

Geometry Turned On Dynamic Software In Learning Teaching And Research Mathematical Association Of America Notes

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Writing in the Teaching and Learning of Mathematics - John Meier 1998-09-17

This book examines the hows and whys of writing in mathematics.

A Course in Modern Geometries - Judith N. Cederberg 2013-03-09

Designed for a junior-senior level course for mathematics majors, including those who plan to teach in secondary school. The first chapter presents several finite geometries in an axiomatic framework, while Chapter 2 continues the synthetic approach in introducing both Euclids and ideas of non-Euclidean geometry. There follows a new introduction to symmetry and hands-on explorations of isometries that precedes an extensive analytic treatment of similarities and affinities. Chapter 4 presents plane projective geometry both synthetically and analytically, and the new Chapter 5 uses a descriptive and exploratory approach to introduce chaos theory and fractal geometry, stressing the self-similarity of fractals and their generation by transformations from Chapter 3. Throughout, each chapter includes a list of suggested resources for applications or related topics in areas such as art and history, plus this second edition points to Web locations of author-developed guides for dynamic software explorations of the Poincaré model, isometries, projectivities, conics and fractals. Parallel versions are available for "Cabri Geometry" and "Geometers Sketchpad".

Mathematics and the Aesthetic - Nathalie Sinclair 2007-12-28

This collection of essays explores the ancient affinity between the mathematical and the aesthetic, focusing on fundamental connections between these two modes of reasoning and communicating. From historical, philosophical and psychological perspectives, with particular attention to certain mathematical areas such as geometry and analysis, the authors examine ways in which the aesthetic is ever-present in mathematical thinking and contributes to the growth and value of mathematical knowledge.

History in Mathematics Education - John Fauvel 2006-04-11

This ground-breaking book investigates how the learning and teaching of mathematics can be improved through integrating the history of mathematics into all aspects of mathematics education: lessons, homework, texts, lectures, projects, assessment, and curricula. It draws upon evidence from the experience of teachers as well as national curricula, textbooks, teacher education practices, and research perspectives across the world. It includes a 300-item annotated bibliography of recent work in the field in eight languages.

Networking the Learner - Deryn M. Watson 2013-11-11

Deryn Watson and Jane Andersen Editors INTRODUCTION The role of a Preface is to introduce the nature of the publication. The book that emerges from an IFIP Technical Committee World Conference on Computers in Education is complex, and this complexity lies in the nature of the event from which it emerges. Unlike a number of other major international conferences, those organised within the IFIP education community are active events. A WCCE is unique among major international conferences for the structure that deliberately ensures that all attendees are active participants in the development of the debate. In addition to the major paper presentations and discussion, from international authors, there are panel sessions and professional working groups who debate particular themes throughout the event. There is no doubt that this was not a dry academic conference - teachers, lecturers and experts, policy makers and researchers, learners and manufacturers mingled and worked together to explore, reflect, discuss and plan for the future. The added value of this event was that we know that it will have an impact on future practice; networks will be formed, both virtual and real - ideas will change and new ones will emerge. Capturing the essence

of this event is a challenge - this post-conference book has three parts. The first is the substantial number of theme papers.

Enhancing Mathematics Understanding through Visualization: The Role of Dynamical Software - Habre, Samer 2013-05-31

Mathematics is, by its very nature, an abstract discipline. However, many students learn best by thinking in terms of tangible constructs.

Enhancing Mathematics Understanding through Visualization: The Role of Dynamical Software brings these conflicting viewpoints together by offering visual representations as a method of mathematics instruction. The book explores the role of technology in providing access to multiple representations of concepts, using software applications to create a rich environment in which a student's understanding of mathematical concepts can flourish. Both students and instructors of mathematics at the university level will use this book to implement various novel techniques for the delivery of mathematical concepts in their classrooms. This book is part of the Research Essential collection.

