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Learning Experiences to Promote Mathematics Learning Compendium for Early Career Researchers in Mathematics Education Analysis and Geometry
Beckett, Lacan and the Mathematical Writing of the Real Proofs Without Words III Mathematics Education Combinatorial Optimization The 21st Century Mathematics Education in China 5 Principles of the Modern Mathematics Classroom Framing Global Mathematics Writing Math Research Papers - 5th Ed. The Encyclopedia of Neutrosophic Researchers, Vol. I Novice Mathematics Teachers' Professional Learning Applications + Practical Conceptualization + Mathematics = fruitful Innovation Fifty Years of Women in Mathematics Evidence, Politics, and Education Policy Mathematics, Administrative and Economic Activities in Ancient Worlds The Philosophy of Mathematics Education Matrix Inequalities for Iterative Systems Research and Applications in Global Supercomputing Mathematics for Social Justice Elementary Mathematical Models: An Accessible Development without Calculus, Second Edition 2020 The Smarandache Curves on \mathbb{R}^2 1 and Its Duality on \mathbb{R}^2 0 Proceedings of the 13th International Congress on Mathematical Education Mathematics Masterclasses for Young People The Disorder of Mathematics Education Mathematics and Computing Handbook of Geometric Constraint Systems Principles A Mathematician's Practical Guide to Mentoring Undergraduate Research Mathematical Modeling and Optimization of Complex Structures Teacher Education (Research Based) Practical Guide to LTE-A, VoLTE and IoT Language and Communication in Mathematics Education What is a Mathematical Concept? The Best Writing on Mathematics 2015 Geometry, Topology, and Dynamics in Negative Curvature The New Mathematical Coloring Book Building Support for Scholarly Practices in Mathematics Methods Theoretical Computer Science and Discrete Mathematics

Learning Experiences to Promote Mathematics Learning

2014-05-27

this sixth volume in the series of yearbooks by the association of mathematics educators in singapore entitled learning experiences to promote mathematics learning is unique in that it focuses on a single theme in mathematics education the objective is for teachers and researchers to advance the learning of mathematics through meaningful experiences several renowned international and singapore scholars have published their work in this volume the fourteen chapters of the book illustrate evidence based practices that school teachers and researchers can experiment with in their own classrooms to bring about meaningful learning outcomes three broad themes namely fundamentals for active and motivated learning learning experiences for developing mathematical processes and use of ict tools for learning through visualizations simulations and representations shape the ideas in these chapters the book makes a significant contribution towards the learning of mathematics it is a good resource for mathematics teachers educators and research students contents it matters how students learn mathematics berinderjeet kaur m crest a framework of motivation to learn mathematics wong khoo yoong designing learning experiences for effective instruction in secondary mathematics toh tin lam providing students authentic learning experience through 3d printing technology oh nam kwon jee hyun park and jung sook park what do teachers need to know to teach secondary mathematics kim beswick defining extending and creating key experiences in mathematics yoshinori shimizu teaching for abstraction through mathematical learning experiences cheng lu pien making sense of number sense creating learning experiences for primary pupils to develop their number sense yeo kai kow joseph learning experiences designed to develop algebraic thinking lessons from the iccams project in england jeremy hodgen dietmar kũchemann and margaret brown learning experiences designed to develop multiplicative reasoning using models to foster learners understanding margaret brown jeremy hodgen and dietmar kũchemann learning mathematical induction through experiencing authentic problem solving tay eng guan and toh pee choon scaffolding and constructing new problems for teaching mathematical proofs in the a levels zhao dongsheng learning number in the primary school through ict barry kissane learning algebra and geometry through ict marian kemp readership graduate students researchers practitioners and teachers in mathematics key features firstly it has a focused theme learning experiences that promote mathematics learning which is of prime concern of mathematics educators in the 21st centurysecondly it is written by university scholars who work closely with classroom mathematics teachers thereby drawing on their research knowledge and classroom experienceslastly the book is rich resource of tried and tested practical know how of approaches that promote mathematics learning for mathematics educators in singapore schools and elsewherekeywords mathematics pedagogy learning experiences singapore teachers instruction

