Mathematics Paper 2 November 2011 Memo

A complete and accessible explanation of the factors contributing to the onset of the 2007 financial and economic crisis. The myriad factors are explained in an orderly way with simple terms. The anticipation (or not) and reception of the crisis by mainstream economists and by Austrian economics leads to reflection on the state of economic theory.

This edited book brings together for the first time an international collection of work focused on two important aspects of any young child's life – learning mathematics and starting primary or elementary school. The chapters take a variety of perspectives, and integrate these two components in sometimes explicit and sometimes more subtle ways. The key issues and themes explored in this book are: the mathematical and other strengths that all participants in the transition to school bring to this period of a child's life; the opportunities provided by transition to school for young children's mathematics learning; the importance of partnerships among adults, and among adults and children, for effective school transitions and mathematics learning and teaching; the critical impact of expectations on their mathematics learning as children start school; the importance of providing children with meaningful, challenging and relevant mathematical experiences throughout transition to school; the entitlement of children and educators to experience assessment and instructional pedagogies that match the strengths of the learners and the teachers; the importance for the aspirations of children, families, communities, educators and educational organisations to be recognised as legitimate and key determinants of actions, experiences and successes in both transition to school and mathematics learning; and the belief that young children are powerful mathematics learners who can demonstrate this power as they start school. In each chapter, authors reflect on their work in the area of mathematics and transition to school, place that work within the overall context of research in these fields, predict the trajectory of this work in the future, and consider the implications of the work both theoretically and practically.

CAMBRIDGE IGCSE O LEVEL MATHEMATICS [0580] FULLY SOLVED PAST PAPERS -EXTENDED PAPER 4 [VARIANT 2]. VERY USEFUL FOR O LEVEL STUDENTS OF ALL VARIANTS. DETAILED AND STEP BY STEP SOLUTIONS .VERY HELPFUL TOOL FOR REVISION. CONTAINS PAPERS FROM 2011 TO 2016 [INCLUDING THE LATEST PAPER NOVEMBER 2016].

The two-volume set LNCS 12043 and 12044 constitutes revised selected papers from the 13th International Conference on Parallel Processing and Applied Mathematics, PPAM 2019, held in Bialystok, Poland, in September 2019. The 91 regular papers presented in these volumes were selected from 161 submissions. For regular tracks of the conference, 41 papers were selected from 89 submissions. The papers were organized in topical sections named as follows: Part I: numerical algorithms and parallel scientific computing; emerging HPC architectures; performance analysis and scheduling in HPC systems; environments and frameworks for parallel/distributed/cloud computing; applications of parallel computing; parallel non-numerical algorithms; soft computing with applications; special session on GPU computing; special session on parallel matrix factorizations. Part II: workshop on language-based parallel programming models (WLPP 2019); workshop on models algorithms and methodologies for hybrid parallelism in new HPC systems; workshop on power and energy aspects of computations (PEAC 2019); special session on tools for energy efficient computing; workshop on scheduling for parallel computing (SPC 2019); workshop on applied high performance numerical algorithms for PDEs; minisymposium on HPC applications in physical sciences; minisymposium on high performance computing interval methods; workshop on complex collective systems. Chapters "Parallel Adaptive Cross Approximation for the Multi-trace Formulation of Scattering Problems" and "A High-Order Discontinuous Galerkin Solver with Dynamic Adaptive Mesh Refinement to Simulate Cloud Formation Processes" are available open access under a Creative Commons Attribution 4.0 International License via link.springer.com.

It is a widespread opinion among experts that (continuous) bounded cohomology cannot be interpreted as a derived functor and that triangulated methods break down. The author proves that this is wrong. He uses the formalism of exact categories and their derived categories in order to construct a classical derived functor on the category of Banach G-modules with values in Waelbroeck's abelian category. This gives us an axiomatic characterization of this theory for free, and it is a simple matter to reconstruct the classical semi-normed cohomology spaces out of Waelbroeck's category. The author proves that the derived categories of right bounded and of left bounded complexes of Banach G-modules are equivalent to the derived category of two abelian categories (one for each boundedness condition), a consequence of the theory of abstract truncation and hearts of t-structures. Moreover, he proves that the derived categories of Banach G-modules can be constructed as the homotopy categories of model structures on the categories of chain complexes of Banach G-modules, thus proving that the theory fits into yet another standard framework of homological and homotopical algebra.

