

Mathematics Paper 1 Memorandum For March 2013

Lists citations with abstracts for aerospace related reports obtained from world wide sources and announces documents that have recently been entered into the NASA Scientific and Technical Information Database.

This volume contains ten papers that have been collected by the Canadian Society for History and Philosophy of Mathematics/Société canadienne d'histoire et de philosophie des mathématiques. It showcases rigorously-reviewed contemporary scholarship on an interesting variety of topics in the history and philosophy of mathematics from the seventeenth century to the modern era. The volume begins with an exposition of the life and work of Professor Bolesław Sobociński. It then moves on to cover a collection of topics about twentieth-century philosophy of mathematics, including Fred Somner's creation of Traditional Formal Logic and Alexander Grothendieck's work as a starting point for discussing analogies between commutative algebra and algebraic geometry. Continuing the focus on the philosophy of mathematics, the next selections discuss the mathematization of biology and address the study of numerical cognition. The volume then moves to discussing various aspects of mathematics education, including Charles Davies's early book on the teaching of mathematics and the use of Gaussian Lemniscates in the classroom. A collection of papers on the history of mathematics in the nineteenth century closes out the volume, presenting a discussion of Gauss's "Allgemeine Theorie der Erdmagnetismus" and a comparison of the geometric works of Desargues and La Hire. Written by leading scholars in the field, these papers are accessible not only to mathematicians and students of the history and philosophy of mathematics, but also to anyone with a general interest in mathematics. The Republic of Korea's industrial policy has directed that nation's economy through nearly three decades of spectacular growth. But the authors of this paper maintain that this policy is showing signs of being outmoded. The time has come, the authors argue, for the Korean government to stop managing the economy's structural development and to redefine the responsibilities of business and government. Under this proposed compact, the allocation of resources would shift from the government to the private industrial and financial sectors. The transformation of the government bureaucracy from an ad hoc policy role to one of a transparent and predictable regulator is a key to the success of this undertaking. These new directions would present the government with enormous challenges. Greater competitive discipline and regulatory oversight would be required. While dealing with the complexities of the transition, the government would have to maintain macroeconomic stability and the momentum of savings and investment. For comparison, the study examines the industrial economies of France, Germany, Japan, and the United States, which underwent similar shifts.

Mathematics and mathematical physics. B

Programming Using the MathCW Portable Software Library

Research in Progress

Extrapolation and Rational Approximation

1961-1971

National Union Catalog

Includes "Examination Papers".

Interactive Systems for Experimental Applied Mathematics is a collection of papers presented at the 1967 Association for Computing Machinery (ACM) Inc. Symposium on Interactive Systems for Experimental Mathematics, held in Washington, D.C. in conjunction with the ACM National Meeting. This book is organized into five parts encompassing 46 chapters. The opening part deals with the general criteria for interactive on-line systems that seem most important for the experimental solution of mathematical problems. This part specifically describes the AMTRAN, REDUCE, EASL, POSE, VENUS, and CHARYBDIS computer systems and languages. The next two parts cover the components of interactive systems, including coherent programming, interactive console, mathematical symbol processing, message system, and computer-aided instruction. The fourth part examines a scheme for permitting a user of conventional procedural programming languages, namely, FORTRAN, to test actual error propagation in numerical calculations. This part also describes the features of Analyst Assistance Program, an on-line graphically oriented conversational computing system designed to perform small nonrecurring numerical computations. The concluding part presents several implications of selected computer systems, the resulting problems, and their proposed solutions. This book is of great benefit to computer scientists and engineers, mathematicians, and undergraduate and graduate students in applied mathematics.

The second in this two-volume series also contains original papers commissioned from prominent 20th-century mathematicians. A three-part treatment covers mathematical methods, statistical and scheduling studies, and physical phenomena. 1961 edition.

