

## All Zimsec June 2013 Mathematics Papers

This publication assesses progress towards Sustainable Development Goal 4 (SDG 4) on education and its ten targets, as well as other related education targets in the SDG agenda. It addresses inclusion in education, drawing attention to all those excluded from education, because of background or ability. The report is motivated by the explicit reference to inclusion in the 2015 Incheon Declaration, and the call to ensure an inclusive and equitable quality education in the formulation of SDG 4, the global goal for education. It reminds us that, no matter what argument may be built to the contrary, we have a moral imperative to ensure every child has a right to an appropriate education of high quality.

This comprehensive volume provides teachers, researchers and education professionals with cutting edge knowledge developed in the last decades by the educational, behavioural and neurosciences, integrating cognitive, developmental and socioeconomic approaches to deal with the problems children face in learning mathematics. The neurocognitive mechanisms and the cognitive processes underlying acquisition of arithmetic abilities and their significance for education have been the subject of intense research in the last few decades, but the most part of this research has been conducted in non-applied settings and there's still a deep discrepancy between the level of scientific knowledge and its implementation into actual educational settings. Now it's time to bring the results from the laboratory to the classroom. Apart from bringing the theoretical discussions to educational settings, the volume presents a wide range of methods for early detection of children with risks in mathematics learning and strategies to develop effective interventions based on innovative cognitive test instruments. It also provides insights to translate research knowledge into public policies in order to address socioeconomic issues. And it does so from an international perspective, dedicating a whole section to the cultural diversity of mathematics learning difficulties in different parts of the world. All of this makes the International Handbook of Mathematical Learning Difficulties an essential tool for those involved in the daily struggle to prepare the future generations to succeed in the global knowledge society.

*Making up Numbers: A History of Invention in Mathematics* offers a detailed but accessible account of a wide range of mathematical ideas. Starting with elementary concepts, it leads the reader towards aspects of current mathematical research. The book explains how conceptual hurdles in the development of numbers and number systems were overcome in the course of history, from Babylon to Classical Greece, from the Middle Ages to the Renaissance, and so to the nineteenth and twentieth centuries. The narrative moves from the Pythagorean insistence on positive multiples to the gradual acceptance of negative numbers, irrationals and complex numbers as essential tools in quantitative analysis. Within this chronological framework, chapters are organised thematically, covering a variety of topics and contexts: writing and solving equations, geometric construction, coordinates and complex numbers, perceptions of 'infinity' and its permissible uses in mathematics, number systems, and evolving views of the role of axioms.

Through this approach, the author demonstrates that changes in our understanding of numbers have often relied on the breaking of long-held conventions to make way for new inventions at once providing greater clarity and widening mathematical horizons. Viewed from this historical perspective, mathematical abstraction emerges as neither mysterious nor immutable, but as a contingent, developing human activity.

*Making up Numbers* will be of great interest to undergraduate and A-level students of mathematics, as well as secondary school teachers of the subject. In virtue of its detailed treatment of mathematical ideas, it will be of value to anyone seeking to learn more about the development of the subject.

This book, the outcome of a conference organised in 2012 in Paris as a homage to Michèle Artigue, is based on the main component of this event. However, it offers more than a mere reflection of the conference in itself, as various well-known researchers from the field have been invited to summarize the main topics where the importance of Artigue's contribution is unquestionable. Her multiple interest areas, as a researcher involved in a wider community, give to this volume its unique flavour of diversity. Michèle Artigue (ICMI 2013 Felix Klein Award, CIAEM 2015 Luis Santaló Award) is without doubt one of the most influential researchers nowadays in the field of didactics of mathematics. This influence rests both on the quality of her research and on her constant contribution, since the early 1970s, to the development of the teaching and learning of mathematics. Observing her exemplary professional history, one can witness the emergence, the development, and the main issues of didactics of mathematics as a specific research field.