Compendium for Early Career Researchers in Mathematics Education

2019-04-26

the purpose of this open access compendium written by experienced researchers in mathematics education is to serve as a resource for early career researchers in furthering their knowledge of the state of the field and disseminating their research through publishing to accomplish this the book is split into four sections empirical methods important mathematics education themes academic writing and academic publishing and a section looking ahead the chapters are based on workshops that were presented in the early career researcher day at the 13th international congress on mathematical education icme 13 the combination of

presentations on methodological approaches and theoretical perspectives shaping the field in mathematics education research as well as the strong emphasis on academic writing and publishing offered strong insight into the theoretical and empirical bases of research in mathematics education for early career researchers in this field based on these presentations the book provides a state of the art overview of important theories from mathematics education and the broad variety of empirical approaches currently widely used in mathematics education research this compendium supports early career researchers in selecting adequate theoretical approaches and adopting the most appropriate methodological approaches for their own research furthermore it helps early career researchers in mathematics education to avoid common pitfalls and problems while writing up their research and it provides them with an overview of the most important journals for research in mathematics education helping them to select the right venue for publishing and disseminating their work

Analysis and Geometry

2015-07-26

this book includes selected papers presented at the mims mediterranean institute for the mathematical sciences ggtn geometry and topology grouping for the maghreb conference held in memory of mohammed salah baouendi a most renowned figure in the field of several complex variables who passed away in 2011 all research articles were written by leading experts some of whom are prize winners in the fields of complex geometry algebraic geometry and analysis the book offers a valuable resource for all researchers interested in recent developments in analysis and geometry

Beckett, Lacan and the Mathematical Writing of the Real

2018-12-13

beckett lacan and the mathematical writing of the real proposes writing as a mathematical and logical operation to build a bridge between lacanian psychoanalysis and samuel beckett s prose works arka chattopadhyay studies aspects such as the fundamental operational logic of a text use of mathematical forms like geometry and arithmetic the human obsession with counting the moving body as an act of writing and love and sexuality as a challenge to the limits of what can be written through logic and mathematics chattopadhyay reads beckett s prose works including how it is company worstward ho malone dies and enough to highlight this terminal writing which halts endless meanings with the material body of the word and gives beckett a medium to inscribe what cannot be written otherwise

Proofs Without Words III

2015-12-31

proofs without words pwws are figures or diagrams that help the reader see why a particular mathematical statement is true and how one might begin to formally prove it true pwws are not new many date back to classical greece ancient china and medieval europe and the middle east pwws have been regular features of the maa journals mathematics magazine and the college mathematics journal for many years and the maa published the collections of pwws proofs without words exercises in visual thinking in 1993 and proofs without words ii more exercises in visual thinking in 2000 this book is the third such collection of pwws

Mathematics Education

2016-11-26

many in the mathematics community in the u s are involved in mathematics education in various capacities this book highlights the breadth of the work in k 16 mathematics education done by members of us departments of mathematical sciences it contains contributions by mathematicians and mathematics educators who do work in areas such as teacher education quantitative literacy informal education writing and communication social justice outreach and mentoring tactile learning art and mathematics ethnomathematics scholarship of teaching and learning and mathematics education research contributors describe their work its impact and how it is perceived and valued in addition there is a chapter co authored by two mathematicians who have become administrators on the challenges of supporting evaluating and rewarding work in mathematics education in departments of mathematical sciences this book is intended to inform the readership of the breadth of the work and to encourage discussion of its value in the mathematical community the writing is expository not technical and should be accessible and informative to a diverse audience the primary readership includes all those in departments of mathematical sciences in two or four year colleges and universities and their administrators as well as graduate students researchers in education may also find topics of interest other potential readers include those doing work in mathematics education in schools of education and teachers of secondary or middle school mathematics as well as those involved in their professional development