"Bringing a different world into existence – Action Research as a trigger for innovations" was the overarching theme and vision of the international CARN Conference 2011 in Vienna. The chapters in this book are drawn mainly from conference contributions. The authors share practical knowledge which has arisen from their work, and reflect on development processes in schools, in teacher education mend professional development, social work, social peda¬gogy, health care and community development. This book offers what some critics believe has been missing in recent action research literature, namely first person accounts of action researchers who endeavour to change working conditions and social relations in their environment through the conduct of action research. This book is also distinguished by assembling contributions from people who are linking action research to a broad diversity of differing contexts, and who are exploring topics or issues across various applications of action research.

Teaching Primary Mathematics covers what student teachers really need to know and why, including approaches to teaching and learning, planning and assessment, and using resources in maths teaching. It also provides a brief

historical overview of the teaching of mathematics and examines strategies to enhance learning and development as a confident mathematician in the primary classroom. Informed by seminal and current research, and recent developments in education policy, the book also explores: - the role of mathematics within the primary curriculum - the development of mathematics as a subject of study - the knowledge that can be gained from considering international approaches to mathematics. This is essential reading for all students on primary initial teacher education courses including undergraduate (BEd, BA with QTS), postgraduate (PGCE, SCITT), and School Direct, and employment-based routes into teaching. Sylvia Turner is Senior Lecturer in the Faculty of Education at the University of Winchester.

This series has been developed specifically for the Cambridge International AS & A Level Mathematics (9709) syllabus to be examined from 2020. Cambridge International AS & A Level Mathematics: Mechanics matches the corresponding unit of the syllabus, with clear and logical progression through. It contains materials on topics such as velocity and acceleration, force and motion, friction, connected particles, motion in a straight line, momentum, and work and energy. This coursebook contains a variety of features including recap sections for students to check their prior knowledge, detailed explanations and worked examples, end-of-chapter and cross-topic review exercises and 'Explore' tasks to encourage deeper thinking around mathematical concepts. Answers to coursebook questions are at the back of the book.

This paper addresses questions of quasi-isometric rigidity and classification for fundamental groups of finite graphs of groups, under the assumption that the Bass-Serre tree of the graph of groups has finite depth. The main example of a finite depth graph of groups is one whose vertex and edge groups are coarse Poincare duality groups. The main theorem says that, under certain hypotheses, if $\mathcal{G}$ is a finite graph of coarse Poincare duality groups, then any finitely generated group quasi-isometric to the fundamental group of $\mathcal{G}$ is also the fundamental group of a finite graph of coarse Poincare duality groups, and any quasi-isometry between two such groups must coarsely preserve the vertex and edge spaces of their Bass-Serre trees of spaces. Besides some simple normalization hypotheses, the main hypothesis is the ``crossing graph condition'', which is imposed on each vertex group $\mathcal{G}_v$ which is an n-dimensional coarse Poincare duality group for which every incident edge group has positive codimension: the crossing graph of $\mathcal{G}_v$ is a graph ϵ_v that describes the pattern in which the codimension 1 edge groups incident to $\mathcal{G}_v$ are crossed by other edge groups incident to $\mathcal{G}_v$, and the crossing graph condition requires that ϵ_v be connected or empty.

The second Women in Numbers workshop (WIN2) was held November 6-11, 2011, at the Banff International Research Station (BIRS) in Banff, Alberta, Canada. During the workshop, group leaders presented open problems in various areas of number theory, and working groups tackled those problems in collaborations begun at the workshop and continuing long after. This volume collects articles written by participants of WIN2. Survey papers written by project leaders are designed to introduce areas of active research in number theory to advanced graduate students and recent PhDs. Original research articles by the project groups detail their work on the open problems tackled during and after WIN2. Other articles in this volume contain new research on related topics by women number theorists. The articles collected here encompass a wide range of topics in number theory including Galois representations, the Tamagawa number conjecture, arithmetic intersection formulas, Mahler measures, Newton polygons, the Dwork family, elliptic curves, cryptography, and supercongruences. WIN2 and this Proceedings volume are part of the Women in Numbers network, aimed at increasing the visibility of women researchers' contributions to number theory and at increasing the participation of women mathematicians in number theory and related fields. This book is co-published with the Centre de Recherches Mathématiques.