Cambridge O Level Mathematics Coursebook

If A, Then B

The Impact of Arts Education

Methods and Software

A Systematic Introduction

The End of Plenty: The Race to Feed a Crowded World

This user-friendly textbook follows Weierstrass' approach to offer a self-contained introduction to complex analysis.

This book argues that integrating artistic contributions – with an emphasis on culture and language – can make Science, Technology, Engineering and Mathematics (STEM) subjects more accessible, and therefore promote creativity and innovation in teaching and learning at all levels of education. It provides tools and strategies for managing interdisciplinary learning and teaching based on successful collaborations between researchers, practitioners and artists in the fields of the Arts and STEM subjects.

Based on contributions by educators, scientists, scholars, linguists and artists from around the globe, the book highlights how we can demonstrate teamwork and collaboration for innovation and creativity in STEAM subjects in the classroom and beyond. The book reflects the core of human rights education, using local languages and local knowledge through art as a tool for teaching human rights at school, and bringing to light questions on diversity, ecology, climate change, environmental issues, health and the future of human beings, as well as power relations between non-dominant (minorities) and dominant (the majority) groups in society.

This case study investigated the perceptions of the third year student teachers of the first year pre-service Mathematics programme at Seke Teachers' College in Zimbabwe. Student background characteristics of gender, age, teaching experience and

Mathematics specialisation were the independent variables also investigated. Data was collected from 278 third year students enrolled for the general Diploma in Education course using questionnaires with a five point Likert type 33 item rating scale and open ended items. The data so collected were analysed both quantitatively and qualitatively. The findings indicated that although the programme was able to provide students with a foundation in subject knowledge more could be done to improve on training in teaching methods and provision of resources. From the variables investigated gender was found to have an effect on students' perceptions of the programme but teaching experience was found to have no effect. The possible relationship between the independent variables of age and Mathematics specialisation and the dependent variable of students' perception of the programme was indicated in too few items to warrant a definite conclusion. Implications for the improvement of the programme are that there is need for the college to revisit some aspects of the structure and organisation of the programme. There is also need for further research involving all primary teachers' colleges.

This book by renowned scholar Dr Abdul Karim Bangura combines linguistics and mathematics to show how and why African-centred mathematical ideas can be a driving force in Africa ' s development efforts. Bangura explores the concept that Africa has been the centre of the History of Mathematics for thousands of years, as the civilizations that emerged across the continent developed contributions which would enrich both ancient and modern understanding of nature through mathematics. However, scholars and other professionals working in the field of mathematics education in Africa have identified a plethora of issues in carrying out their tasks. This is highlighted by one of the most compelling arguments in the book, which is that a major reason for these problems is the fact that the African mother tongues has been greatly neglected in the teaching of mathematics in the continent. Bangura asserts that a change has to be made in order for Africa to benefit from the exceptional opportunities mathematics offer, showing that, even if there is a great body of work connecting linguistics and mathematics, few analyses have been performed on the link between African languages and mathematics—and the ones that have been made are not theoretically-grounded on linguistics. Thus, the book begins by identifying the objects of study of linguistics and mathematics, and delineates which ones they have in common. Next, since the object of study of linguistics is language, the nine design features of language are employed to examine each of the objects as it pertains to African languages. After that, mathematical ideas of sustainability and those of tipping points are suggested as means to help Africa ' s development efforts.