Combinatorial Optimization

2014-07-21

this book constitutes the thoroughly refereed post conference proceedings of the third international symposium on combinatorial optimization isco 2014 held in lisbon portugal in march 2014 the 37 revised full papers presented together with 64 short papers were carefully reviewed and selected from 97 submissions they present original research on all aspects of combinatorial optimization such as algorithms and complexity mathematical programming operations research stochastic optimization graphs and combinatorics

The 21st Century Mathematics Education in China

2017-10-11

this book intends to provide a comprehensive introduction to the status of development of chinese mathematics education in the 21st century to this end the book summarizes and presents the research and practices of chinese mathematics education in the following aspects 1 characteristics of chinese school mathematics curriculum and textbooks 2 chinese ways and strategies of teaching mathematics and the characteristics of mathematics classroom instruction in china 3 chinese instructional practices in developing both gifted and underachieving students mathematical capabilities 4 how professional development of mathematics teachers is promoted in china including mathematics teachers pre service and in service education and how chinese mathematics teachers design and implement teaching and research activities and 5 how mathematics education is assessed and evaluated including how to evaluate teachers teaching and students achievements relevant research in chinese mathematics education involving methods of surveys interviews text analysis etc are reviewed and analyzed results of a number of video studies of chinese mathematics classroom teaching and learning are also integrated into this book

5 Principles of the Modern Mathematics Classroom

2015-10-09

students pursue problems they're curious about not problems they're told to solve creating a math classroom filled with confident problem solvers starts with challenges discovered in the real world not a sequence of prescribed problems in this groundbreaking book gerald aungst offers five powerful principles for instilling a culture of learning in your classroom conjecture collaboration communication chaos and celebration aungst shows how to embrace collaboration and purposeful chaos to engage students in productive struggle put each chapter's principles into practice using a variety of strategies activities and technology tools introduce lasting changes in your classroom through a gradual shift in processes and behaviors

Framing Global Mathematics

2022-06-15

this open access book is about the shaping of international relations in mathematics over the last two hundred years it focusses on institutions and organizations that were created to frame the international dimension of mathematical research today striking evidence of globalized mathematics is provided by countless international meetings and the worldwide repository arxiv the text follows the sinuous path that was taken to reach this state from the long nineteenth century through the two wars to the present day international cooperation in mathematics was well established by 1900 centered in europe the first international mathematical union imu founded in 1920 and disbanded in 1932 reflected above all the trauma of ww i since 1950 the current imu has played an increasing role in defining mathematical excellence as is shown both in the historical narrative and by analyzing data about the international congresses of mathematicians for each of the three periods discussed interactions are explored between world politics the advancement of scientific infrastructures and the inner evolution of mathematics readers will thus take a new look at the place of mathematics in world culture and how international organizations can make a difference aimed at mathematicians historians of science scientists and the scientifically inclined general public the book will be valuable to anyone interested in the history of science on an international level

Writing Math Research Papers - 5th Ed.

2017-12-01

mathematics research papers provide a forum for all mathematics enthusiasts to exercise their mathematical experience expertise and excitement the research paper process epitomizes the differentiation of instruction as each student chooses their own topic and extends it as far as their motivation and desire takes them the features and benefits of the research paper process offer a natural alignment with all eight common core state standards for mathematical practice writing math research papers serves both as a text for students and as a resource for instructors and administrators the writing math research papers program started at north shore high school in 1991 and it received the 1997 chevron best practices in education award as the premier high school math course in the united states author robert gerver's articles on high school mathematics research programs were featured in the national council of teachers of mathematics publication developing mathematically promising students the nctm's 1999 yearbook developing mathematical reasoning in grades k-12 and in the september 2017 issue of the mathematics teacher

The Encyclopedia of Neutrosophic Researchers, Vol. I

2016-11-12

this is the first volume of the encyclopedia of neutrosophic researchers edited from materials offered by the authors who responded to the editor's invitation the 78 authors are listed alphabetically the introduction contains a short history of neutrosophics together with links to the main papers and books neutrosophic set neutrosophic logic neutrosophic probability neutrosophic statistics neutrosophic measure neutrosophic precalculus neutrosophic calculus and so on are gaining significant attention in solving many real life problems that involve uncertainty impreciseness vagueness incompleteness inconsistent and indeterminacy in the past years the fields of neutrosophics have been extended and applied in various fields such as artificial intelligence data mining soft computing decision making in incomplete indeterminate inconsistent information systems image processing computational modelling robotics medical diagnosis biomedical engineering investment problems economic forecasting social science humanistic and practical achievements