Invited Lectures from the 13th International Congress on Mathematical Education - Gabriele Kaiser 2018-02-06

The book presents the Invited Lectures given at 13th International Congress on Mathematical Education (ICME-13). ICME-13 took place from 24th- 31st July 2016 at the University of Hamburg in Hamburg (Germany). The congress was hosted by the Society of Didactics of Mathematics (Gesellschaft für Didaktik der Mathematik - GDM) and took place under the auspices of the International Commission on Mathematical Instruction (ICMI). ICME-13 - the biggest ICME so far - brought together about 3500 mathematics educators from 105 countries, additionally 250 teachers from German speaking countries met for specific activities. The scholars came together to share their work on the improvement of mathematics education at all educational levels.. The papers present the work of prominent mathematics educators from all over the globe and give insight into the current discussion in mathematics education. The Invited Lectures cover a wide spectrum of topics, themes and issues and aim to give direction to future research towards educational improvement in the teaching and learning of mathematics education. This book is of particular interest to researchers, teachers and curriculum developers in mathematics education.

Modeling Students' Mathematical Modeling Competencies -

Richard Lesh 2013-03-17

Modeling Students' Mathematical Modeling Competencies offers welcome clarity and focus to the international research and professional community in mathematics, science, and engineering education, as well as those involved in the sciences of teaching and learning these subjects.

CRC Concise Encyclopedia of Mathematics - Eric W. Weisstein 2002-12-12

Upon publication, the first edition of the CRC Concise Encyclopedia of Mathematics received overwhelming accolades for its unparalleled scope, readability, and utility. It soon took its place among the top selling books in the history of Chapman & Hall/CRC, and its popularity continues unabated. Yet also unabated has been the d

Mathematics Education and Technology-Rethinking the Terrain - Celia Hoyles 2009-10-09

Mathematics Education and Technology-Rethinking the Terrain revisits the important 1985 ICMI Study on the influence of computers and informatics on mathematics and its teaching. The focus of this book, resulting from the seventeenth Study led by ICMI, is the use of digital technologies in mathematics teaching and learning in countries across the world. Specifically, it focuses on cultural diversity and how this diversity impinges on the use of digital technologies in mathematics

teaching and learning. Within this focus, themes such as mathematics and mathematical practices; learning and assessing mathematics with and through digital technologies; teachers and teaching; design of learning environments and curricula; implementation of curricula and classroom practice; access, equity and socio-cultural issues; and connectivity and virtual networks for learning, serve to organize the study and bring it coherence. Providing a state-of-the-art view of the domain with regards to research, innovating practices and technological development, *Mathematics Education and Technology-Rethinking the Terrain* is of interest to researchers and all those interested in the role that digital technology plays in mathematics education.

Handbook of International Research in Mathematics Education - Lyn D. English 2015-07-30

This third edition of the *Handbook of International Research in Mathematics Education* provides a comprehensive overview of the most recent theoretical and practical developments in the field of mathematics education. Authored by an array of internationally recognized scholars and edited by Lyn English and David Kirshner, this collection brings together overviews and advances in mathematics education research spanning established and emerging topics, diverse workplace and school environments, and globally representative research priorities. New perspectives are presented on a range of critical topics including embodied learning, the theory-practice divide, new developments in the early years, educating future mathematics education professors, problem solving in a 21st century curriculum, culture and mathematics learning, complex systems, critical analysis of design-based research, multimodal technologies, and e-textbooks. Comprised of 12 revised and 17 new chapters, this edition extends the *Handbook's* original themes for international research in mathematics education and remains in the process a definitive resource for the field.

Middle Math - Mary B. Eron 2015-10-01

(Originally published in 2005) This monograph represents the work of many mathematics teacher educators explored the content knowledge and pedagogical knowledge that make up the middle grades learning experience. The middle grades remains a unique period of time in students' development and as such provides both challenges and promising opportunities for those who prepare teachers of middle grades mathematics. This work is the final product of an exciting NSF supported endeavor that gathered leaders in the field and explored curriculum, case studies of program models at several institutions, as well as issue papers on such key topics as assessment, technology, and preparing culturally responsive teachers. AMTE hopes this monograph will stimulate discussion and bring attention to this critical period of schooling.