ICGR 2021 4th International Conference on Gender Research

Validating Technological Innovation

Fundamentals of Algebraic Modeling

Promoting Language and STEAM as Human Rights in Education

2012-2013 College Admissions Data Sourcebook West Edition

In this 2013 winner of the prestigious R.R. Hawkins Award from the Association of American Publishers, as well as the 2013 PROSE Award in Mathematics and Best in Physical Sciences & Mathematics, also from the AAP, readers will find many of the most significant contributions in a volume set of the Collected Works of A. M. Turing. These contributions, together with commentaries from current experts in a wide spectrum of backgrounds, provide insight on the significance and contemporary impact of Alan Turing's work. Offering a more modern perspective than currently available, Alan Turing: His Work and Impact gives wide coverage of the many ways in which Turing's scientific endeavors have shaped research and understanding of the world. His pivotal writings on subjects including computing, artificial intelligence, cryptography, morphology and more display continued relevance and insight into today's scientific and technological landscape. This collection provides a great service to the field but is also an approachable entry point for readers with limited training in the science, but an urge to learn more about the details of Turing's work. Winner of the prestigious R.R. Hawkins Award from the Association of American Publishers, as well as the 2013 PROSE Awards for Mathematics in Physical Sciences & Mathematics, also from the AAP Named a 2013 Notable Computer Book in Computing Milieux by Computing Reviews. A key collection of the most significant papers by A.M. Turing Commentary explaining the significance of each seminal paper by preeminent experts in the field Additional resources available online

Cambridge O Level Mathematics is a resource to accompany the revised 4024 syllabus. This coursebook provides a complete course for students practising the skills required for the O Level Mathematics qualification. The content has been written to offer a range of tasks that support the Cambridge O Level Mathematics syllabus (4024) giving students the confidence to use the mathematical techniques required to solve the problems required. With detailed explanations of concepts, worked examples and exercises, this coursebook can be used as a classroom resource or for independent study.

"The African Governance Report, the most comprehensive report on governance in Africa, assesses and monitors the progress of African governance, identifies capacity gaps in governance institutions and proposes policies and strategic interventions to improve governance. This third edition of the Report, while continuing to monitor governance trends, adopts a thematic approach: elections and the management of diversity in Africa. Elections are central to democratic governance and the political management of diversity in plural societies. While elections are becoming more regularity in Africa, their content and quality remains suspect in many countries, with Africa's rich diversity deployed as a combustible to trigger conflicts. Elections have often triggered conflict, with violence, tensions, acrimonies and sharp elite divisions surrounding electoral processes and outcomes-- a worrying trend for Africa's democratic future. The Report investigates elections in the face of managing diversity in Africa and proposes major electoral, institutional, political and constitutional reforms to enable elections to facilitate the democratic management of diversity and significantly improving their quality and credibility. These include reform of the party system to make it more inclusive and democratic, the introduction of proportional electoral systems, and an increase in the autonomy and effectiveness of election management boards. The Report argues that subregional initiatives and frameworks for elections, democracy and governance have to be implemented and monitored to improve electoral processes and promote democratic consolidation and stability."--Page [4] of cover.

First published in 1963, Advances in Parasitology contains comprehensive and up-to-date reviews in all areas of interest in contemporary parasitology. Advances in Parasitology includes medical studies of parasites of major influence, such as Plasmodium falciparum and trypanosomes. The book also contains reviews of more traditional areas, such as zoology, taxonomy, and life history, which shape current thinking and applications. The book's impact factor is 4.36. Informs and updates on all the latest developments in the field Contributions from leading authorities and industry experts

Using Mathematics to Understand Biological Complexity

Cows Save the Planet

From Cells to Populations

Mathematical Models for Neglected Tropical Diseases: Essential Tools for Control and Elimination

The African Mother Tongue and Mathematical Ideas

Recentring African Indigenous Knowledge and Belief Systems

This volume tackles a variety of biological and medical questions using mathematical models to understand complex system dynamics.

Working in collaborative teams of six, each with a senior research mentor, researchers developed new mathematical models to address

questions in a range of application areas. Topics include retinal degeneration, biopolymer dynamics, the topological structure of DNA, ensemble analysis, multidrug-resistant organisms, tumor growth modeling, and geospatial modeling of malaria. The work is the result of newly formed collaborative groups begun during the Collaborative Workshop for Women in Mathematical Biology hosted by the Institute of Pure and Applied Mathematics at UCLA in June 2019. Previous workshops in this series have occurred at IMA, NIMBioS, and MBI.