Novice Mathematics Teachers' Professional Learning

2022-05-04

this book investigates three novice high school mathematics teachers professional learning processes in the early stages of their careers at schools in shanghai china teacher professional learning is examined as a complex and dynamic system that connects both cognitive and situated perspectives on learning theory inspiring mathematics teachers to adopt student focused pedagogies is challenging particularly in china where tensions in teacher centred content focused and examination oriented practices are predominant the three novice teachers who participated in this study brought different beliefs and knowledge derived from their different individual experiences to bear on their teaching practices however they were strongly influenced by the environments in which they taught and mainly adopted a professional learning approach to teacher centred practices despite reporting that they favoured student centred teaching practices the study also observed professional learning towards student centred pedagogical aspects in a single teacher case with mentorship support indicating that student centred pedagogies may be promoted within the constraints of the existing dominant teaching practice

Applications + Practical Conceptualization + Mathematics = fruitful Innovation

2015-10-11

this book is a collection of papers presented at the conference forum math for industry 2014 for which the unifying theme was applications practical conceptualization mathematics fruitful innovation in october 2014 this epigram encapsulates the dynamics of the process that takes an application through to an innovation industrial mathematics can be viewed as the causal engine that implements the epigram by taking an application such as input and convolving it with a mixture of practical conceptualization and mathematics to generate a fruitful innovation as output the book illustrates various aspects of the two way interaction between applications and their association highlighting how practical conceptualization assists with the linking of the question that encapsulates the current application to the relevant mathematics the contents of this volume address productive and successful interaction between industry and mathematicians as well as the cross fertilization

and collaboration that result when mathematics is involved with the advancement of science and technology

Fifty Years of Women in Mathematics

2022-04-21

the association for women in mathematics awm the oldest organization in the world for women in mathematics had its fiftieth anniversary in 2021 this collection of refereed articles illustrated by color photographs reflects on women in mathematics and the organization as a whole some articles focus on the situation for women in mathematics at various times and places including other countries others describe how individuals have shaped awm and in turn how the organization has impacted individuals as well as the broader mathematical community some are personal stories about careers in mathematics fifty years of women in mathematics reminiscences history and visions for the future of awm covers a span from awm s beginnings through the following fifty years the volume celebrates awm and its successes but does not shy away from its challenges the book is designed for a general audience it provides interesting and informative reading for people interested in mathematics gender equity or organizational structures teachers of mathematics students at the high school college and graduate levels and members of more recently established organizations for women in mathematics and related fields or prospective founders of such organizations

Evidence, Politics, and Education Policy

2021-02-01

in evidence politics and education policy political scientists lorraine mcdonnell and m stephen weatherford provide an original analysis of evidence use in education policymaking to help scholars and advocates shape policy more effectively the book shows how multiple types of evidence are combined as elected officials and their staffs work with researchers advocates policy entrepreneurs and intermediary organizations to develop create and implement education policies evidence politics and education policy offers an in depth understanding of the political environment in which evidence is solicited and used two key case studies inform the book s findings the primary case a major multimethod study examines the development and early implementation of the common core state standards at the national level and in four states california indiana massachusetts and tennessee a comparative case analyzes the evidence used in congressional hearings over the twenty year history of the children s health insurance program together the two cases illustrate the conditions under which different types of evidence are used and in particular how federalism the complexity of the policy problem and the policy s maturity shape evidence use mcdonnell and weatherford focus on three leverage points for strengthening the use of research evidence in education policy integrating research findings with value based policy ideas designing policies with incentives for research use built into their rules and organizational structures and training policy analysts to promote the use of research in policymaking venues

