

The Mathematics Of Juggling

The Mathematical Investigations of Dr. O and Arya follows the two title characters as they solve various mathematical conundrums--ranging from secret codes, to operations, to prime numbers. Not only will readers enjoy the illustrations and interactions between Dr. O and Arya, they will also immensely enjoy the challenges presented in each chapter.

What shape is the universe? Is it curved and closed in on itself? Is it expanding? Where is it headed? Could space be wrapped around itself, such that it produces ghost images of faraway galaxies? Such are the questions posed by Jean-Pierre Luminet in *The Wraparound Universe*, which he then addresses in clear and accessible language. An expert in black holes and the big bang, he leads us on a voyage through the surprising byways of space-time, where possible topologies of the universe, explorations of the infinite, and cosmic mirages combine their mysterious traits and unlock the imagination. *The Wraparound Universe* is a general-audience book about the overall topology or shape of the universe. The central question addressed is whether it is possible that the universe is wrapped around in an interesting way, and what impact this would have on astronomical observations and our understanding of cosmology. Along the way many of the general features and much of the history of the modern picture of cosmology are discussed.

The definitive introduction to game theory This comprehensive textbook introduces readers to the principal ideas and applications of game theory, in a style that combines rigor with accessibility. Steven Tadelis begins with a concise description of rational decision making, and goes on to discuss strategic and extensive form games with complete information, Bayesian games, and extensive form games with imperfect information. He covers a host of topics, including multistage and repeated games, bargaining theory, auctions, rent-seeking games, mechanism design, signaling games, reputation building, and information transmission games. Unlike other books on game theory, this one begins with the idea of rationality and explores its implications for multiperson decision problems through concepts like dominated strategies and rationalizability. Only then does it present the subject of Nash equilibrium and its derivatives. *Game Theory* is the ideal textbook for advanced undergraduate and beginning graduate students. Throughout, concepts and methods are explained using real-world examples backed by precise analytic material. The book features many important applications to economics and political science, as well as numerous exercises that focus on how to formalize informal situations and then analyze them. Introduces the core ideas and applications of game theory Covers static and dynamic games, with complete and incomplete information Features a variety of examples, applications, and exercises Topics include repeated games, bargaining, auctions, signaling, reputation, and information transmission Ideal for advanced undergraduate and beginning graduate students Complete solutions available to teachers and selected solutions

available to students

The biography of a mathematical genius. Paul Erdos was the most prolific pure mathematician in history and, arguably, the strangest too. 'A mathematical genius of the first order, Paul Erdos was totally obsessed with his subject -- he thought and wrote mathematics for nineteen hours a day until he died. He travelled constantly, living out of a plastic bag and had no interest in food, sex, companionship, art -- all that is usually indispensable to a human life. Paul Hoffman, in this marvellous biography, gives us a vivid and strangely moving portrait of this singular creature, one that brings out not only Erdos's genius and his oddness, but his warmth and sense of fun, the joyfulness of his strange life.' Oliver Sacks For six decades Erdos had no job, no hobbies, no wife, no home; he never learnt to cook, do laundry, drive a car and died a virgin. Instead he travelled the world with his mother in tow, arriving at the doorstep of esteemed mathematicians declaring 'My brain is open'. He travelled until his death at 83, racing across four continents to prove as many theorems as possible, fuelled by a diet of espresso and amphetamines. With more than 1,500 papers written or co-written,

Children, Computers, And Powerful Ideas

A Geometrical Picture Book

Connections in Discrete Mathematics

Computations in Algebraic Geometry with Macaulay 2

Juggling Flaming Chainsaws

Essential Maths for Engineering and Construction

The Mathematics of Juggling

The human brain is made up of 85 billion neurons, which are connected by over 100 trillion synapses. For more than a century, a diverse array of researchers searched for a language that could be used to capture the essence of what these neurons do and how they communicate – and how those communications create thoughts, perceptions and actions. The language they were looking for was mathematics, and we would not be able to understand the brain as we do today without it. In *Models of the Mind*, author and computational neuroscientist Grace Lindsay explains how mathematical models have allowed scientists to understand and describe many of the brain's processes, including decision-making, sensory processing, quantifying memory, and more. She introduces readers to the most important concepts in modern neuroscience, and highlights the tensions that arise when the abstract world of mathematical modelling collides with the messy details of biology. Each chapter of *Models of the Mind* focuses on mathematical tools that have been applied in a particular area of neuroscience, progressing from the simplest building block of the brain – the individual neuron – through to circuits of interacting neurons, whole brain areas and even the behaviours that brains command. In addition, Grace examines the history of the