Mathematical Models for Neglected Tropical Diseases: Essential Tools for Control and Elimination Academic Press

In *Cows Save the Planet*, journalist Judith D. Schwartz looks at soil as a crucible for our many overlapping environmental, economic, and social crises. Schwartz reveals that for many of these problems—climate change, desertification, biodiversity loss, droughts, floods, wildfires, rural poverty, malnutrition, and obesity—there are positive, alternative scenarios to the degradation and devastation we face. In each case, our ability to turn these crises into opportunities depends on how we treat the soil. Drawing on the work of thinkers and doers, renegade scientists and institutional whistleblowers from around the world, Schwartz challenges much of the conventional thinking about global warming and other problems. For example, land can suffer from undergrazing as well as overgrazing, since certain landscapes, such as grasslands, require the disturbance from livestock to thrive. Regarding climate, when we focus on carbon dioxide, we neglect the central role of water in soil—"green water"—in temperature regulation. And much of the carbon dioxide that burdens the atmosphere is not the result of fuel emissions, but from agriculture; returning carbon to the soil not only reduces carbon dioxide levels but also enhances soil fertility. *Cows Save the Planet* is at once a primer on soil's pivotal role in our ecology and economy, a call to action, and an antidote to the despair that environmental news so often leaves us with.

This book discusses Hong Kong's use of onscreen marking (OSM) in public examinations. Given that Hong Kong leads the way in OSM innovation, this book has arisen from a recognised need to provide a comprehensive, coherent account of the findings of various separate but linked validation studies of onscreen public examinations in Hong Kong. The authors discuss their experience of the validation process, demonstrating how high-stakes innovation should be fully validated by a series of research studies in order to satisfy key stakeholders.

And Other Improbable Ways of Restoring Soil to Heal the Earth

Mathematics for Physical Chemistry

International Handbook of Mathematical Learning Difficulties

Alan Turing: His Work and Impact

From the Laboratory to the Classroom

Making up Numbers: A History of Invention in Mathematics

***Treats politics, economics, technology, and geography as fundamental factors in generating an audience for logic.***

***The fundamental mathematical tools needed to understand machine learning include linear algebra, analytic geometry, matrix decompositions, vector calculus, optimization, probability and statistics. These topics are traditionally taught in disparate courses, making it hard for data science or computer science students, or professionals, to efficiently learn the mathematics. This self-contained textbook bridges the gap between mathematical and machine learning texts, introducing the mathematical concepts with a minimum of prerequisites. It uses these concepts to derive four central machine learning methods: linear regression, principal component analysis, Gaussian mixture models and support vector machines. For students and others with a mathematical background, these derivations provide a starting point to machine learning texts. For those learning the mathematics for the first time, the methods help build intuition and practical experience with applying mathematical concepts. Every chapter includes worked examples and exercises to test understanding. Programming tutorials are offered on the book's web site.***

***This study is a presentation of Zimbabwean refugee learner experiences. Children escaped political persecution and economic problems which affected Zimbabwe in the year 2008. Many of these children were abused and witnessed traumatic experiences, their close relatives and neighbours being executed in cold blood. This study was guided by three critical questions: i) who are the Zimbabwean refugee learners? ii) what were Zimbabwean refugee learners' migration experiences? and iii) what were Zimbabwean refugee learners' school experiences? The study employed Bronfenbrenner's Social Ecological Model as its overarching theoretical framework. Each stage of the refugee experience was described at each point in time.***