Mathematics, Administrative and Economic Activities in Ancient Worlds

2020-09-29

this book focuses on the ancient near east early imperial china south east asia and medieval europe shedding light on mathematical knowledge and practices documented by sources relating to the administrative and economic activities of officials merchants and other actors it compares these to mathematical texts produced in related school contexts or reflecting the pursuit of mathematics for its own sake to reveal the

diversity of mathematical practices in each of these geographical areas of the ancient world based on case studies from various periods and political economic and social contexts it explores how in each part of the world discussed it is possible to identify and describe the different cultures of quantification and computation as well as their points of contact the thirteen chapters draw on a wide variety of texts from ancient near east china south east asia and medieval europe which are analyzed by researchers from various fields including mathematics history philology archaeology and economics the book will appeal to historians of science economists and institutional historians of the ancient and medieval world and also to assyriologists indologists sinologists and experts on medieval europe

The Philosophy of Mathematics Education

2016-07-15

this survey provides a brief and selective overview of research in the philosophy of mathematics education it asks what makes up the philosophy of mathematics education what it means what questions it asks and answers and what is its overall importance and use it provides overviews of critical mathematics education and the most relevant modern movements in the philosophy of mathematics a case study is provided of an emerging research tradition in one country this is the hermeneutic strand of research in the philosophy of mathematics education in brazil this illustrates one orientation towards research inquiry in the philosophy of mathematics education it is part of a broader practice of philosophical archaeology the uncovering of hidden assumptions and buried ideologies within the concepts and methods of research and practice in mathematics education an extensive bibliography is also included

Matrix Inequalities for Iterative Systems

2017-02-03

the book reviews inequalities for weighted entry sums of matrix powers applications range from mathematics and cs to pure sciences it unifies and generalizes several results for products and powers of sesquilinear forms derived from powers of hermitian positive semidefinite as well as nonnegative matrices it shows that some inequalities are valid only in specific cases how to translate the hermitian matrix results into results for alternating powers of general rectangular matrices inequalities that compare the powers of the row and column sums to the row and column sums of the matrix powers are refined for nonnegative matrices lastly eigenvalue bounds and derive results for iterated kernels are improved

Research and Applications in Global Supercomputing

2015-01-31

rapidly generating and processing large amounts of data supercomputers are currently at the leading edge of computing technologies supercomputers are employed in many different fields establishing them as an integral part of the computational sciences research and applications in global supercomputing investigates current and emerging research in the field as well as the application of this technology to a variety of areas highlighting a broad range of concepts this publication is a comprehensive reference source for professionals researchers students and practitioners interested in the various topics pertaining to supercomputing and how this technology can be applied to solve problems in a multitude of disciplines

Mathematics for Social Justice

2021-11-15

mathematics for social justice focusing on quantitative reasoning and statistics offers a collection of resources for mathematics faculty interested in incorporating questions of social justice into their classrooms the book comprises seventeen classroom tested modules featuring ready to use activities and investigations for college mathematics and statistics courses the modules empower students to study issues of social justice and to see the power and limitations of mathematics in real world contexts of deep concern the primary focus is on classroom activities where students can ask their own questions find and analyze real data apply mathematical ideas themselves and draw their own conclusions module topics in the book focus on technical content that could support courses in quantitative reasoning or introductory statistics social themes include electoral issues environmental justice equity inequity human rights and racial justice including topics such as gentrification partisan gerrymandering policing and more the volume editors are leaders of the national movement to include social justice material in mathematics teaching and jointly edited the earlier ams maa volume mathematics for social justice resources for the college classroom gizem karaali is professor of mathematics at pomona college she is a past chair of the special interest group of the maa on quantitative literacy sigmaa ql she is one of the founding editors of the journal of humanistic mathematics senior editor of numeracy and an associate editor for the mathematical intelligencer she also serves on the editorial board of the maa s classroom resource materials series lily khadjavi is professor and chair of mathematics at loyola marymount university and is a past co chair of the infinite possibilities conference in 2020 she was appointed by the california state attorney general to the racial and identity profiling act board which works with the california department of justice she currently serves on the editorial board of the maa s spectrum series and the human resources advisory committee for the mathematical sciences research institute in berkeley