To many scientists the gap between the nineteenth century views of consciousness proposed by the psychologist William James and that developed by the inventor of psychophysics Gustav Fechner has never seemed wider. However the twentieth century concept of collective/cooperative behavior within the brain has partially reconciled these diverging perspectives suggesting the notion of consciousness as a physical phenomenon. A kernel of twenty-first century investigators bases their investigations on physiological fluctuations experiments. These fluctuations, although apparently erratic, when analyzed with advanced methods of fractal statistical analysis reveal the emergence of complex behavior, intermediate between complete order and total randomness, a property usually referred to as temporal complexity. Others, with the help of modern technologies, such MRI, establish a more direct analysis of brain dynamics, and focus on the brain's topological complexity. Consequently the two groups adopt different approaches, the former being based on phenomenological and macroscopic considerations, and the latter resting on the crucial role of neuron interactions. The neurophysiology research work has an increasing overlap with the emerging field of complex networks, whereas the behavior psychology experiments have until recently ignored the complex cooperative dynamics that are proved by increasing experimental evidence to characterize the brain function. It is crucial to examine both the experimental and theoretical studies that support and those that challenge the view that it is an emergent collective property that allows the healthy brain to function. What needs to be discussed are new ways to understand the transport of information through complex networks sharing the same dynamical properties as the brain. In addition we need to understand information transfer between complex networks, say between the brain and a controlled experimental stimulus. Experiments suggest that brain excitation is described by inverse power-law distributions and recent studies in network dynamics indicate that this distribution is the result of phase transitions due to neuron network dynamics. It is important to stress that the development of dynamic networking establishes a connection between topological and temporal complexity, establishing that a scale-free distribution of links is generated by the dynamic correlation between dynamic elements located at very large Euclidean distances from one another. Dynamic networking and dynamics networks suggest a new way to transfer information: the long-distance communication through local cooperative interaction. It is anticipated that the contributed discussions will clarify how the global intelligence of a complex network emerges from the local cooperation of units and

the role played by critical phase transitions in the observed persistence of this cooperation.

Buku IGCSE ini merupakan aplikasi dari pelajaran matematika yang berbasis di University of Cambridge. Berisi kumpulan soal lengkap dengan kunci jawaban. Memudahkan para siswa dalam menghadapi pelajaran matematika. Semoga buku ini bisa menjadi jembatan bagi para siswa yang ingin menguasai mata pelajaran matematika dengan baik.

In recent years, Singaporean literature has begun experiencing a sea change, with the short story form enjoying a renaissance. As a result, an explosion of short fiction with a Singaporean flavour has been produced to incredible effect, both by emerging and established writers. For the prose enthusiast, it is a very exciting time. The Epigram Books Collection of Best New Singaporean Short Stories: Volume One curates the finest short fiction from Singaporean writers published in 2011 and 2012. This ground-breaking and unique anthology showcases stories that examine various facets of the human condition and the truths that we tell ourselves in order to exist in the everyday. The styles are as varied as the authors, and no two pieces are alike. Here are twenty unique and breathtaking literary insights into the Singaporean psyche, which examine what it means to live in this particular part of the world in this particular time.

This series has been developed specifically for the Cambridge International AS & A Level Mathematics (9709) syllabus to be examined from 2020. Cambridge International AS & A Level Mathematics: Pure Mathematics 2 & 3 matches the corresponding units of the syllabus. It clearly indicates materials required for P3 study only, and contains materials on topics such as logarithmic and exponential functions, trigonometry, differentiation, integration, numerical solutions of equations, vectors and complex numbers. This coursebook contains a variety of features including recap sections for students to check their prior knowledge, detailed explanations and worked examples, end-of-chapter and cross-topic review exercises and 'Explore' tasks to encourage deeper thinking around mathematical concepts. Answers to coursebook questions are at the back of the book.

