fellow). (Abstract 43-1-20.)

16. *Concerning the structure and representations of a certain class of finite rings*, by Dr. Charles Hopkins. (Abstract 43-1-28.)

17. *Distributions of sums of squares of rank differences for small numbers of individuals*, by Professor E. G. Olds. (Abstract 43-1-48.)

18. *A class of normal simple Lie algebras of characteristic zero*, by Dr. Nathan Jacobson (National Research Fellow). (Abstract 43-1-74.)

19. *On certain surfaces in five-dimensional space*, by Mr. C. H. Graves. (Abstract 43-1-26.)

20. *Cremona transformations of plane curves expressed by third-order differential equations*, by Professor J. M. Clarkson. (Abstract 43-1-13.)

21. *A transformation associated with the trisecants of a rational twisted quintic curve*, by Professor L. A. Dye. (Abstract 43-1-23.)

22. *On the points of an algebraic manifold not reachable by a*

given parametric representation, by Mr. J. F. Daly. (Abstract 42-11-417.)

23. *On Cremona involutions connected with the Weddle surface and some covariant surfaces*, by Professor Arnold Emch. (Abstract 42-11-419.)

24. *On simple convex neighborhoods*, by Mr. R. E. Traber. (Abstract 43-1-59.)

25. *The imbedding of Riemann spaces in the large*, by Mr. C. B. Allendoerfer. (Abstract 42-11-415.)

26. *On certain loci associated with a plane curve*, by Dr. E. A. Cameron and Professor J. W. Lasley. (Abstract 43-1-7.)

27. *Concerning the open subsets of a plane continuum*, by Professor R. L. Moore. (Abstract 43-1-45.)

28. *A class of polynomials*, by Professor Leonard Carlitz. (Abstract 43-1-10.)

29. *The classes of integral sets in a quaternion algebra*, by Professor C. G. Latimer. (Abstract 42-11-421.)

30. *A navigation problem in the calculus of variations*, by Professor E. J. McShane. (Abstract 43-1-75.)

31. *On the space (BV)* , by Professor C. R. Adams and Mr. A. P. Morse. (Abstract 43-1-1.)

32. *On the transitivity of perspective mappings in complemented modular lattices*, by Dr. Israel Halperin and Professor John von Neumann. (Abstract 43-1-70.)

33. *Extensions of the theorem of Jordan-Hölder in groups*, by Professor Oystein Ore. (Abstract 43-1-49.)

34. *On non- n -alternating transformations*, by Mr. D. W. Hall and Dr. G. E. Schweigert. (Abstract 42-11-420.)

35. *A metrization theorem*, by Professor J. H. Roberts. (Abstract 43-1-51.)

36. *On locally bicomact spaces*, by Dr. H. E. Vaughan. (Abstract 43-1-62.)

37. *Peanian continua not imbeddable in a spherical surface*, by Dr. W. S. Claytor. (Abstract 43-1-14.)

38. *On planar graphs whose homeomorphisms can all be extended*, by Professor V. W. Adkisson and Dr. Saunders MacLane. (Abstract 43-1-2.)

39. *A structural characterization of planar combinatorial graphs*, by Dr. Saunders MacLane. (Abstract 43-1-40.)