Making the Connection - Marilyn Paula Carlson 2008

The chapters in this volume convey insights from mathematics education research that have direct implications for anyone interested in improving teaching and learning in undergraduate mathematics. This synthesis of research on learning and teaching mathematics provides relevant information for any math department or individual faculty member who is working to improve introductory proof courses, the longitudinal coherence of precalculus through differential equations, students' mathematical thinking and problem-solving abilities, and students' understanding of fundamental ideas such as variable and rate of change. Other chapters include information about programs that have been successful in supporting students' continued study of mathematics. The authors provide many examples and ideas to help the reader infuse the knowledge from mathematics education research into mathematics teaching practice. University mathematicians and community college faculty spend much of their time engaged in work to improve their teaching. Frequently, they are left to their own experiences and informal conversations with colleagues to develop new approaches to support student learning and their continuation in mathematics. Over the past 30 years, research in undergraduate mathematics education has produced knowledge about the development of mathematical understandings and models for supporting students' mathematical learning. Currently, very little of this knowledge is affecting teaching practice. We hope that this volume will open a meaningful dialogue between researchers and practitioners toward the goal of realizing improvements in undergraduate mathematics curriculum and instruction.

Using the Mathematics Literature - Kristine K. Fowler 2004-05-25

This reference serves as a reader-friendly guide to every basic tool and skill required in the mathematical library and helps mathematicians find resources in any format in the mathematics literature. It lists a wide range of standard texts, journals, review articles, newsgroups, and

Internet and database tools for every major subfield in mathematics

The Facts on File Geometry Handbook - Catherine A. Gorini

2014-05-14

Contains a history of the subject of geometry, including more than 3,000 entries providing definitions and explanations of related topics, plus brief biographies of over 300 scientists.

Doing the Scholarship of Teaching and Learning in Mathematics -

Jacqueline M. Dewar 2014-11-03

The Scholarship of Teaching and Learning (SoTL) movement encourages faculty to view teaching "problems" as invitations to conduct scholarly investigations. In this growing field of inquiry faculty bring their disciplinary knowledge and teaching experience to bear on questions of teaching and learning. They systematically gather evidence to develop and support their conclusions. The results are to be peer reviewed and made public for others to build on. This Notes volume is written expressly for collegiate mathematics faculty who want to know more about conducting scholarly investigations into their teaching and their students' learning. Envisioned and edited by two mathematics faculty, the volume serves as a how-to guide for doing SoTL in mathematics.

Handbook of Research Design in Mathematics and Science

Education - Anthony Edward Kelly 2012-10-12

The *Handbook of Research Design in Mathematics and Science Education* is based on results from an NSF-supported project (REC 9450510) aimed at clarifying the nature of principles that govern the effective use of emerging new research designs in mathematics and science education. A primary goal is to describe several of the most important types of research designs that: * have been pioneered recently by mathematics and science educators; * have distinctive characteristics when they are used in projects that focus on mathematics and science education; and * have proven to be especially productive for investigating the kinds of complex, interacting, and adapting systems that underlie the development of mathematics or science students and teachers, or for the development, dissemination, and implementation of innovative programs of mathematics or science instruction. The volume emphasizes research designs that are intended to radically increase the relevance of research to practice, often by involving practitioners in the identification and formulation of the problems to be addressed or in other key roles in the research process. Examples of such research designs include teaching experiments, clinical interviews, analyses of videotapes, action research studies, ethnographic observations, software development studies (or curricula development studies, more generally), and computer modeling studies. This book's second goal is to begin discussions about the nature of appropriate and productive criteria for assessing (and increasing) the quality of research proposals, projects, or publications that are based on the preceding kind of research designs. A final objective is to describe such guidelines in forms that will be useful to graduate students and others who are novices to the fields of mathematics or science education research. The NSF-supported project from which this book developed involved a series of mini conferences in which leading researchers in mathematics and science education developed detailed specifications for the book, and planned and revised chapters to be included. Chapters were also field tested and revised during a series of doctoral research seminars that were sponsored by the University of Wisconsin's OERI-supported National Center for Improving Student Learning and Achievement in Mathematics and Science. In these seminars, computer-based videoconferencing and www-based discussion groups were used to create interactions in which authors of potential chapters served as "guest discussion leaders" responding to questions and comments from doctoral students and faculty members representing more than a dozen leading research universities throughout the USA and abroad. A Web site with additional resource materials related to this book can be found at <http://www.soe.purdue.edu/smsc/lesh/> This internet site includes directions for enrolling in seminars, participating in ongoing discussion groups, and submitting or downloading resources which range from videotapes and transcripts, to assessment instruments or theory-based software, to publications or data samples related to the research designs being discussed.