Optimization Theory is an active area of research with numerous applications; many of the books are designed for engineering classes, and thus have an emphasis on problems from such fields. Covering much of the same material, there is less emphasis on coding and detailed applications as the intended audience is more mathematical. There are still several important problems discussed (especially scheduling problems), but there is more emphasis on theory and less on the nuts and bolts of coding. A constant theme of the text is the "why" and the "how" in the subject. Why are we able to do a calculation efficiently? How should we look at a problem? Extensive effort is made to motivate the mathematics and isolate how one can apply ideas/perspectives to a variety of problems. As many of the key algorithms in the subject require too much time or detail to analyze in a first course (such as the run-time of the Simplex Algorithm), there are numerous comparisons to simpler algorithms which students have either seen or can quickly learn (such as the Euclidean algorithm) to motivate the type of results on run-time savings.

Written by experts in the field, this volume presents a comprehensive investigation into the relationship between argumentation theory and the philosophy of mathematical practice. Argumentation theory studies reasoning and argument, and especially those aspects not addressed, or not addressed well, by formal deduction. The philosophy of mathematical practice diverges from mainstream philosophy of mathematics in the emphasis it places on what the majority of working mathematicians actually do, rather than on mathematical foundations. The book begins by first challenging the assumption that there is no role for informal logic in mathematics. Next, it details the usefulness of argumentation theory in the understanding of mathematical practice, offering an impressively diverse set of examples, covering the history of mathematics, mathematics education and, perhaps surprisingly, formal proof verification. From there, the book demonstrates that mathematics also offers a valuable testbed for argumentation theory. Coverage concludes by defending attention to mathematical argumentation as the basis for new perspectives on the philosophy of mathematics. ?

Let X be a metric space with doubling measure, and L be a non-negative, self-adjoint operator satisfying Davies-Gaffney bounds on $L^2(X)$. In this article the authors present a theory of Hardy and BMO spaces associated to L, including an atomic (or molecular) decomposition, square function characterization, and duality of Hardy and BMO spaces. Further specializing to the case that L is a Schrodinger operator on $\mathbb{R}^n$ with a non-negative, locally integrable potential, the authors establish additional characterizations of such Hardy spaces in terms of maximal functions. Finally, they define Hardy spaces $H^p_L(X)$ for $p>1$, which may or may not coincide with the space $L^p(X)$, and show that they interpolate with $H^1_L(X)$ spaces by the complex method.

Parallel computing has been the enabling technology of high-end machines for many years. Now, it has finally become the ubiquitous key to the efficient use of any kind of multi-processor computer architecture, from smart phones, tablets, embedded systems and cloud computing up to exascale computers. _x000D_ This book presents the proceedings of ParCo2013 – the latest edition of the biennial International Conference on Parallel Computing – held from 10 to 13 September 2013, in Garching, Germany. The conference focused on several key parallel computing areas. Themes included parallel programming models for multi- and manycore CPUs, GPUs, FPGAs and heterogeneous platforms, the performance engineering processes that must be adapted to efficiently use these new and innovative platforms, novel numerical algorithms and approaches to large-scale simulations of problems in science and engineering._x000D_ The conference programme also included twelve mini-symposia (including an industry session and a special PhD Symposium), which comprehensively represented and intensified the discussion of current hot topics in high performance and parallel computing. These special sessions covered large-scale supercomputing, novel challenges arising from parallel architectures (multi-/manycore, heterogeneous platforms, FPGAs), multi-level algorithms as well as multi-scale, multi-physics and multi-dimensional problems._x000D_ It is clear that parallel computing – including the processing of large data sets ("Big Data") – will remain a persistent driver of research in all fields of innovative computing, which makes this book relevant to all those with an interest in this field.

Combining research-based theory with fresh, practical guidance for the classroom, The Essential Guide to Secondary Mathematics is a stimulating new resource for all student and practising teachers looking for new ideas and inspiration. With an emphasis on exciting your mathematical and pedagogical passions, it focuses on the dynamics of the classroom and the process of designing and using rich mathematical tasks. Written by a highly experienced mathematics teacher who understands the realities of the secondary classroom, this book combines insights from the latest research into mathematical learning with useful strategies and ideas for engaging teaching. The text is punctuated by frequent tasks, some mathematical and others more reflective, which are designed to encourage independent thinking. Key topics covered include: Preparing yourself: thinking about mathematics and pedagogy, taking care of your health and dealing with stress Different styles of learning and teaching mathematics Ideas for lessons: what does it take to turn an idea into a lesson? Tasks, timings and resources Equality and dealing positively with difference Mathematical starters, fillers and finishers: achieving variety The mathematical classroom community: seating layouts, displays and practical considerations Assessment: effective strategies for responding to learners' mathematics and writing reports. The Essential Guide to Secondary Mathematics will be a valuable resource both for beginning teachers interested in developing their understanding, and for experienced teachers looking to re-evaluate their practice. Aiming to develop all aspects of your mathematics teaching, this book will help you to devise, adapt and implement ideas for successful and enjoyable teaching and learning.