Library of Congress Catalogs

The Education Outlook

Research in History and Philosophy of Mathematics

Current Issues in Mathematics Education

Calendar

Sessional papers. Inventory control record 1

The word "critical" in the title of this collection has three meanings, all of which are relevant. One meaning, as applied to a situation or problem, is "at a point of crisis". A second meaning is "expressing adverse or disapproving comments or judgments". A third is related to the verb "to critique", meaning "to analyze the merits and faults of". The authors contributing to this book pose challenging questions, from multiple perspectives, about the roles of mathematics in society and the implications for education. Traditional reasons for teaching mathematics include: preparing a new generation of mathematics researchers and a cadre of technically competent users of mathematics; training students to think logically; and because mathematics is as much part of cultural heritage as literature or music. These reasons remain valid, though open to critique, but a deeper analysis is required that recognizes the roles of mathematics in framing many aspects of contemporary society, that will connect mathematics education to the lived experiences of students, their communities, and society in general, and that acknowledges the global ethical responsibilities of mathematicians and mathematics educators. The book is organized in four sections (1) Mathematics education: For what and why? (2) Globalization and cultural diversity. (3) Mathematics, education, and society and (4) Social justice in, and through, mathematics education The chapters address fundamental issues such as the relevance of school mathematics in people's lives; creating a sense of agency for the field of mathematics education, and redefining the relationship between mathematics as discipline, mathematics as school subject and mathematics as part of people's lives.

Since the elassic work on inequalities by HARDY, LITTLEWOOD, and PóLYA in 1934, an enonnous amount of effort has been devoted to the sharpening and extension of the elassical inequalities, to the discovery of new types of inequalities, and to the application of inequalities in many parts of analysis. As examples, let us eite the fields of ordinary and partial differential equations, which are dominated by inequalities and variational principles involving functions and their derivatives; the many applications of linear inequalities to game theory and mathe matial economics, which have triggered a renewed interest in con vexity and moment-space theory; and the growing uses of digital com puters, which have given impetus to a systematic study of error esti mates involving much sophisticated matrix theory and operator theory. The results presented in the following pages reflect to some extent these ramifications of inequalities into contiguous regions of analysis, but to a greater extent our concern is with inequalities in their native habitat. Since it is elearly impossible to give a connected account of the burst of analytic activity of the last twenty-five years centering about inequalities, we have d. eided to limit our attention to those topics that have particularly delighted and intrigued us, and to the study of which we have contributed.

Includes entries for maps and atlases.

Research Trends with Regard to the Instruction of Mathematics in Some Western Countries

Technologies of Power in Adult and Vocational Education

The Life of Benjamin Henry Latrobe

The History of Combinatorial Group Theory

What Counts as Mathematics?

U.S. Government Research Reports

The description for this book, Contributions to the Theory of Games (AM-40), Volume IV, will be forthcoming.

An English émigré who became America's first professional architect, Benjamin Henry Latrobe put his stamp on the built landscape of the new republic. Latrobe contributed to such iconic structures as the south wing of the US Capitol building, the White House, and the Navy Yard. He created some of the early republic's greatest neoclassical interiors, including the Statuary Hall and the Senate, House, and Supreme Court Chambers. As a young man, Latrobe was apprenticed to both a leading architect and civil engineer in London, studied the European continent's architectural and engineering monuments, worked on canals, and designed private houses. After the death of his first wife, he was bankrupt and emigrated to the United States in 1786 to restart his career. For the new nation with grand political expectations, he intended buildings and engineering projects to match those aspirations. Like his patron Thomas Jefferson, Latrobe saw his neoclassical designs as a way to convey American democracy. He envisioned his engineering projects, such as the canals and municipal water systems for Philadelphia and New Orleans, as a way to unite the nation and improve public health. Jean Baker conveys the personality of this charming, driven, and often frustrated genius and the era in which he lived. Latrobe tried to establish architecture as a profession with high standards, established fees, and recognized procedures, though he was unable to collect fees and earn the living his work was worth. Like many of his peers, he speculated and found himself in bankruptcy several times. Building America masterfully narrates the life and legacy of a key figure in creating an American aesthetic in the new United States.