field, starting with experiments done on frog legs in the late eighteenth century and building to the large models of artificial neural networks that form the basis of modern artificial intelligence. Throughout, she reveals the value of using the elegant language of mathematics to describe the machinery of neuroscience.

Challenges of work-life balance in the academy stem from policies and practices which remain from the time when higher education was populated mostly by married White male faculty. Those faculty were successful in their academic work because they depended upon the support of their wives to manage many of the not-work aspects of their lives. Imagine a tweedy middle-aged white man, coming home from the university to greet his wife and children and eat the dinner she's prepared for him, and then disappearing into his study for the rest of the evening with his pipe to write and think great thoughts. If that professor ever existed, he is now emeritus. *Juggling Flaming Chainsaws* is the first book in a new series with Information Age Publishing on these challenges of managing academic work and not-work. It uses the methodology of autoethnography to introduce the work-life issues faced by scholars in educational leadership. While the experiences of scholars in this volume are echoed across other fields in higher education, educational leadership is unique because of its emphasis on preparing people for leadership roles within higher education and for preK-12 schools. Authors include people at different places on their career and life course trajectory, people who are partnered and single, gay and straight, with children and without, caring for elders, and managing illness. They hail from different geographic areas of the nation, different ethnic backgrounds, and different types of institutions. What all have in common is commitment to engaging with this topic, to reflecting deeply upon their own experience, and to sharing that experience with the rest of us.

This fascinating behind-the-scenes look at movie math shows how fun and illuminating equations can be. The new "sine" of mathematical geekdom! Do you dream about long division in your sleep? Does the thought of solving abstruse equations bring a smile to your face? Do you love celebrating pi every March? Then, *Math Geek* was made for you! With this guide, you'll learn even more about the power of numbers as you explore their brilliant nature in ways you've never imagined. From manhole covers to bubbles to subway maps, each page gives you a glimpse of the world through renowned mathematicians' eyes and reveals how their theorems and equations can be applied to nearly everything you encounter. Covering dozens of your favorite math topics, you'll find fascinating answers to questions like: How are the waiting times for buses determined? Why is Romanesco Broccoli so mesmerizing? How do you divide a cake evenly? Should you run or walk to avoid rain showers? Filled with compelling mathematical explanations, *Math Geek* sheds light on the incredible world of numbers hidden deep within your day-to-day life.

Masterpieces from Newton to Lebesgue

The Experimenter's A-Z of Mathematics

Ambigrams & Other Visual Puzzles to Amaze and Entertain

A Mathematical Guide to the Best (and Worst) Ways to Lace Your Shoes

How to Look Like a Genius Without Really Trying

The Wraparound Universe

Math Goes to the Movies

In this charming volume, a noted English mathematician uses humor and anecdote to illuminate the concepts of groups, sets, subsets, topology, Boolean algebra, and other mathematical subjects. 200 illustrations.

This text aims to bridge the gap between non-mathematical popular treatments and the distinctly mathematical publications that non-mathematicians find so difficult to penetrate. The author provides understandable derivations or explanations of many key concepts, such as Kolmogorov-Sinai entropy, dimensions, Fourier analysis, and Lyapunov exponents.

Many of the best researchers and writers in discrete mathematics come together in a volume inspired by Ron Graham.

Ambigrams are words that are written or drawn so that they can be read in more than one way, back to front, upside down, turned this way and that.