Volume 2: Cases and Perspectives - M. Kathleen Heid 2008-07-01

(Published in Co-operation with the National Council of Teacher of Mathematics) According to NCTM's Principles and Standards for School Mathematics, "Technology is essential in teaching and learning of mathematics; it influences the mathematics that is taught and it enhances students' learning." How does research inform this clarion call for technology in mathematics teaching and learning? In response to the need to craft appropriate roles for technology in school mathematics new

technological approaches have been applied to the teaching and learning of mathematics, and these approaches have been examined by researchers world-wide. The second volume has a dual focus: cases and perspectives. It features descriptive cases that provide accounts of the development of technology-intensive curriculum and tools. In these cases the writers describe and analyze various roles that research played in their development work and ways in which research, curriculum development, and tool development can inform each other. These thoughtful descriptions and analyses provide documentation of how this process can and does occur. The remaining chapters in the second volume address research related issues and perspectives on the use of technology in the teaching and learning of mathematics. The lessons learned from the research presented in these volumes are lessons about teaching and learning that can be applied more broadly than solely in technological settings.

Translating Euclid - GERRY STAHL 2013-05-10

Translating Euclid reports on an effort to transform geometry for students from a stylus-and-clay-tablet corpus of historical theorems to a stimulating computer-supported collaborative-learning inquiry experience. The origin of geometry was a turning point in the pre-history of informatics, literacy, and rational thought. Yet, this triumph of human intellect became ossified through historic layers of systematization, beginning with Euclid's organization of the Elements of geometry. Often taught by memorization of procedures, theorems, and proofs, geometry in schooling rarely conveys its underlying intellectual excitement. The recent development of dynamic-geometry software offers an opportunity to translate the study of geometry into a contemporary vernacular. However, this involves transformations along multiple dimensions of the conceptual and practical context of learning. Translating Euclid steps through the multiple challenges involved in redesigning geometry education to take advantage of computer support. Networked computers portend an interactive approach to exploring dynamic geometry as well as broadened prospects for collaboration. The proposed conception of geometry emphasizes the central role of the construction of dependencies as a design activity, integrating human creation and mathematical discovery to form a human-centered approach to mathematics. This book chronicles an iterative effort to adapt technology, theory, pedagogy and practice to support this vision of collaborative dynamic geometry and to evolve the approach through on-going cycles of trial with students and refinement of resources. It thereby provides a case study of a design-based research effort in computer-supported collaborative learning from a human-centered informatics perspective.

What is a Mathematical Concept? - Elizabeth de Freitas 2017-06-22

Responding to widespread interest within cultural studies and social inquiry, this book addresses the question 'what is a mathematical concept?' using a variety of vanguard theories in the humanities and posthumanities. Tapping historical, philosophical, sociological and psychological perspectives, each chapter explores the question of how mathematics comes to matter. Of interest to scholars across the usual disciplinary divides, this book tracks mathematics as a cultural activity, drawing connections with empirical practice. Unlike other books in this area, it is highly interdisciplinary, devoted to exploring the ontology of mathematics as it plays out in different contexts. This book will appeal to scholars who are interested in particular mathematical habits - creative diagramming, structural mappings, material agency, interdisciplinary coverings - that shed light on both mathematics and other disciplines. Chapters are also relevant to social sciences and humanities scholars, as each offers philosophical insight into mathematics and how we might live mathematically.

Designing Learning Environments for Developing Understanding of Geometry and Space - Richard Lehrer 2012-11-12

This volume reflects an appreciation of the interactive roles of subject matter, teacher, student, and technologies in designing classrooms that promote understanding of geometry and space. Although these elements of geometry education are mutually constituted, the book is organized to highlight, first, the editors' vision of a general geometry education; second, the development of student thinking in everyday and classroom contexts; and third, the role of technologies. Rather than looking to high school geometry as the locus--and all too often, the apex--of geometric reasoning, the contributors to this volume suggest that reasoning about space can and should be successfully integrated with other forms of mathematics, starting at the elementary level and continuing through high school. Reintegrating spatial reasoning into the mathematical mainstream--indeed, placing it at the core of K-12 mathematics

environments that promote learning with understanding--will mean increased attention to problems in modeling, structure, and design and reinvigoration of traditional topics such as measure, dimension, and form. Further, the editors' position is that the teaching of geometry and spatial visualization in school should not be compressed into a characterization of Greek geometry, but should include attention to contributions to the mathematics of space that developed subsequent to those of the Greeks. This volume is essential reading for those involved in mathematics education at all levels, including university faculty, researchers, and graduate students.