This book constitutes the joint refereed proceedings of Calculemus 2014, Digital Mathematics Libraries, DML 2014, Mathematical Knowledge Management, MKM 2014 and Systems and Projects, S&P 2014, held in Coimbra, Portugal, during July 7-11, 2014 as four tracks of CICM 2014, the Conferences on Intelligent Computer Mathematics. The 26 full papers and 9 Systems and Projects descriptions presented together with 5 invited talks were carefully reviewed and selected from a total of 55 submissions. The Calculemus track of CICM examines the integration of symbolic computation and mechanized reasoning. The Digital Mathematics Libraries track - evolved from the DML workshop series - features math-aware technologies, standards, algorithms and processes towards the fulfillment of the dream of a global DML. The Mathematical Knowledge Management track of CICM is concerned with all aspects of managing mathematical knowledge in the informal, semi-formal and formal settings. The Systems and Projects track presents short descriptions of existing systems or on-going projects in the areas of all the other tracks of the conference.

This volume contains the proceedings from three conferences: the PISRS 2011 International Conference on Analysis, Fractal Geometry, Dynamical Systems and Economics, held November 8-12, 2011 in Messina, Italy; the AMS Special Session on Fractal Geometry in Pure and Applied Mathematics, in memory of Benoit Mandelbrot, held January 4-7, 2012, in Boston, MA; and the AMS Special Session on Geometry and Analysis on Fractal Spaces, held March 3-4, 2012, in Honolulu, HI. Articles in this volume cover fractal geometry (and some aspects of dynamical systems) in pure mathematics. Also included are articles discussing a variety of connections of fractal geometry with other fields of mathematics, including probability theory, number theory, geometric measure theory, partial differential equations, global analysis on non-smooth spaces, harmonic analysis and spectral geometry. The companion volume (Contemporary Mathematics, Volume 601) focuses on applications of fractal geometry and dynamical systems to other sciences, including physics, engineering, computer science, economics, and finance.

Cambridge International AS and A Level Mathematics: Pure Mathematics 2 and 3 Revised Edition CoursebookCambridge University Press

Cambridge AS and A Level Mathematics is a revised series to ensure full syllabus coverage. This coursebook has been revised and updated to ensure that it meets the requirements for the Mechanics 2 (M2) unit of Cambridge AS and A Level Mathematics (9709). This revised edition adds clarifications to sections on motion of a projectile, equilibrium of a rigid body and linear motion under a variable force. All of the review questions have been updated to reflect changes in the style of questions asked in the course.

This series has been developed specifically for the Cambridge International AS & A Level Mathematics (9709) syllabus to be examined from 2020. Cambridge International AS & A Level Mathematics: Probability & Statistics 1 matches the corresponding unit of the syllabus, with a clear and logical progression through. It contains materials on topics such as data, variation, probability, permutations and combinations, binomial and geometric distributions, and normal distribution. This coursebook contains a variety of features including recap sections for students to check their prior knowledge, detailed explanations and worked examples, end-of-chapter and cross-topic review exercises and 'Explore' tasks to encourage deeper thinking around mathematical concepts. Answers to coursebook questions are at the back of the book.

Revised edition of the IGCSE Mathematics Core and Extended Coursebook for the 0580 syllabus for examination from 2015.

This series has been developed specifically for the Cambridge International AS & A Level Mathematics (9709) syllabus to be examined from 2020. Cambridge International AS & A Level Mathematics: Pure Mathematics 1 matches the corresponding unit of the syllabus, with a clear and logical progression through. It contains materials on topics such as quadratics, functions, coordinate geometry, circular measure, series, differentiation and integration. This coursebook contains a variety of features including recap sections for students to check their prior knowledge, detailed explanations and worked examples, end-of-chapter and cross-topic review exercises and 'Explore' tasks to encourage deeper thinking around mathematical concepts. Answers to coursebook questions are at the back of the book.