Elementary Mathematical Models: An Accessible Development without Calculus, Second Edition

2019-08-02

elementary mathematical models offers instructors an alternative to standard college algebra quantitative literacy and liberal arts mathematics courses presuming only a background of exposure to high school algebra the text introduces students to the methodology of mathematical modeling which plays a role in nearly all real applications of mathematics a course based on this text would have as its primary goal preparing students to be competent consumers of mathematical modeling in their future studies such a course would also provide students with an understanding of the modeling process and a facility with much of the standard non trigonometric content of college algebra and precalculus this book builds successively a series of growth models defined in terms of simple recursive patterns of change corresponding to arithmetic quadratic geometric and logistic growth students discover and come to understand linear polynomial exponential and logarithmic functions in the context of analyzing these models of intrinsically and scientifically interesting phenomena including polar ice extent antibiotic resistance and viral internet videos students gain a deep appreciation for the power and limitations of mathematical modeling in the physical life and social sciences as questions of modeling methodology are carefully and constantly addressed realistic examples are used consistently throughout the text and every topic is illustrated with models that are constructed from and compared to real data the text is extremely attractive and the exposition is extraordinarily clear the lead author of this text is the recipient of nine maa awards for expository writing including the ford

evans pólya and allendoerfer awards and the beckenbach book prize great care has been taken by accomplished expositors to make the book readable by students those students will also benefit from more than 1 000 carefully crafted exercises



2017-09-22

[illegible]

The Smarandache Curves on \mathbb{R}^2_1 and Its Duality on \mathbb{R}^2_0

2017-10-31

we introduce special smarandache curves based on sabbban frame on \mathbb{R}^2_1 and we investigate geodesic curvatures of smarandache curves on de sitterand hyperbolic spaces

Proceedings of the 13th International Congress on Mathematical Education

2017-03-30

This book is open access under a cc by 4.0 license. The book presents the proceedings of the 13th international congress on mathematical education icme 13 and is based on the presentations given at the 13th international congress on mathematical education icme 13. icme 13 took place from 24th to 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 brought together about 3,500 mathematics educators from 105 countries. Additionally, 250 teachers from German-speaking countries met for specific activities directly before the congress. Activities were offered for 450 early career researchers. The proceedings give a comprehensive overview on the current state of the art of the discussions on mathematics education and display the breadth and depth of current research on mathematical teaching and learning processes. The book introduces the major activities of icme 13, namely articles from the four plenary lectures and two plenary panels, articles from the five ICMI Awardees, reports from six national presentations, three reports from the thematic afternoon devoted to specific features of icme 13. Furthermore, the proceedings contain descriptions of the 54 topic study groups which formed the heart of the congress and reports from 29 discussion groups and 31 workshops. The additional important activities of icme 13, namely papers from the invited lecturers, will be presented in the second volume of the proceedings.

Mathematics Masterclasses for Young People

2016-08-23

this work consists of a series of masterclasses short sessions of

mathematics beyond the standard school syllabus aimed at 10 to 15 year olds with a flair for mathematics who want to stretch themselves the book is aimed to provide teachers with a source of novel and interesting topics to supplement their standard material and as independent reading for pupils themselves it will be helpful to teachers who require interesting and novel topics beyond the standard syllabus and normal textbook material for capable pupils

The Disorder of Mathematics Education

2018-04-13

research within a socio political paradigm or turn has been gradually recognized and institutionalized as an important part of mathematics education this book focuses on the neglected problems tensions and contradictions evoked by this process the authors do this by challenging current regimes of truth about mathematics education by identifying how recent technological developments challenge or suspend contemporary conceptions of mathematics education by critiquing the ideological entanglement of mathematics its education and schooling with capitalism by self reflective analyses of researchers impacts on shaping what is and can be perceived as the practice of mathematics education research and by confronting main stream mathematics education with socio political contexts that are usually neglected in this way mathematical rationality becomes contextualized within contemporary society where it reproduces itself through technologies social practices media and other spheres of social life

