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# The May Meeting of the Indiana Section

### **Charles Brumfiel (Secretary)**

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The following papers were presented:

1. On the applications of Bo-spaces to summability theory, by Mr. H. R. Coomes, University of Kentucky.

A discussion of the work of Zeller together with some new criteria in order that B(AX) = BA(X) for matrices A and B and sequences X.

2. A note on the convergence of  $1 + \sum_{n=0}^{\infty} {m \choose n} x^n$  for  $x = \pm 1$ , by Professor Aughtum Howard, Eastern Kentucky State College.

The author gives an elementary proof of the convergence of the binomial series  $1 + \sum_{n=0}^{\infty} (-1)^n \binom{m}{n}$ , 0 < m < 1, and of  $1 + \sum_{n=0}^{\infty} \binom{m}{n}$ , -1 < m < 0.

- 3. On the fundamental theorem of linear equivalences in kinematic relativity, by Professor W. S. Krogdahl, University of Kentucky.
  - 4. On half-groups, by Professor Frank Levin, University of Kentucky.
- 5. Concerning the Euler differential equation, by Miss Helen S. Weihe, University of Kentucky. This talk was concerned with solving the Euler equation by means of the substitution  $y = (ax + b)^m$ .
  - 6. On the Visiting Lecturer Program, by Professor T. J. Pignani, University of Kentucky.
- 7. Revisions in the mathematics curriculum at Western Kentucky State College, by Professor A. G. Anderson, Western Kentucky State College.

Changes in the mathematics offerings at Western Kentucky State College, to become effective next fall, were outlined. Emphasis is on providing separate programs at the first year level for students majoring and minoring in mathematics and/or science and the group categorized under the general heading "non-science" students. At the junior-senior level, a similar separation is made to provide distinct programs meeting the needs of the group preparing for positions in secondary education and those having as objectives positions in business or industry or further training in mathematics at the graduate level.

8. Generalization of an ordered group, by Mr. W. K. Cope, University of Kentucky.

V. F. COWLING, Secretary

### THE MAY MEETING OF THE INDIANA SECTION

The thirty-seventh annual spring meeting of the Indiana Section of the Mathematical Association of America was held Saturday, May 7, 1960 at Earlham College, Richmond, Indiana. Approximately 50 members of the Association attended. Professor Kermit Carlson of Valparaiso University, Chairman of the Section, presided at both the morning and afternoon sessions.

The following officers were elected: Chairman, Professor M. E. Shanks, Purdue University; Vice-Chairman, Professor J. E. Yarnelle, Hanover College; Secretary-Treasurer, Professor P. T. Mielke, Wabash College.

Professor J. C. Polley reported on the activities of the State School and College Committee for Mathematics. This is a joint Committee of the Indiana Section of the Association, the Indiana Academy of Science, and the Indiana Council of Teachers of Mathematics. The purpose of the committee is to foster cooperation between school and college mathematics teachers and the State Department of Public Instruction. It was announced that a grant had been received from the National Science Foundation to support committee activities for the coming year.

A report on the National Test sponsored by the Association and the Actuarial Society, prepared by Professor Jack Forbes, was presented. It was decided that next year the Indiana School and College Committee would sponsor this test within the state.

Professor R. H. Bing of the University of Wisconsin presented the guest lecture on Recent Developments in Euclidean Topology.

The following short papers were presented:

- 1. The Earlham statistics program, by Professors Roland Smith and Howard Alexander, Earlham College.
  - 2. Trends in teacher education, by Professor Charles Brumfiel, Ball State Teacher's College.
  - 3. The additive group of real numbers, by Professor Johannes DeGroot, Purdue University.
- 4. Approximate solutions of the Dirichlet problem, by Professor Donald Greenspan, Purdue University.
  - 5. On repeated integrals, by Professor J. H. B. Kemperman, Purdue University.
  - 6. The recursive relation in Pascal's triangle, by Professor Dale Mesner, Purdue University.

    CHARLES BRUMFIEL, Secretary

#### THE MAY MEETING OF THE MINNESOTA SECTION

The annual spring meeting of the Minnesota Section of the Mathematical Association of America was held on May 7, 1960 at St. Olaf College in Northfield, Minnesota. Professor C. S. Carlson of St. Olaf College presided at the morning session. The Section Chairman, Professor Jerry Heuer of Concordia College, presided at the afternoon session. There were 68 registered for the meeting, of whom 55 were members of the Association.

At the business meeting Professor Seymour Schuster of Carleton College reported on the 1960 Minnesota High School Mathematics Contest which was sponsored, in part, by the Minnesota Section. 261 high schools and 9,655 students participated in the contest this year. The thanks of the section were expressed to Professor Schuster and his committee for doing an excellent job in handling the contest.

It was suggested that it would be helpful to the colleges and high schools in Minnesota if the Association discovered and published the natures of the available mathematics programs at the colleges and universities in the state. It was moved and passed that a committee be appointed to study this matter.

The motion was made and passed to accept with thanks a donation made to the section for the purpose of purchasing name tags to be used at section meetings. The donation was made by Dr. E. J. Parker of Remington-Rand Univac.

The following officers were elected to serve during the school year of 1960-61: Chairman, Professor Fulton Koehler of the University of Minnesota; Secretary-Treasurer, Professor Murray Braden of Macalaster College; Members of the Executive Committee, Professor O. E. Stanaitis of St. Olaf College and Professor Warren Thomsen of Mankato State College.

The following papers were presented:

1. Density theorems for sets of integers, and a generalization, by Professor William Moser, University of Manitoba. (by invitation of the Executive Committee).

Let f(x) be defined, integrable and  $0 \le f(x) \le 1$  on [0, 1]; g(x) = 1 - f(x) on [0, 1]; f(x) = g(x) = 0 outside [0, 1]. Furthermore let  $\int_0^t f(x) dx \ge \alpha t$ ,  $0 \le t \le 1$ ,  $\alpha$  a fixed real positive number,  $0 < \alpha < 1$ . Let  $D(t) = \int_0^t f(x) g(x+t) dx$  and  $D = \inf_{f(x)} \sup_t D(t)$ . Bounds for D are found. The methods used and the results obtained are generalizations of similar results regarding the density of the sum of two sequences of integers (See Kasch, Math. 3 vol. 62, 1955 pp. 368-387). Related problems are discussed and a brief outline of the history of these problems is given.

2. An obvious—but untrue—algebraic result related to geometry, by Professor Seymour Schuster, Miss Alison Krotter, and Mr. Don Olivier, Carleton College.