***Collins New GCSE Maths Edexcel Linear Teacher's Pack Higher 1 contains everything you need to deliver effective lessons in mathematics with confidence for students working at Grades D to A\*. Fully matched to Edexcel's new GCSE Maths Linear specification, these teacher resources offer well-differentiated lesson plans and additional support. The Teacher's Pack allows you to: \* Capture the essence of chapters at a glance with chapter overviews \* Easily access learning objectives and references to exam board specifications, KS4 Programme of Study, Functional Skills Standards and Personal Learning and Thinking Skills (PLTS) for each chapter \* Link maths concepts and help students to access functional and problem-solving scenarios \* Raise standards by providing the right level of progression for every student by using the well-differentiated lesson plans \* Involve the whole class in engaging activities and discussions using the Starter \* Lead students into the main concepts and exercises with the Main Lesson Activity \* Consolidate and summarise learning using the Plenary \* Quickly access the answers to all questions in the corresponding Student Book and Homework Book \* Plan ahead and save time using the ready-made Scheme of Work \* Customise your lessons using Lesson Plans in Word format on the CD-Rom***

Complex Analysis

*Refugee Learner Experiences. A Case Study of Zimbabwean Refugee Children*

*Science, Technology, Engineering, Arts and Mathematics*

*Values and Valuing in Mathematics Education*

*Education and Development in Zimbabwe*

*Mathematics for Machine Learning*

Fractional-Order Design: Devices, Circuits, and Systems introduces applications from the design perspective so that the reader can learn about, and get ready to, design these applications. The book also includes the different techniques employed to comprehensively and straightforwardly design fractional-order systems/devices. Furthermore, a lot of mathematics is available in the literature for solving the fractional-order calculus for system application. However, a small portion is employed in the design of fractional-order systems. This book introduces the mathematics that has been employed explicitly for fractional-order systems. Students and scholars who want to quickly understand the field of fractional-order systems and contribute to its different domains and applications will find this book a welcomed resource. Presents a simple and comprehensive understanding of the field of fractional-order systems Offers practical knowledge on the design of fractional-order systems for different applications Exposes users to the possible new areas of applications of fractional-order systems

This book includes Monday to Friday lessons for each day of a 36-week school year and short daily lessons. The Monday to Thursday lessons include two sentences to edit, including corrections in punctuation, capitalization, spelling, grammar, and vocabulary and three items practicing a variety of language and reading skills. Friday practice cycles through five formats: language usage, identifying and correcting mistakes, combining sentences, choosing reference materials and figurative speech (similes, metaphors). The pages are

reproducible and the book includes a skills list and answer keys.

Explores interaction between music and mathematics including harmony, symmetry, digital music and perception of sound.

"An urgent and at times terrifying dispatch from a distinguished reporter who has given heart and soul to his subject."—Hampton Sides In *The End of Plenty*, award-winning environmental journalist Joel K. Bourne Jr. puts our fight against devastating world hunger in dramatic perspective. He travels the globe to introduce a new generation of farmers and scientists on the front lines of the next green revolution. He visits corporate farmers trying to restore Ukraine as Europe's breadbasket, a Canadian aquaculturist, the agronomist behind the world's largest organic sugarcane plantation, and many other extraordinary farmers, large and small, who are racing to stave off catastrophe as climate change disrupts food production worldwide. A Financial Times Best Book of the Year and a Finalist for the PEN / E. O. Wilson Literary Science Writing Award.

Decolonising Science, Technology, Engineering and Mathematics (STEM) in an Age of Technocolonialism

Scanning and Scoping the Territory

On Complex Systems, Legal and Mechanism Design Factors

The Didactics of Mathematics: Approaches and Issues

Music: A Mathematical Offering

Yearbook of International Organizations 2012-2013

A step-by-step explanation of the mathematical models used to price derivatives. For this second edition, Salih Neftci has expanded one chapter, added six new ones, and inserted chapter-concluding exercises. He does not assume that the reader has a thorough mathematical background. His explanations of financial calculus seek to be simple and perceptive.

Arts education is often said to be a means of developing critical and creative thinking. This report examines the state of empirical knowledge about the impact of arts education on these kinds of outcomes.