A Most Incomprehensible Thing

The Story of Paul Erdős and the Search for Mathematical Truth

Teaching and Learning Mathematics Online

Academics in Educational Leadership Try to Balance Work and Family

Mathematical Myths / Pedagogic Texts

Juggling

Models of the Mind

Mathematics at all levels is about the joy in the discovery; it's about finding things out. This fascinating book is a guide to that discovery process, presenting ideas for practical classroom-based experiments and extension activities. Each experiment is based on the work of a key mathematician who has shaped the way that the subject looks today, and there are historical notes to help teachers bring this work to life. The book includes instructions on how to recreate the experiments using practical mathematics, computer programs and graphical calculators; ideas for follow-up work; background information for teachers on the mathematics involved; and links to the new secondary numeracy strategy framework. Accompanying the book is a CD-ROM with downloadable computer programs that can be used and

reworked as part of the experimental process. With a wide range of topics covered, and plenty of scope for interesting follow-up activities, the book will be a valuable tool for mathematics teachers looking to extend the curriculum.

"Organic Mathematics : Proceedings of the Organic Mathematics Workshop contained the article, 'Juggling Drops and Descents' by Joe Buhler, David Eisenbud, Ron Graham, & Colin Wright, which explored the mathematics of juggling. The purpose of this thesis is to expound, explore and expand up on this article and to expose it to the local mathematical community. It begins with an examination of juggling diagrams. Numerous definitions with illustrative examples are given and key theorems are proved in detail. We establish a fundamental enumeration result by investigating how to find all juggling patterns with a specified permutation. This is done by closely examining the properties of the drop triangle, which is an analogue of Pascal's Triangle. This result leads to the conjecture that the number of juggling, period n , patterns using fewer than B balls is B^n . This 'Enumeration Theorem' is established first by using 'drops' and then by establishing a bijection between circular walks and juggling patterns. This later bijection is analyzed by converting circular walks to linear walks which can then be related to the line diagrams of juggling patterns. The thesis also explores site swaps, composition of juggling patterns and the reverse of a juggling sequence"--Document.

This volume is the hardcopy version of the electronic manuscript, Proceedings of the Organic Mathematics Workshop held at Simon Fraser University in December 1995 (www.cecm.sfu.ca/organics). The book provides a fixed, easily referenced, and permanent version of what is otherwise an evolving document. Contained in this work is a collection of articles on experimental and computational mathematics contributed by leading mathematicians around the world. The papers span a variety of mathematical fields - from juggling to differential equations to prime number theory. The book also contains biographies and photos of the contributing mathematicians and an in-depth characterization of organic mathematics.

Until the 1960s, maths was studied as an academic subject in a desire to have more mathematicians. The current trend, however, has moved away from viewing maths as a purely intellectual endeavour and towards developing a more mathematically competent workforce and citizenry. This trend has seen a large increase in the number of maths schemes being produced by the major educational publishers, which attempt to make maths easier and more approachable by using language instead of symbols. So why do so many children still fail at maths? The author contends that to understand this, teachers need to analyze and evaluate the maths textbooks they are currently using. The author shows the reader how to systematically analyze and evaluate these textbooks. This interrogation of classroom resources, should have important implications for teaching strategies and for textbook design and use.

Scientific Discovery at the Frontier

Juggling the Issues

A Mind at Play

Combinatorics

Math Geek

Magical Mathematics

A Positron Named Priscilla

Don't let your mathematical skills fail you! In Engineering, Construction, and Science examinations, marks are often lost through carelessness or from not properly understanding the mathematics involved. When there are only a few marks on offer for a part of a question, there may be full marks for a right answer and none for a wrong one, regardless of the thought that went into the answer. If you want to avoid losing these marks by improving the clarity both of your mathematical work and your mathematical understanding, then Essential Maths for Engineering and Construction is the book for you. We all make mistakes; who doesn't? But mistakes can be avoided when we understand why we make them. Taking mistakes commonly made by undergraduate students as its entry point, this book not only looks at how you can prevent mistakes, but also provides a primer for the fundamental mathematical skills required for your degree discipline. Whether you struggle with different types of interest rates, geometry, statistics, calculus, or any of the other mathematical areas vital to your degree, this book will guide you around the pitfalls.