40. *Tensor algebra in topology*, by Professor A. W. Tucker. (Abstract 43-1-61.)
41. *On transformations having periodic properties*, by Professor W. L. Ayres. (Abstract 43-1-3.)
42. *The generalized Mullikin theorem*, by Mr. A. N. Milgram. (Abstract 43-3-95.)
43. *Concerning perfectly normal Hausdorff spaces*, by Professor R. G. Lubben. (Abstract 43-1-84.)
44. *On the transitivity of perspectivities in continuous geometries*, by Dr. Israel Halperin. (Abstract 43-1-71.)
45. *Contacts of algebraic plane curves*, by Professor T. R. Holcroft. (Abstract 43-1-27.)
46. *Some integer-valued integral invariants of closed curves and bands*, by Dr. C. B. Tompkins (National Research Fellow). (Abstract 42-11-425.)
47. *Metric separability and the Hildebrandt integral*, by Dr. J. F. Randolph. (Abstract 43-1-50.)
48. *A representation of all analytic functions in terms of functions with positive real part*, by Dr. M. S. Robertson. (Abstract 43-1-77.)
49. *On the integral calculus of operators*, by Mr. Garrett Birkhoff. (Abstract 43-1-5.)
50. *Transformations on spaces with denumerable basis*, by Professor L. W. Cohen. (Abstract 43-1-15.)
51. *On the roots of the derivative of a polynomial*, by Professor H. E. Bray. (Abstract 43-1-6.)
52. *Note on degree of approximation to an integral by Riemann sums*, by Professor J. L. Walsh and Dr. W. E. Sewell. (Abstract 42-7-284.)
53. *Equilibrium point of Green's function for a spherical shell*, by Dr. A. J. Maria. (Abstract 43-1-42.)
54. *Normalized integral bases of algebraic number fields. I*, by Professor A. A. Albert. (Abstract 42-11-414.)
55. *Orthogonal polynomials in three variables*, by Professor Dunham Jackson. (Abstract 43-1-31.)
56. *A class of Tauberian theorems*, by Professor Norbert Wiener. (Abstract 43-1-64.)
57. *On the absolute convergence of Fourier series*, by Professor Otto Szász. (Abstract 43-1-56.)

58. *General trihorn geometry*, by Professor Edward Kasner. (Abstract 43-1-35.)
59. *On the behavior of zero-dimensional ideals under quadratic transformations*, by Professor Oscar Zariski. (Abstract 43-1-67.)
60. *On surface theory in four space*, by Professor D. J. Struik. (Abstract 43-1-79.)
61. *On notation for ordinal numbers* (preliminary report), by Dr. S. C. Kleene. (Abstract 43-1-83.)
62. *A note on the matrices defining total real fields*, by Professor A. A. Albert. (Abstract 42-11-413-t.)
63. *Analytical groups*, by Mr. Garrett Birkhoff. (Abstract 43-1-4-t.)
64. *The normal subgroups of the groups of matrices mod p^r* . II, by Dr. J. L. Brenner. (Abstract 42-11-416-t.)
65. *Some formulas for factorable polynomials in several indeterminates*, by Professor Leonard Carlitz. (Abstract 43-1-12-t.)
66. *A criterion for certain higher congruences*, by Professor Leonard Carlitz. (Abstract 43-1-11-t.)
67. *On the use of dots as brackets in logical expressions*, by Professor H. B. Curry. (Abstract 43-1-17-t.)
68. *Some internal and external means arising from the location of frequency distributions*, by Professor E. L. Dodd. (Abstract 43-1-18-t.)
69. *Integration of vector-valued functions* (preliminary report), by Dr. Nelson Dunford. (Abstract 43-1-21-t.)
70. *Linear transformations of sequences*, by Dr. Nelson Dunford. (Abstract 43-1-22-t.)
71. *Column normal matrix polynomials*, by Dr. M. M. Flood. (Abstract 43-1-24-t.)
72. *The calculus of variations in general analysis*. I, by Dr. H. H. Goldstine. (Abstract 43-1-25-t.)
73. *The Lagrange multiplier theorem for normed vector space*, by Mr. L. P. Hutchison. (Abstract 43-1-30-t.)
74. *Problems of closest approximation on a two-dimensional region*, by Professor Dunham Jackson. (Abstract 43-1-33-t.)
75. *Polynomial approximation on a curve of the fourth degree*, by Professor Dunham Jackson. (Abstract 43-1-32-t.)
76. *Polar correspondence with respect to a convex region*, by Professor Fritz John. (Abstract 43-1-34-t.)

77. *Special trihorns*, by Professor Edward Kasner. (Abstract 43-1-36-t.)

78. *On the operational determination of Green's functions in the theory of heat conduction*, by Dr. A. N. Lowan. (Abstract 43-1-39-t.)