Mathematics and Computing

2018-07-20

this book constitutes the proceedings of the 4th international conference on mathematics and computing icmc 2018 held in varanasi india in january 2018 the 29 papers presented in this volume were carefully reviewed and selected from 116 submissions they are organized in topical sections on security and coding theory computing applied mathematics pure mathematics

Handbook of Geometric Constraint Systems Principles

2019-09-16

the handbook of geometric constraint systems principles is an entry point to the currently used principal mathematical and computational tools and techniques of the geometric constraint system gcs it functions as a single source containing the core principles and results accessible to both beginners and experts the handbook provides a guide for students learning basic concepts as well as experts looking to pinpoint specific results or approaches in the broad landscape as such the editors created this handbook to serve as a useful tool for navigating the varied concepts approaches and results found in gcs research key features a comprehensive reference handbook authored by top researchers includes fundamentals and techniques from multiple perspectives that span several research communities provides recent results and a graded program of open problems and conjectures can be used for senior undergraduate or graduate topics course introduction to the area detailed list of figures and tables about the editors meera sitharam is currently an associate professor at the university of florida s department of computer information science and engineering she received her ph d at the university of wisconsin madison audrey st john is an associate professor of computer science at mount holyoke college who received her ph d from umass amherst jessica sidman is a professor of mathematics on the john s kennedy foundation at mount holyoke college she received her ph d from the university of michigan

A Mathematician's Practical Guide to Mentoring Undergraduate Research

2015-10-07

a mathematician s practical guide to mentoring undergraduate research is a complete how to manual on starting an undergraduate research program readers will find advice on setting appropriate problems directing student progress managing group dynamics obtaining external funding publishing student results and a myriad of other relevant issues the authors have decades of experience and have accumulated knowledge that other mathematicians will find extremely useful

Mathematical Modeling and Optimization of Complex Structures

2018-06-19

this volume contains selected papers in three closely related areas mathematical modeling in mechanics numerical analysis and optimization methods the papers are based upon talks presented on the international conference for mathematical modeling and optimization in mechanics held in jyvaskylä finland march 6 7 2014 dedicated to prof n banichuk on the occasion of his 70th birthday the articles are written by well known scientists working in computational mechanics and in optimization of complicated technical models also the volume contains papers discussing the historical development the state of the art new ideas and open problems arising in modern continuum mechanics and applied optimization problems several papers are concerned with mathematical problems in numerical analysis which are also closely related to important mechanical models the main topics treated include computer simulation methods in mechanics physics and biology variational problems and methods minimization algorithms optimal control problems with distributed and discrete control shape optimization and shape design problems in science and engineering sensitivity analysis and parameters optimization of complex systems

Teacher Education (Research Based)

2018-03-27

essential reference providing best practice of lte a volte and iot design deployment performance and evolution towards 5g this book is a practical guide to the design deployment and performance of lte a volte ims and iot a comprehensive practical performance analysis for volte is conducted based on field measurement results from live lte networks also it provides a comprehensive introduction to iot and 5g evolutions practical aspects and best practice of lte a ims volte iot are presented practical aspects of lte advanced features are presented in addition lte lte a network capacity dimensioning and analysis are demonstrated based on live lte lte a networks kpis a comprehensive foundation for 5g technologies is provided including massive mimo embb urllic mmhc ngcn and network slicing cloudification virtualization and sdn practical guide to lte a volte and iot paving the way towards 5g can be used as a practical comprehensive guide for best practices in lte lte a volte iot design deployment performance analysis and network architecture and dimensioning it offers tutorial introduction on lte a iot 5g networks enabling the reader to use this advanced book without the need to refer to more introductory texts offers a complete overview of lte and lte a ims volte and iot and 5g introduces readers to ip multimedia subsystems ims performs a comprehensive evaluation of volte csfb provides lte lte a network capacity and dimensioning examines iot and 5g evolutions towards a super connected world introduce 3gpp nb iot evolution for low power wide area lpwa network provide a comprehensive introduction for 5g evolution

including embb urllic mmhc network slicing cloudification virtualization sdn and orchestration practical guide to lte a volte and iot will appeal to all deployment and service engineers network designers and planning and optimization engineers working in mobile communications also it is a practical guide for r d and standardization experts to evolve the lte lte a volte and iot towards 5g evolution