An octopus called Jasper gives up on learning the basics at school to pursue something he thinks will be more fun. He soon finds out that even fun things can be difficult to learn. But luckily, a smack of jolly jellyfish are there to help him every step of the way. How many jellyfish do you think Jasper will be able to juggle by the end? Count along! Maybe he will end up learning the basics without even knowing it. From the creators of Ready, Steady, Hatch! comes a wonderful rhyming story reminding us that we can learn anything if we approach it steadily, and with a bit of fun and determination.

Online education has become a major component of higher education worldwide. In mathematics and statistics courses, there exists a number of challenges that are unique to the teaching and learning of mathematics and statistics in an online environment. These challenges are deeply connected to already existing difficulties related to math anxiety, conceptual understanding of mathematical ideas, communicating mathematically, and the appropriate use of technology. Teaching and Learning Mathematics Online bridges these issues by presenting meaningful and practical solutions for teaching mathematics and statistics online. It focuses on the problems observed by mathematics instructors currently working in the field who strive to hone their craft and share best practices with our professional community. The book provides a set of standard practices, improving the quality of online teaching and the learning of mathematics. Instructors will benefit from learning new techniques and approaches to delivering content. Features Based on the experiences of working educators in the field Assimilates the latest technology developments Focuses on interactive distance education Focuses on mathematical education for developing early mathematics courses

Demonstrates how to solve math problems more quickly in one's head than with a calculator, and describes mathematical tricks and shortcuts

The Mathematical Ideas That Animate Great Magic Tricks

Charlie Dancey's Compendium of Club Juggling

Visualizing Mathematics with 3D Printing

Proceedings of the Organic Mathematics Workshop, December 12-14, 1995, Simon Fraser University, Burnaby, British Columbia

Organic Mathematics

An Engaging Introduction to Proof

A Very Short Introduction

This book offers a fascinating and entertaining look at the mathematics behind the many patterns by which shoes are laced. Burkhard Polster, who lists mathematical juggling, magic and origami among his talents, uses formulas and detailed illustrations to answer questions such as the shortest and strongest lacings in several categories. An accessible mix of combinatorics and elementary calculus yields the author's conclusions.

A straightforward, enjoyable guide to the mathematics of Einstein's relativity To really understand Einstein's theory of relativity – one of the cornerstones of modern physics – you have to get to grips with the underlying mathematics. This self-study guide is aimed at the general reader who is motivated to tackle that not insignificant challenge. With a user-friendly style, clear step-by-step mathematical derivations, many fully solved problems and numerous diagrams, this book provides a comprehensive introduction to a fascinating but complex subject. For those with minimal mathematical background, the first chapter gives a crash course in foundation mathematics. The reader is then taken gently by the hand and guided through a wide range of fundamental topics, including Newtonian mechanics; the Lorentz transformations; tensor calculus; the Einstein field equations; the Schwarzschild solution (which gives a good approximation of the spacetime of our Solar System); simple black holes, relativistic cosmology and gravitational waves. Special relativity helps explain a huge range of non-gravitational physical phenomena and has some strangely counter-intuitive consequences. These include time dilation, length contraction, the relativity of simultaneity, mass-energy equivalence and an absolute speed limit. General relativity, the leading theory of gravity, is at the heart of our understanding of cosmology and black holes. "I must observe that the theory of relativity resembles a building consisting of two separate stories, the special

theory and the general theory. The special theory, on which the general theory rests, applies to all physical phenomena with the exception of gravitation; the general theory provides the law of gravitation and its relations to the other forces of nature." – Albert Einstein, 1919 Understand even the basics of Einstein's amazing theory and the world will never seem the same again. Contents: Preface Introduction 1 Foundation mathematics 2 Newtonian mechanics 3 Special relativity 4 Introducing the manifold 5 Scalars, vectors, one-forms and tensors 6 More on curvature 7 General relativity 8 The Newtonian limit 9 The Schwarzschild metric 10 Schwarzschild black holes 11 Cosmology 12 Gravitational waves Appendix: The Riemann curvature tensor Bibliography Acknowledgements January 2019. This third edition has been revised to make the material even more accessible to the enthusiastic general reader who seeks to understand the mathematics of relativity.