Finally, here is the definitive glossary of the book, offering readers all the terms they will need for thorough understanding of how books are made, the materials they are made of, and how they are described in the bookselling, book collecting, and library worlds. Every key term --- over 1,300 different words --- that could be used in booksellers' catalogs, library records, and collectors' descriptions of their holdings is represented in this dictionary. This authoritative source covers all areas of book knowledge: the book as physical object, typeface terminology, paper, printing, book collecting, book design, bibliography, calligraphy, t he language of manuscripts, writing implements, librarianship, legal issues, the parts of a book, and much more. The

definitions are supplemented by more than 100 illustrations showing the book as a physical object: parts of books, kinds of illustrations, kinds of printing techniques, tools that librarians, booksellers, and collectors refer to that are used in the making of books, kinds of binding structures and decoration, kinds of paper decoration, and other things.

This book provides the latest research findings, and discusses, from both theoretical and practical perspectives, innovative research methods and development techniques related to intelligent social networks and collaborative systems, intelligent networking systems, mobile collaborative systems and secure intelligent cloud systems. It also presents the synergies among various paradigms in such a multi-disciplinary field of intelligent collaborative systems. With the rapid development of the Internet, we are experiencing a shift from the traditional sharing of information and applications as the main purpose of the Web to an emergent paradigm, which locates people at the very centre of networks and exploits the value of individuals' connections, relations and collaboration. Social networks are also playing a major role in the dynamics and structure of intelligent Web-based networking and collaborative systems. Virtual campuses, virtual communities and organizations strongly leverage intelligent networking and collaborative systems by means of a great variety of formal and informal electronic relations, such as business-to-business, peer-to-peer and various types of online collaborative learning interactions, including the emerging e-learning systems. This has resulted in entangled systems that need to be managed efficiently and autonomously. In addition, the latest, powerful technologies based on grid and wireless infrastructure as well as cloud computing are currently enhancing collaborative and networking applications significantly, but are also facing new issues and challenges. The principal purpose of the research and development community is to stimulate research that will lead to the creation of responsive environments for networking and, in the longer term, the development of adaptive, secure, mobile, and intuitive intelligent systems for collaborative work and learning. The multiplier ideals of an ideal in a regular local ring form a family of ideals parameterized by non-negative rational numbers. As the rational number increases the corresponding multiplier ideal remains unchanged until at some point it gets strictly smaller. A rational number where this kind of diminishing occurs is called a jumping number of the ideal. In this manuscript the author gives an explicit formula for the jumping numbers of a simple complete ideal in a two-dimensional regular local ring. In particular, he obtains a formula for the jumping numbers of an analytically irreducible plane curve. He then shows that the jumping numbers determine the equisingularity class of the curve.

Cambridge AS and A Level Mathematics is a revised series to ensure full syllabus coverage. This coursebook has been revised and updated to ensure that it meets the requirements for the Statistics 2 (S2) unit of Cambridge AS and A Level Mathematics (9709). This revised edition has been redesigned and includes updated review questions to reflect changes in the style of questions asked in the course.

MasterClass in Mathematics Education provides accessible links between theory and practice and encourages readers to reflect on their own understanding of their teaching context. Each chapter, written by an internationally respected authority, explores the key concepts within the selected area of the field, drawing directly on published research to encourage readers to reflect on the content, ideas and ongoing debates. Using international case studies, each chapter will encourage readers to think about ways that the teaching and learning of mathematics reflect different cultural traditions and expectations and enable them to evaluate effective strategies for their own contexts.

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

Truth is one of the central concepts in philosophy, and has been a perennial subject of study. Michael Glanzberg has brought together 36 leading experts from around the world to produce the definitive guide to philosophical issues to do with truth. They consider how the concept of truth has been understood from antiquity to the present day, surveying major debates about truth during the emergence of analytic philosophy. They offer critical assessments of the standard theories of truth, including the coherence, correspondence, identity, and pragmatist theories. They explore the role of truth in metaphysics, with lively discussion of truthmakers, proposition, determinacy, objectivity, deflationism, fictionalism, relativism, and pluralism. Finally the handbook explores broader applications of truth in philosophy, including ethics, science, and mathematics, and reviews formal work on truth and its application to semantic paradox. This Oxford Handbook will be an invaluable resource across all areas of philosophy.