NASA MemorandumWhat Counts as MathematicsTechnologies of Power in Adult and Vocational EducationSpringer Science & Business Media

Interactive Systems for Experimental Applied Mathematics

The Bellman Continuum

Inequalities

Modern Mathematics for the Engineer: Second Series

Contributions to the Theory of Games (AM-40), Volume IV

Research in Education

One of the pervasive phenomena in the history of science is the development of independent disciplines from the solution or attempted solutions of problems in other areas of science. In the Twentieth Century, the creation of specialties witqin the sciences has accelerated to the point where a large number of scientists in any major branch of science cannot understand the work of a colleague in another subdiscipline of his own science. Despite this fragmentation, the development of techniques or solutions of problems in one area very often contribute fundamentally to solutions of problems in a seemingly unrelated field. Therefore, an examination of this phenomenon of the formation of independent disciplines within the sciences would contrib ute to the understanding of their evolution in modern times. We believe that in this context the history of combinatorial group theory in the late Nineteenth Century and the Twentieth Century can be used effectively as a case study. It is a reasonably well-defined independent specialty, and yet it is closely related to other mathematical disciplines. The fact that combinatorial group theory has, so far, not been influenced by the practical needs of science and technology makes it possible for us to use combinatorial group theory to exhibit the role of the intellectual aspects of the development of mathematics in a clearcut manner. There are other features of combinatorial group theory which appear to make it a reasona ble choice as the object of a historical study.

These lectures emphasized specific areas of operations research and the mathematics used in modeling and solving the related problems. The lecturers were: Seth Bonder, Ralph L. Disney, Frederick C. Johnson, William P. Pierskalla, Robert B. Rovinsky, Warren E. Walker. Each lecturer attempted to make his presentation self-contained in terms of defining the application areas and mathematics employed.

Based on the 1987 International Commission on Mathematical Instruction conference, this volume comprises key papers on the role of mathematics in applied subjects.

Summary Technical Report of NDRC

China

A Cumulative Author List Representing Library of Congress Printed Cards and Titles Reported by Other American Libraries

Australian national bibliography

Parliamentary Papers

Current Catalog

This book paints a fresco of the field of extrapolation and rational approximation over the last several centuries to the present through the works of their primary contributors. It can serve as an introduction to the topics covered, including extrapolation methods, Padé approximation, orthogonal polynomials,

continued fractions, Lanczos-type methods etc. It also provides in depth discussion of the many links between these subjects. A highlight of this book is the presentation of the human side of the fields discussed via personal testimonies from contemporary researchers, their anecdotes, and their exclusive remembrances of some of the "actors." This book shows how research in this domain started and evolved. Biographies of other scholars encountered have also been included. An important branch of mathematics is described in its historical context, opening the way to new developments. After a mathematical introduction, the book contains a precise description of the mathematical landscape of these fields spanning from the 19th century to the first part of the 20th. After an analysis of the works produced after that period (in particular those of Richardson, Aitken, Shanks, Wynn, and others), the most recent developments and applications are reviewed.

In real-world problems related to finance, business, and management, mathematicians and economists frequently encounter optimization problems. In this classic book, George Dantzig looks at a wealth of examples and develops linear programming methods for their solutions. He begins by introducing the basic theory of linear inequalities and describes the powerful simplex method used to solve them. Treatments of the price concept, the transportation problem, and matrix methods are also given, and key mathematical concepts such as the properties of convex sets and linear vector spaces are covered. George Dantzig is properly acclaimed as the "father of linear programming." Linear programming is a mathematical technique used to optimize a situation. It can be used to minimize traffic congestion or to maximize the scheduling of airline flights. He formulated its basic theoretical model and discovered its underlying computational algorithm, the "simplex method," in a pathbreaking memorandum published by the United States Air Force in early 1948. Linear Programming and Extensions provides an extraordinary account of the subsequent development of his subject, including research in mathematical theory, computation, economic analysis, and applications to industrial problems. Dantzig first achieved success as a statistics graduate student at the University of California, Berkeley. One day he arrived for a class after it had begun, and assumed the two problems on the board were assigned for homework. When he handed in the solutions, he apologized to his professor, Jerzy Neyman, for their being late but explained that he had found the problems harder than usual. About six weeks later, Neyman excitedly told Dantzig, "I've just written an introduction to one of your papers. Read it so I can send it out right away for publication." Dantzig had no idea what he was talking about. He later learned that the "homework" problems had in fact been two famous unsolved problems in statistics.