Conference Proceedings of 4th International Conference on Gender Research

Volume 1 (A and B) of the "Yearbook of International Organizations" covers international organizations throughout the world, comprising their aims, activities and events. This includes names (in English, French and, where available, other languages), abbreviations and descriptions of over 34,000 not-for-profit organizations currently active in every field of human endeavor, as well as references to associated organizations, whose goals cross all economic, political and geographical borders, offering an insight into new, productive relationships. The volume also allows quick and easy cross-referencing from volumes 2, 3, 4, and 6.

Global Education Monitoring Report 2020

Fractional Order Systems

Multi-criteria Decision Analysis

Devices, Circuits, and Systems

The Introduction and Implementation of Onscreen Marking in Hong Kong

Edexcel Linear

A concise and approachable introductory text for a single-semester course, organized systematically rather than historically. Combining theory with practical implementation, and accompanied online by PowerPoint slides, a solutions manual, and additional problems, it is ideal for a communications course.

*Mathematical Models for Society and Biology, 2e*, is a useful resource for researchers, graduate students, and post-docs in the applied and life science fields. Mathematical modeling is one of the major subfields of mathematical biology. A mathematical model may be used to explain a system, to study the effects of different components, and to make predictions about behavior. *Mathematical Models for Society and Biology, 2e*, draws on current issues to engagingly relate how to use mathematics to gain insight into problems in biology and contemporary society. For this new edition, author Edward Beltrami uses mathematical models that are simple, transparent, and verifiable. Also new to this edition is an introduction to mathematical notions that every quantitative scientist in the biological and social sciences should know. At the end of each chapter now includes a detailed discussion on how to formulate a reasonable model to gain insight into the specific question that is introduced. Offers 40% more content – 5 new chapters in addition to revisions to existing chapters Accessible for quick self study as well as a resource for courses in molecular biology, biochemistry, embryology and cell biology, medicine, ecology and evolution, bio-mathematics, and applied math in general Features expanded appendices with an extensive list of references, solutions to selected exercises in the book, and a discussion of various mathematical methods introduced in the book

Traditional research about Financial Stability and Sustainable Growth typically omits Earnings Management (as a broad class of misconduct), Complex Systems Theory, Mechanism Design Theory, Public Health, psychology issues, and the externalities and psychological effects of Inequality, Environmental Pollution, Earnings Management opportunities, the varieties of complex Financial Instruments, Fintech, Regulatory Fragmentation, Regulatory Capture and real-financial sector-linkages are growing around the world, and these factors can have symbiotic relationships. Within Complex System theory framework, this book analyzes these foregoing issues, and introduces new behaviour theories, Enforcement Dichotomies, and critiques of models, regulations and theories in several dimensions. The issues analyzed can affect market evolutions of systems, decision-making, "Internal Markets and risk-perception within government regulators, operating companies and institutions, and thus they have Public Policy implications. The legal analysis uses applicable US case-law and statutes (which have been copied in many countries, and are similar to those of many common-law countries). Using Qualitative Reasoning, Capital Dynamics Theory (a new approach introduced in this book), Critical Theory and elements of Mechanism Design Theory, the book aims to enhance cross-disciplinary analysis of the above-mentioned issues; and to help researchers build better systems/Artificial-Intelligence/mathematical models in Financial Stability, Portfolio Management, Policy-Analysis, Asset Pricing, Contract Theory, Enforcement Theory and Fraud Detection. The primary audience for this book consists of university Professors, PHD students and PHD degree-holders (in industries, government agencies, financial services companies and research institutes). The book can be used as a primary or supplementary textbook for graduate courses in Regulatory Capital Markets; Law & Economics, International Political Economy and or Mechanism Design (Applied Math, Operations Research, Computer Science or Finance).