Visual Mathematics and Cyberlearning - Dragana Martinovic 2012-12-24

This first book in the series will describe the Net Generation as visual learners who thrive when surrounded with new technologies and whose needs can be met with the technological innovations. These new learners seek novel ways of studying, such as collaborating with peers, multitasking, as well as use of multimedia, the Internet, and other Information and Communication Technologies. Here we present mathematics as a contemporary subject that is engaging, exciting and enlightening in new ways. For example, in the distributed environment of cyber space, mathematics learners play games, watch presentations on YouTube, create Java applets of mathematics simulations and exchange thoughts over the Instant Messaging tool. How should mathematics education resonate with these learners and technological novelties that excite them?

The Art of Problem Posing - Stephen I. Brown 2005-01-15

Describes and provides examples of the relationships between problem posing and problem solving, and explores the educational potential of integrating the two activities in classrooms. It encourages readers to shift their thinking about problem posing from the "other" to themselves and offers a broader conception of what can be done with problems.

Proceedings of IAC in Vienna 2017 - collective of authors 2017-11-20

International Academic Conference on Global Education, Teaching and Learning and International Academic Conference on Management, Economics, Business and Marketing and International Academic Conference on Transport, Logistics, Tourism and Sport Science. Vienna, Austria 2017 (IAC-GETL + IAC-MEBM 2017 + IAC-TLTS 2017), November 24 - 25, 2017.

How Computer Games Help Children Learn - D. Shaffer 2007-02-25

How can we make sure that our children are learning to be creative thinkers in a world of global competition - and what does that mean for the future of education in the digital age? David Williamson Shaffer offers a fresh and powerful perspective on computer games and learning. How Computer Games Help Children Learn shows how video and computer games can help teach children to build successful futures - but only if we think in new ways about education itself. Shaffer shows how computer and video games can help students learn to think like engineers, urban planners, journalists, lawyers, and other innovative professionals, giving them the tools they need to survive in a changing world. Based on more than a decade of research in technology, game science, and education, How Computer Games Help Children Learn revolutionizes the ongoing debate about the pros and cons of digital learning.

The Legacy of Felix Klein - Hans-Georg Weigand 2018-12-11

This open access book provides an overview of Felix Klein's ideas, highlighting developments in university teaching and school mathematics related to Klein's thoughts, stemming from the last century. It discusses the meaning, importance and the legacy of Klein's ideas today and in the future, within an international, global context. Presenting extended versions of the talks at the Thematic Afternoon at ICME-13, the book shows that many of Klein's ideas can be reinterpreted in the context of the current situation, and offers tips and advice for dealing with current problems in teacher education and teaching mathematics in secondary schools. It proves that old ideas are timeless, but that it takes competent, committed and assertive individuals to bring these ideas to life. Throughout his professional life, Felix Klein emphasised the importance of reflecting upon mathematics teaching and learning from both a mathematical and a psychological or educational point of view. He also strongly promoted the modernisation of mathematics in the classroom, and developed ideas on university lectures for student teachers, which he later consolidated at the beginning of the last century in the three books on elementary mathematics from a higher standpoint.

Current Practices in Quantitative Literacy - Rick Gillman 2006

Presents a wide sampling of efforts being made on campuses across the country to achieve our common goal of having a quantitatively literate citizenry.