Practical Guide to LTE-A, VoLTE and IoT

2017-06-22

this book considers some of the outstanding questions regarding language and communication in the teaching and learning of mathematics an established theme in mathematics education research which is growing in prominence recent research has demonstrated the wide range of theoretical and methodological resources that can contribute to this area of study including those drawing on cross disciplinary perspectives influenced by among others sociology psychology linguistics and semiotics examining language in its broadest sense to include all modes of communication including visual and gestural as well as spoken and written modes it features work presented and discussed in the language and communication topic study group tsg 31 at the 13th international congress on mathematical education icme 13 a joint session with participants of the mathematics education in a multilingual and multicultural environment topic study group tsg 32 enhanced discussions which are incorporated in elaborations included in this book discussing cross cutting topics it appeals to readers from a wide range of disciplines such as mathematics education and research methods in education multilingualism applied linguistics and beyond

Language and Communication in Mathematics Education

2016-01-12

leading thinkers in mathematics philosophy and education offer new insights into the fundamental question what is a mathematical concept

What is a Mathematical Concept?

2016-01-21

the year s finest writing on mathematics from around the world this annual anthology brings together the year s finest mathematics writing from around the world featuring promising new voices alongside some of the foremost names in the field the best writing on mathematics 2015 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 david hand explains why we should actually expect unlikely coincidences to happen arthur benjamin and ethan brown unveil techniques for improvising custom made magic number squares dana mackenzie describes how mathematicians are making essential contributions to the development of synthetic biology steven strogatz tells us why it s worth writing about math for people who are alienated from it lisa rougetet traces the earliest written descriptions of nim a popular game of mathematical strategy scott aaronson looks at the unexpected implications of testing numbers for randomness and much much more in addition to presenting the year s most memorable writings on mathematics this must have anthology includes a bibliography of other notable writings and an introduction by the editor mircea pitici this book belongs on the shelf of anyone interested in where math has taken us and where it is headed

The Best Writing on Mathematics 2015

2017-09-01

ten high quality survey articles provide an overview of important recent developments in the mathematics surrounding negative curvature

Geometry, Topology, and Dynamics in Negative Curvature

2017-08-14

building support for scholarly practices in mathematics methods is the product of collaborations among over 40 mathematics teacher educators mtes who teach mathematics methods courses for prospective prek 12 teachers in many different institutional contexts and structures each chapter unpacks ways in which mtes use theoretical perspectives to inform their construction of goals activities designed to address those goals facilitation of activities and ways in which mtes make sense of experiences prospective teachers have as a result the book is organized in seven sections that highlight how the theoretical perspective of the instructor impacts scholarly inquiry and practice the final section provides insight as we look backward to reflect and forward with excitement moving with the strength of the variation we found in our stories and the feeling of solidarity that results in our understandings of purposes for and insight into teaching mathematics methods this book can serve as a resource for mtes as they discuss and construct scholarly practices and as they undertake scholarly inquiry as a means to systematically examine their practice

The New Mathematical Coloring Book

this volume constitutes the refereed post conference proceedings of the international conference on theoretical computer science and discrete mathematics held in krishnankoil india in december 2016 the 57 revised full papers were carefully reviewed and selected from 210 submissions the papers cover a broad range of topics such as line graphs and its generalizations large graphs of given degree and diameter graphoidal covers adjacency spectrum distance spectrum b coloring separation dimension of graphs and hypergraphs domination in graphs graph labeling problems subsequences of words and parike matrices lambda design conjecture graph algorithms and interference model for wireless sensor networks

Building Support for Scholarly Practices in Mathematics Methods

Theoretical Computer Science and Discrete Mathematics

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