This book gathers original studies presented at the PROMS 2016 conference on Rasch theories and Rasch-based applications. It provides significant examples used to address practical measurement problems across a range of disciplines, including: Classic Testing Theory (CTT), Item Response Theory (IRT), philosophy of measurement, dimensionality, the role of fit statistics and research, business and industrial applications, health-related research and the latest Rasch-based computer software. PROMS welcomes empirical and theoretical studies and workshops, preferably with an emphasis on the Rasch model. Special attention is paid to manuscripts submitted by non-native English-speaking authors from Pacific Rim countries, regions and beyond. PROMS 2016 (Pacific Rim Objective Measurement Symposium) was held July 30-August 3, 2016 in Xi'an, China. The goal of the conference was to bring together researchers, scholars and professors from research institutes, universities, hospitals, business and management sectors, as well as professional practitioners, to exchange and share ideas, problems and solutions regarding the multifaceted aspects of the Rasch model and on the much debated yet highly topical issues of objective assessment.

The authors establish a series of optimal regularity results for solutions to general non-linear parabolic systems $u_t- \mathrm{div} \ a(x,t,u,Du)+H=0,$ under the main assumption of polynomial growth at rate p i.e. $a(x,t,u,Du) \leq L(1+ Du ^{p-1}), p \geq 2.$ They give a unified treatment of various interconnected aspects of the regularity theory: optimal partial regularity results for the spatial gradient of solutions, the first estimates on the (parabolic) Hausdorff dimension of the related singular set, and the first Calderon-Zygmund estimates for non-homogeneous problems are achieved here.

The book contains a selection of articles on special research topics on Mathematical Biology and the interdisciplinary fields of mathematical modelling of biosystems. The treatment is both pedagogical and advanced to enhance future scientific research. We include comprehensive reviews written by prominent leaders of scientific research groups, new results on Population Dynamics such as Hybrid Discrete-Continuous Models of Cell Populations and the Hopf bifurcation on Predator-Prey Models, and some state of the art research on Medical Physics such as Optimization Methods applied to Raman Spectroscopy. Other topics covered focus on evolution biology, infectious diseases, DNA structure and many more.

Cambridge AS and A Level Mathematics is a revised series to ensure full syllabus coverage. This coursebook has been revised and updated to ensure that it meets the requirements for the Pure Mathematics 2 and 3 (P2 and P3) units of Cambridge AS and A Level Mathematics (9709). Additional materials have been added to sections on logarithmic and exponential functions, the derivative of tan x and vectors. All of the review questions have been updated to reflect changes in the style of questions asked in the course.

This series has been developed specifically for the Cambridge International AS & A Level Mathematics (9709) syllabus to be examined from 2020. Cambridge International AS & A Level Mathematics: Probability & Statistics 2 matches the corresponding unit of the syllabus, with a clear and logical progression through. It contains materials on topics such as hypothesis testing, Poisson distribution, linear combinations and continuous random variables, and sampling. This coursebook contains a variety of features including recap sections for students to check their prior knowledge, detailed explanations and worked examples, end-of-chapter and cross-topic review exercises and 'Explore' tasks to encourage deeper thinking around mathematical concepts. Answers to coursebook questions are at the back of the book.

These transactions publish research in computer-based methods of computational collective intelligence (CCI) and their applications in a wide range of fields such as the semantic web, social networks, and multi-agent systems. TCCI strives to cover new methodological, theoretical and practical aspects of CCI understood as the form of intelligence that emerges from the collaboration and competition of many individuals (artificial and/or natural). The application of multiple computational intelligence technologies, such as fuzzy systems, evolutionary computation, neural systems, consensus theory, etc., aims to support human and other collective intelligence and to create new forms of CCI in natural and/or artificial systems. This eleventh issue contains 9 carefully selected and thoroughly revised contributions.

This book is a compilation of papers presented at the Regional Tribology Conference 2011 (RTC2011) - Langkawi, Malaysia on 22 ~ 24 November 2011.