As a juggler the author likes to finish his performances with a stunt that combines props and techniques from a variety of juggling disciplines. Imagine him idling on a giraffe unicycle, while balancing a spinning basketball on a mouth stick, and toss-juggling a sword, a toilet plunger, and a rubber chicken. As a mathematician he is also interested in the treasure trove of beautiful mathematics used to model the different activities in a juggler's repertoire. In this book he provides an intellectually stimulating collection of mostly self-contained mathematical essays that introduce the reader to many elegant results and techniques from a wide range of mathematical disciplines such as combinatorics, graph theory, knot theory, mechanics, differential equations, control theory, and robotics. "The Mathematics of Juggling" is the first comprehensive account summarizing and expanding the results in the literature on juggling tricks and skills, as well as the mathematics behind these tricks and skills. Anybody who is not put off by the word "mathematics" in the title of this book should have a good time reading it.

"Magical Mathematics reveals the secrets of amazing, fun-to-perform card tricks--and the profound mathematical ideas behind them--that will astound even the most accomplished magician. Persi Diaconis and Ron Graham provide easy, step-by-step instructions for each trick, explaining how to set up the effect and offering tips on what to say and do while performing it. Each card trick introduces a new mathematical idea, and varying the tricks in turn takes readers to the very threshold of today's mathematical knowledge. For example, the Gilbreath principle--a fantastic effect where the cards remain in control despite being shuffled--is found to share an intimate connection with the Mandelbrot set. Other card tricks link to the mathematical secrets of combinatorics, graph theory, number theory, topology, the

Riemann hypothesis, and even Fermat's last theorem. Diaconis and Graham are mathematicians as well as skilled performers with decades of professional experience between them. In this book they share a wealth of conjuring lore, including some closely guarded secrets of legendary magicians. *Magical Mathematics* covers the mathematics of juggling and shows how the I Ching connects to the history of probability and magic tricks both old and new. It tells the stories--and reveals the best tricks--of the eccentric and brilliant inventors of mathematical magic. *Magical Mathematics* exposes old gambling secrets through the mathematics of shuffling cards, explains the classic street-gambling scam of three-card monte, traces the history of mathematical magic back to the thirteenth century and the oldest mathematical trick--and much more"-

Chaos Theory Tamed

Galileo's Intellectual Revolution

How Claude Shannon Invented the Information Age

Living With Asperger's Syndrome

Concepts of Modern Mathematics

The Calculus Gallery

Mindstorms

In this revolutionary book, a renowned computer scientist explains the importance of teaching children the basics of computing and how it can prepare them to succeed in the ever-evolving tech world. Computers have completely changed the way we teach children. We have Mindstorms to thank for that. In this book, pioneering computer scientist Seymour Papert uses the invention of LOGO, the first child-friendly programming language, to make the case for the value of teaching children with computers. Papert argues that children are more than capable of mastering computers, and that teaching computational processes like de-bugging in the classroom can change the way we learn everything else. He also shows that schools saturated with technology can actually improve socialization and interaction among students and between students and teachers. Technology changes every day, but the basic ways that computers can help us learn remain. For thousands of teachers and parents who have sought creative ways to help children learn with computers, Mindstorms is their bible.

How do you convey to your students, colleagues and friends some of the beauty of the kind of mathematics you are obsessed with? If you are a mathematician interested in finite or topological geometry and combinatorial designs, you could start by showing them some of the (400+) pictures in the "picture book". Pictures are what this book is all about;

original pictures of everybody's favorite geometries such as configurations, projective planes and spaces, circle planes, generalized polygons, mathematical biplanes and other designs which capture much of the beauty, construction principles, particularities, substructures and interconnections of these geometries. The level of the text is suitable for advanced undergraduates and graduate students. Even if you are a mathematician who just wants some interesting reading you will enjoy the author's very original and comprehensive guided tour of small finite geometries and geometries on surfaces This guided tour includes lots of stereograms of the spatial models, games and puzzles and instructions on how to construct your own pictures and build some of the spatial models yourself.