This highly comprehensive handbook provides a substantial advance in the computation of elementary and special functions of mathematics, extending the function coverage of major programming languages well beyond their international standards, including full support for decimal floating-point arithmetic. Written with clarity and focusing on the C language, the work pays extensive attention to little-understood aspects of floating-point and integer arithmetic, and to software portability, as well as to important historical architectures. It extends support to a future 256-bit, floating-point format offering 70 decimal digits of precision. Select Topics and Features: references an exceptionally useful, author-maintained MathCW website, containing source code for the book's software, compiled libraries for numerous systems, pre-built C compilers, and other related materials; offers a unique approach to covering mathematical-function computation using decimal arithmetic; provides extremely versatile appendices for interfaces to numerous other languages: Ada, C#, C++, Fortran, Java, and Pascal; presupposes only basic familiarity with computer programming in a common language, as well as early level algebra; supplies a library that readily adapts for existing scripting languages, with minimal effort; supports both binary and decimal arithmetic, in up to 10 different floating-point formats; covers a significant portion (with highly accurate implementations) of the US National Institute of Standards and Technology's 10-year project to codify mathematical functions. This highly practical text/reference is an invaluable tool for advanced undergraduates, recording many lessons of the intermingled history of computer hardw are and software, numerical algorithms, and mathematics. In addition, professional numerical analysts and others will find the handbook of real interest and utility because it builds on research by the mathematical software community over the last four decades.

monographic series

A Case Study in the History of Ideas

Scientific and Technical Aerospace Reports

Handbooks in Operations Research and Management Science

Mathematics as a Service Subject

NASA Memorandum

The chapters of this Handbook volume cover nine main topics that are representative of recent theoretical and algorithmic developments in the field. In addition to the nine papers that present the state of the art, there is an article on the early history of the field. The handbook will be a useful reference to experts in the field as well as students and others who want to learn about discrete optimization.

This book presents an institutional study located at the intersection mathematics education and vocational education. Using the concept of technology as a unifying theme, it presents a critique of neoliberalist policies and their impact upon curriculum, teachers' work, and the apparent de-institutionalization of vocational education - with particular reference to mathematics education and the consequences for adult students as (potential) workers and citizens.

This volume is a collection of some of the most significant mathematical works of Prof Richard E Bellman. Ten areas of Prof Bellman's mathematical research were selected by his co-workers for this volume. Each chapter starts with an introductory comment on the significance of Bellman's contribution. Some important mathematical theories are put forward and their applications in physics and biology such as the mathematical aspect of chemotherapy and the analysis of biological systems are included in this book. Contents: Richard Ernest BellmanDynamic ProgrammingDifferential-Difference EquationsInvariant ImbeddingRadiative TransferMathematical BiologyQuasilinearizationStochastic Processes and Stochastic Differential EquationsThe Identification of SystemsMathematics, Man and Society Readership: Mathematicians, mathematical physicists and mathematical biologists. Keywords:Dynamic Programming;Differential Difference Equations;Invariant Embedding;Radiative Transfer;Quasilinearization;Stochastic Processes;Identification of SystemsReview:"This is a very useful book for the historian of mathematics, biographer, etc. There is a unique opportunity for historical, biographical and

mathematical perspective to emerge. 'Mathematics Abstracts

Urban Land Management in an Emerging Market Economy

The Works of the Main Contributors

Sessional Papers

Linear Programming and Extensions

Discrete Optimization

Journal of Research of the National Bureau of Standards

First multi-year cumulation covers six years: 1965-70.

Catalogue of British Official Publications Not Published by HMSO.

Mathematical and Physical Papers

Government Reports Announcements & Index

University of California Union Catalog of Monographs Cataloged by the Nine Campuses from 1963 Through 1967: Authors & titles

The Calendar