Second International Handbook of Mathematics Education - Alan Bishop 2012-02-02

ALAN 1. BISHOP The first International Handbook on Mathematics Education was published by Kluwer Academic Publishers in 1996. However, most of the writing for that handbook was done in 1995 and generally reflected the main research and development foci prior to 1994. There were four sections, 36 chapters, and some 150 people contributed to the final volume either as author, reviewer, editor, or critical friend. The task was a monumental one, attempting to cover the major research and practice developments in the international field of mathematics education as it appeared to the contributors in 1995. Inevitably there were certain omissions, some developments were only starting to emerge, and some literatures were only sketchy and speculative. However that Handbook has had to be reprinted three times, so it clearly fulfilled a need and I personally hope that it lived up to what I wrote in its Introduction: The Handbook thus attempts not merely to present a description of the international 'state-of-the-field', but also to offer synthetic and reflective overviews on the different directions being taken by the field, on the gaps existing in our present knowledge, on the current problems being faced, and on the future possibilities for development. (Bishop et al. , 1996) Since that time there has been even more activity in our field, and now seems a good time to take stock again, to reflect on what has happened since 1995, and to create a second Handbook with the same overall goals.

Exploring Classical Greek Construction Problems with Interactive Geometry Software - Ad Meskens 2017-02-02

In this book the classical Greek construction problems are explored in a didactical, enquiry based fashion using Interactive Geometry Software (IGS). The book traces the history of these problems, stating them in modern terminology. By focusing on constructions and the use of IGS the reader is confronted with the same problems that ancient mathematicians once faced. The reader can step into the footsteps of Euclid, Viète and Cusanus amongst others and then by experimenting and discovering geometric relationships far exceed their accomplishments. Exploring these problems with the neusis-method lets him discover a class of interesting curves. By experimenting he will gain a deeper understanding of how mathematics is created. More than 100 exercises guide him through methods which were developed to try and solve the problems. The exercises are at the level of undergraduate students and only require knowledge of elementary Euclidean geometry and pre-calculus algebra. It is especially well-suited for those students who are thinking of becoming a mathematics teacher and for mathematics teachers.

International Perspectives on the Teaching and Learning of Geometry in Secondary Schools - Patricio Herbst 2018-04-27

This book presents current perspectives on theoretical and empirical issues related to the teaching and learning of geometry at secondary schools. It contains chapters contributing to three main areas. A first set of chapters examines mathematical, epistemological, and curricular perspectives. A second set of chapters presents studies on geometry instruction and teacher knowledge, and a third set of chapters offers studies on geometry thinking and learning. Specific research topics addressed also include teaching practice, learning trajectories, learning difficulties, technological resources, instructional design, assessments, textbook analyses, and teacher education in geometry. Geometry remains an essential and critical topic in school mathematics. As they learn geometry, students develop essential mathematical thinking and visualization skills and learn a language that helps them relate to and interact with the physical world. Geometry has traditionally been included as a subject of study in secondary mathematics curricula, but it has also featured as a resource in out-of-school problem solving, and has been connected to various human activities such as sports, games, and artwork. Furthermore, geometry often plays a role in teacher preparation, undergraduate mathematics, and at the workplace. New technologies, including dynamic geometry software, computer-assisted design software, and geometric positioning systems, have provided more resources for teachers to design environments and tasks in which students can learn and use geometry. In this context, research on the teaching and learning of geometry will continue to be a key element on the research agendas of mathematics educators, as researchers continue to look for ways to enhance student learning and to understand student thinking and teachers' decision making.

Cases on Technological Adaptability and Transnational Learning: Issues and Challenges - Mukerji, Siran 2010-04-30

"The case studies in this volume enforce technology is a principle

catalysts for transnational collaborative interventions in providing learning and professional development opportunities to the people of both developed and developing countries"--Provided by publisher.

Mathematical Writing - Donald E. Knuth 1989

This book will help those wishing to teach a course in technical writing, or who wish to write themselves.