An examination of the emergence of the phenomenon of deductive argument in classical Greek mathematics.

Winner of the Neumann Prize for the History of Mathematics "We owe Claude Shannon a lot, and Soni & Goodman's book takes a big first step in paying that debt." —San Francisco Review of Books "Soni and Goodman are at their best when they invoke the wonder an idea can instill. They summon the right level of awe while stopping short of hyperbole."

—Financial Times "Jimmy Soni and Rob Goodman make a convincing case for their subtitle while reminding us that Shannon never made this claim himself." —The Wall Street Journal "A charming account of one of the twentieth century's most distinguished scientists...Readers will enjoy this portrait of a modern-day Da Vinci." —Fortune In their second collaboration, biographers Jimmy Soni and Rob Goodman present the story of Claude Shannon—one of the foremost intellects of the twentieth century and the architect of the Information Age, whose insights stand behind every computer built, email sent, video streamed, and webpage loaded. Claude Shannon was a groundbreaking polymath, a brilliant tinkerer, and a digital pioneer. He constructed the first wearable computer, outfoxed Vegas casinos, and built juggling robots. He also wrote the seminal text of the digital revolution, which has been called "the Magna Carta of the Information Age." In this elegantly written, exhaustively researched biography, Soni and Goodman reveal Claude Shannon's full story for the first time. With unique access to Shannon's family and friends, A Mind at Play brings this singular innovator and always playful genius to life.

Notes Towards a Very Gentle Introduction to the Mathematics of Relativity

Middle Period, 1610-1632

Exploring Mathematics

The Man who Loved Only Numbers

The Shaping of Deduction in Greek Mathematics

Math Activities with Computer Support

A Study in Cognitive History

Exploring Mathematics gives students experience with doing mathematics - interrogating mathematical claims, exploring definitions, forming conjectures, attempting proofs, and presenting results - and engages them with examples, exercises, and projects that pique their interest. Written with a minimal number of pre-requisites, this text can be used by college students in their first and second years of study, and by independent readers who want an accessible introduction to theoretical mathematics. Core topics include proof techniques, sets, functions, relations, and cardinality, with selected additional topics that provide many possibilities for further exploration. With a problem-based approach to investigating the material, students develop interesting examples and theorems through numerous exercises and projects. In-text exercises, with complete solutions or robust hints included in an appendix, help students explore and master the topics being presented. The end-of-chapter exercises and projects provide students with opportunities to confirm their understanding of core material, learn new concepts, and develop mathematical creativity.

A hugely enjoyable, brilliantly researched explanation of the basic principles of maths.

A Positron Named Priscilla is a book of wonder, offering a fascinating, readable overview of cutting-edge investigations by many of today's leading young scientists. Written for anyone who loves science, this volume reports on some of the most exciting recent discoveries and advances in fields from astronomy to molecular biology. This new book is from one of the world's most prestigious scientific institutions, the National Academy of Sciences. The Academy provides an annual forum for the brightest young investigators to exchange ideas across disciplines--an exchange that was the spark for A Positron Named Priscilla. Each chapter is authored by a popular science writer who offers helpful historical perspectives, clear and well-illustrated explanations of current scientific thinking, and previews of future developments. The scope of topics and breadth of discussion ensure interest at all levels. Topics include Planetary science and the compelling glimpse through the clouded atmosphere of Venus afforded by the spacecraft Magellan. Astrophysics and the emergence of helioseismology, a new field that allows researchers to probe the interior workings of the sun. Biology and what we have learned about DNA in the 40 years since its discovery; our current understanding of protein molecules, the "building blocks" of living systems; and the high-tech search for answers to the AIDS epidemic. Physics and our new-found ability to move and manipulate individual atoms on a surface. The book also tells the remarkable story of "buckyballs," or buckminsterfullerenes, a form of carbon discovered only a few years ago, that have the potential to be used in a variety of important applications, from superconductivity to nanotechnology. Mathematics and the rise of "wavelet" theory, and how mathematicians are applying it in sometimes startling ways, from assisting the FBI with fingerprint storage to coaxing the secrets from a battered recording of Brahms playing the piano. Geosciences and the search for "clocks in the earth" to make life-saving earthquake predictions. A Positron Named Priscilla is a "must" read for anyone who wants to keep up with a broad range of scientific endeavor.