FUNDAMENTALS OF ALGEBRAIC MODELING 6e presents Algebraic concepts in non-threatening, easy-to-understand language and numerous step-by-step examples to illustrate ideas. This text aims to help you relate math skills to your daily life as well as a variety of applications including music, art, history, criminal justice, engineering, accounting, welding and many others. Available with InfoTrac Student Collection <http://gocengage.com/infotrac>. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Educational Research and Innovation Art for Art's Sake? The Impact of Arts Education

Daily Language Review Grade 5

Inclusion and Education - All Means All

Cracking the code

An Overview of Mathematics, Design, and Applications for Engineers

African Governance Report III 2013

The book represents a contribution to policy formulation and design in an increasingly knowledge economy in Zimbabwe. It challenges scholars to think about the role of education, its funding and the egalitarian approach to widening access to education. The nexus between education, democracy and policy change is a complex one. The book provides an illuminating account of the constantly evolving notions of national identity, language and citizenship from the Zimbabwean experience. The book discusses educational successes and challenges by examining the ideological effects of social, political and economic considerations on Zimbabwe's colonial and postcolonial education. Currently, literature on current educational challenges in Zimbabwe is lacking and there is very little published material on these ideological effects on educational development in Zimbabwe. This book is likely to be one of the first on the impact of social, political and economic meltdown on education. The book is targeted at local and international academics and scholars of history of education and comparative education, scholars of international education and development, undergraduate and graduate students, and professors who are interested in educational development in Africa, particularly Zimbabwe. Notwithstanding, the book is a valuable resource to policy makers, educational administrators and researchers and the wider community. Shizha and Kariwo's book is an important and illuminating addition on the effects of social, political and economic trajectories on education and development in Zimbabwe. It critically analyses the crucial specifics of the Zimbabwean situation by providing an in depth discourse on education at this historical juncture. The book offers new insights that may be useful for an understanding of not only the Zimbabwean case, but also education in other African countries. Rosemary Gordon, Senior Lecturer in Educational Foundations, University of Zimbabwe Ranging in temporal scope from the colonial era and its elitist legacy through the golden era of populist, universal elementary education to the disarray of contemporary socioeconomic crisis; covering elementary through higher education and touching thematically on everything from the pernicious effects of social adjustment programmes through the local deprofessionalization of teaching, this text provides a comprehensive, wide ranging and yet carefully detailed account of education in Zimbabwe. This engagingly written portrayal will prove illuminating not only to readers interested in Zimbabwe's education specifically but more widely to all who are interested in how the sociopolitical shapes education- how ideology, policy, international pressures, economic factors and shifts in values collectively forge the historical and contemporary character of a country's education. Handel Kashope Wright, Professor of Education, University of British Columbia

Positing the notions of coloniality of ignorance and geopolitics of ignorance as central to coloniality and colonisation, this book examines how colonialists socially produced ignorance among colonised indigenous peoples so as to render them docile and manageable. Dismissing colonial descriptions of indigenous people as savages, illiterate, irrational, prelogical, mystical, primitive, barbaric and backward, the book argues that imperialists/colonialists contrived geopolitics of ignorance wherein indigenous regions were forced to become ignorant, hence containable and manageable in the imperial world. Questioning the provenance of modernist epistemologies, the book asks why Eurocentric scholars only contest the provenance of indigenous knowledges, artefacts and scientific collections. Interrogating why empire sponsors the decolonisation of universities/epistemologies in indigenous territories while resisting the repatriation/restitution of indigenous artefacts, the book also wonders why Westerners who still retain indigenous artefacts, skulls and skeletons in their museums, universities and private collections do not consider such artefacts and skulls to be colonising them as well. The book is valuable to scholars and activists in the fields of anthropology, museums and heritage studies, science and technology studies, decoloniality, policymaking, education, politics, sociology and development studies. This engaging open access book discusses how a values and valuing perspective can facilitate a more effective mathematics pedagogical experience, and allows readers to explore multiple applications of the values perspective across different education systems. It also clearly shows that teaching mathematics involves not only reasoning and feelings, but also students' interactions with their cultural setting and each other. The book brings together the work of world leaders and new thinkers in mathematics educational research to improve the learning and teaching of mathematics. Addressing themes such as discovering hidden cultural values, a multicultural society and methodological issues in the investigation of values in mathematics, it stimulates readers to consider these topics in cross-cultural ways, and offers suggestions for research and classroom practice. It is a valuable resource for scholars of mathematics education, from early childhood through to higher education and an inspiring read for all

mathematics teachers.