Resources for Teaching Discrete Mathematics - Brian Hopkins 2009

Resources for Teaching Discrete Mathematics presents nineteen classroom tested projects complete with student handouts, solutions, and notes to the instructor. Topics range from a first day activity that motivates proofs to applications of discrete mathematics to chemistry, biology, and data storage. Other projects provide: supplementary material on classic topics such as the towers of Hanoi and the Josephus problem, how to use a calculator to explore various course topics, how to employ Cuisenaire rods to examine the Fibonacci numbers and other sequences, and how you can use plastic pipes to create a geodesic dome. The book contains eleven history modules that allow students to explore topics in their original context. Sources range from eleventh century Chinese figures that prompted Leibniz to write on binary arithmetic, to a 1959 article on automata theory. Excerpts include: Pascal's "Treatise on the Arithmetical Triangle," Hamilton's "Account of the Icosian Game," and Cantor's (translated) "Contributions to the Founding of the Theory of Transfinite Numbers." Five articles complete the book. Three address extensions of standard discrete mathematics content: an exploration of historical counting problems with attention to discovering formulas, a discussion of how computers store graphs, and a survey connecting the principle of inclusion-exclusion to Möbius inversion. Finally, there are two articles on pedagogy specifically related to discrete mathematics courses: a summary of adapting a group discovery method to larger classes, and a discussion of using logic in encouraging students to construct proofs.

The Moore Method - Charles Arthur Coppin 2009

The Moore Method: A Pathway to Learner-Centered Instruction offers a practical overview of the method as practiced by the four co-authors, serving as both a "how to" manual for implementing the method and an answer to the question, "what is the Moore method?". Moore is well known as creator of The Moore Method (no textbooks, no lectures, no conferring) in which there is a current and growing revival of interest and modified application under inquiry-based learning projects. Beginning with Moore's Method as practiced by Moore himself, the authors proceed to present their own broader definitions of the method before addressing specific details and mechanics of their individual implementations. Each chapter consists of four essays, one by each author, introduced with the commonality of the authors' writings. Topics include the culture the authors strive to establish in the classroom, their grading methods, the development of materials and typical days in the classroom. Appendices include sample tests, sample notes, and diaries of individual courses. With more than 130 references supporting the themes of the book the work provides ample additional reading supporting the transition to learner-centered methods of instruction.

Fractals, Graphics, and Mathematics Education - Michael Frame 2002-06-20

Publisher Description

The Best Writing on Mathematics 2010 - Mircea Pitici 2021-09-14

This anthology brings together the year's finest writing on mathematics from around the world. Featuring promising new voices alongside some of the foremost names in mathematics, The Best Writing on Mathematics makes available to a wide audience many articles not easily found anywhere else--and you don't need to be a mathematician to enjoy them. These writings offer surprising insights into the nature, meaning, and practice of mathematics today. They delve into the history, philosophy, teaching, and everyday occurrences of math, and take readers behind the scenes of today's hottest mathematical debates. Here readers will discover why Freeman Dyson thinks some mathematicians are birds while others are frogs; why Keith Devlin believes there's more to mathematics than proof; what Nick Paumgarten has to say about the timing patterns of New York City's traffic lights (and why jaywalking is the most mathematically efficient way to cross Sixty-sixth Street); what Samuel Arbesman can tell us about the epidemiology of the undead in zombie flicks; and much, much more. In addition to presenting the year's most memorable writing on mathematics, this must-have anthology also includes a foreword by esteemed mathematician William Thurston and an informative introduction by Mircea Pitici. This book belongs on the shelf of anyone interested in where math has taken us--and where it's headed.

[Achieving Quantitative Literacy](#) - Lynn Arthur Steen 2004

Handbook of Research on Future Opportunities for Technology Management Education - Khan, Basheer Ahmed 2021-06-25

Technology management education and business education are visibly intertwined in the current educational system. Certain efforts that have taken place in the recent past are the interinstitutional discourse around the world. Technology management is a dynamic and evolving profession, driven by changes in technology, globalization, sustainability, and the increasing importance of the service economy. The Handbook of Research on Future Opportunities for Technology Management Education is a comprehensive reference book that enables readers to comprehend the trends in technological changes and the need to orient

business education and technology management in workplaces. The book serves to support with the formation and implementation of appropriate policies for technology management. Covering topics such as big data analytics, cloud computing adoption, and massive open online courses (MOOCs), this text is an essential resource for managers, technologists, teachers, executives, instructional designers, libraries, university researchers, students, faculty, and industry taught leaders.

Geometry Turned On - James King 1997-10-30

Articles about the uses of active, exploratory geometry carried out with interactive computer software.

Geometry at Work - Catherine A. Gorini 2000-10-12

An examination of symmetry for the interested layman.