79. *On second order adjoint difference systems*, by Dr. V. V. Latshaw. (Abstract 43-1-38-t.)

80. *Jensen's inequality*, by Professor E. J. McShane. (Abstract 43-1-76-t.)

81. *On the regularity of methods of summation of multiple series*, by Professor C. N. Moore. (Abstract 43-1-43-t.)

82. *A characterization of a compact continuum with no essential continuum of condensation*, by Professor R. L. Moore. (Abstract 43-1-44-t.)

83. *Homotopic extremals*, by Professor Marston Morse. (Abstract 43-1-46-t.)

84. *On the harmonic majorants of subharmonic functions*, by Professor Tibor Radó. (Abstract 42-11-422-t.)

85. *Gödel theorems for non-constructive logics*, by Dr. J. B. Rosser. (Abstract 42-11-423-t.)

86. *Definitions of betweenness in the foundations of geometry*, by Dr. A. R. Schweitzer. (Abstract 43-1-53-t.)

87. *A note on approximation by polynomials in the sense of least p th powers in the complex domain*, by Dr. W. E. Sewell. (Abstract 42-7-300-t.)

88. *Degree of approximation by polynomials—problem α* , by Dr. W. E. Sewell. (Abstract 43-1-78-t.)

89. *A note on the development of functions in a sequence of normal and orthogonal polynomials in the complex domain*, by Dr. W. E. Sewell. (Abstract 42-11-424-t.)

90. *Application of Laguerre polynomials to Laplace integrals*, by Professor J. A. Shohat. (Abstract 43-1-54-t.)

91. *A note on James' asymptotic Waring theorem for the cubic polynomial*, by Dr. Alvin Sugar. (Abstract 43-1-55-t.)

92. *Functional dependence of polynomials*, by Professor J. M. Thomas. (Abstract 43-1-57-t.)

93. *On the irregular case of the quadratic equation in quaternions and binary matrices*, by Professor H. S. Thurston. (Abstract 43-1-58-t.)

94. *Analytic theory of non-linear singular differential equations*, by Professor W. J. Trjitzinsky. (Abstract 43-1-60-t.)

95. *An irreducible complete system by tensorial methods of euclidean concomitants for the line and conic*, by Professor T. L. Wade. (Abstract 42-11-427-t.)

96. *Note on the simultaneous orthogonality of harmonic polynomials on several curves*, by Professor J. L. Walsh and Professor G. M. Merriman. (Abstract 42-11-428-t.)

97. *On the shape of level curves of Green's function*, by Professor J. L. Walsh. (Abstract 43-1-63-t.)

98. *On a set of postulates for Boolean algebras by terms of triadic rejection*, by Mr. A. L. Whiteman. (Abstract 42-11-429-t.)

99. *Matrices of integers and combinatorial topology*, by Professor Hassler Whitney. (Abstract 42-11-430-t.)

100. *The topological discriminant group of a Riemann surface of genus p and an application to the Poincaré group of plane elliptic curves*, by Professor Oscar Zariski. (Abstract 43-1-68-t.)

101. *Generalized weight properties of the resultant of $n+1$ polynomials in n indeterminates*, by Professor Oscar Zariski. (Abstract 43-1-66-t.)

102. *Equilibrium problems for potentials of positive and negative mass*, by Professor G. C. Evans. (Abstract 43-3-94-t.)

103. *Abstract derivation and Lie algebras*, by Dr. Nathan Jacobson (National Research Fellow). (Abstract 43-1-73-t.)

104. *On the partition function*, by Professor H. A. Rademacher. (Abstract 43-1-85-t.)

105. *The involution curve determined from a special pencil of n -ics*, by Dr. Josephine H. Chanler. (Abstract 43-1-81-t.)

106. *Desmic tetrahedra related to quadric surfaces*, by Professor N. A. Court. (Abstract 43-1-82-t.)

107. *The Stieltjes transform*, by Professor D. V. Widder. (Abstract 43-1-87-t.)

108. *A system of Riquier and the tensor calculus. II*, by Mr. L. B. Robinson. (Abstract 43-1-86-t.)

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