This must-have manual provides detailed solutions to all of the 200+ exercises in Dickson, Hardy and Waters' *Actuarial Mathematics for Life Contingent Risks, Second Edition*. This groundbreaking text on the modern mathematics of life insurance is required reading for the Society of Actuaries' Exam MLC and also provides a solid preparation for the life contingencies material of the UK actuarial profession's exam CT5. Beyond the professional examinations, the textbook and solutions manual offer readers the opportunity to develop insight and understanding, and also offer practical advice for solving problems using straightforward, intuitive numerical methods. Companion spreadsheets illustrating these techniques are available for free download.

*Mathematical Models for Society and Biology*

*A Homage to Michèle Artigue*

*Modern Communications*

*Fractional-Order Design*

*Student Teacher's Perceptions of the Pre-Service Mathematics Programme in a Primary Teachers' College in Zimbabwe*

*Organization Descriptions and Cross-References*

*Fractional Order Systems: An Overview of Mathematics, Design, and Applications for Engineers* introduces applications from a design perspective, helping readers plan and design their own applications. The book includes the different techniques employed to design fractional-order systems/devices comprehensively and straightforwardly. Furthermore, mathematics is available in the literature on how to solve fractional-order calculus for system applications. This book introduces the mathematics that has been employed explicitly for fractional-order systems. It will prove an excellent material for students and scholars who want to quickly understand the field of fractional-order systems and contribute to its different domains and applications. Fractional-order systems are believed to play an essential role in our day-to-day activities. Therefore, several researchers around the globe endeavor to work in the different domains of fractional-order systems. The efforts include developing the mathematics to solve fractional-order calculus/systems and to achieve the feasible designs for various applications of fractional-order systems. Presents a simple and comprehensive understanding of the field of fractional-order systems Offers practical knowledge on the design of fractional-order systems for different applications Exposes users to possible new applications for fractional-order systems

This book presents an introduction to MCDA followed by more detailed chapters about each of the leading methods used in this field. Comparison of methods and software is also featured to enable readers to choose the most appropriate method needed in their research. Worked examples as well as the software featured in the book are available on an accompanying website.

*Mathematics for Physical Chemistry, Third Edition*, is the ideal text for students and physical chemists who want to sharpen their mathematics skills. It can help prepare the reader for an undergraduate course, serve as a supplementary text for use during a course, or serve as a reference for graduate students and practicing chemists. The text concentrates on applications instead of theory, and, although the emphasis is on physical chemistry, it can also be useful in general chemistry courses. The Third Edition includes new exercises in each chapter that provide practice in a technique immediately after discussion or example and encourage self-study. The first ten chapters are constructed around a sequence of mathematical topics, with a gradual progression into more advanced material. The final chapter discusses mathematical topics needed in the analysis of experimental data. Numerous examples and problems interspersed throughout the presentations Each extensive chapter contains a preview, objectives, and summary Includes topics not found in similar books, such as a review of general algebra and an introduction to group theory Provides chemistry specific instruction without the distraction of abstract concepts or theoretical issues in pure mathematics

*Solutions Manual for Actuarial Mathematics for Life Contingent Risks*

*An Introduction to the Mathematics of Financial Derivatives*

*girls' and women's education in science, technology, engineering and mathematics (STEM)*

*How Logic Shaped the World*

*Earnings Management, Fintech-Driven Incentives and Sustainable Growth*