This book presents algorithmic tools for algebraic geometry, with experimental applications. It also introduces Macaulay 2, a computer algebra system supporting research in algebraic geometry, commutative algebra, and their applications. The algorithmic tools presented here are designed to serve readers wishing to bring such tools to bear on their own problems. The first part of the book covers Macaulay 2 using concrete applications; the second emphasizes details of the

mathematics.

Jasper Juggles Jellyfish

The Mathematical Investigations of Dr. O and Arya

From Klein Bottles to Chaos Theory, a Guide to the Nerdiest Math Facts, Theorems, and Equations

A Celebration of the Work of Ron Graham

The Shoelace Book

How to Avoid Mistakes

Alex's Adventures in Numberland

Living beyond Asperger's Matthew Kenslow was diagnosed with Asperger's Syndrome, which is within the autistic spectrum, when he was six years old. He shares its common symptoms, such as lacking social and conversational skills, and having poor eye contact with others. In school he had difficulty with certain subjects, but others (like math and science) came easily to him. He has the ability to remember a myriad of facts and the events in his life-some he would rather forget! Juggling the Issues: Living With Asperger's Syndrome is a collection of short stories from his life. He describes many of the issues that those with autism and Asperger's face each day. He also talks about some of the positive aspects of having Asperger's as well. What is life like living with Asperger's? Matthew describes it as having "an enhancer" plugged into his brain, which accelerates his thoughts and even his emotions. "Asperger's will deepen everything's significance, causing us to take things to a more intense level," he confides. If you want to better understand those living with Asperger's, you need to read this book. The insights Kenslow shares come from his deep experience of living with it and making the most of life's opportunities.

How many possible sudoku puzzles are there? In the lottery, what is the chance that two winning balls have consecutive numbers? Who invented Pascal's triangle? (it was not Pascal) Combinatorics, the branch of mathematics concerned with selecting, arranging, and listing or counting collections of objects, works to answer all these questions. Dating back some 3000 years, and initially consisting mainly of the study of permutations and combinations, its scope has broadened to include topics such as graph theory, partitions of numbers, block designs, design of codes, and latin squares. In this Very Short Introduction Robin Wilson gives an overview of the field and its applications in mathematics and computer theory, considering problems from the shortest routes covering certain stops to the minimum number of colours needed to colour a map with different colours for neighbouring countries. ABOUT THE SERIES: The Very Short Introductions series from Oxford University Press contains hundreds of titles in almost every subject area. These pocket-sized books are the perfect way to get ahead in a new subject quickly. Our expert authors combine facts, analysis, perspective, new ideas, and enthusiasm to make interesting and challenging topics highly readable.

With the book in one hand and a 3D printed model in the other, readers can find deeper meaning while holding a hyperbolic honeycomb, touching the twists of a torus knot, or caressing the curves of a Klein quartic.

Ever find yourself struggling to check a bill or tax on a payslip? The Trachtenberg Speed System provides a course in refining basic mathematics skills to tackle large sums before simplifying to increase concentration and ability in day-to-day arithmetic. The Trachtenberg system has been described as the 'shorthand of mathematics' and only requires the ability to count from one to eleven. Using a series of simplified keys, it allows anyone to master numbers and calculations giving greater speed, ease in handling numbers and increasing accuracy. Jakow Trachtenberg believed that everyone is born with phenomenal abilities to calculate. He devised a set of rules that allows every child to make multiplication, division, addition, subtraction and square-root calculations with unerring accuracy and at remarkable speed. A perfect entry into gaining confidence with numbers.

How Physics, Engineering and Mathematics Have Shaped Our Understanding of the Brain

The Sociology of Mathematics Education

Eye Twisters

Mathemagics

The Trachtenberg Speed System of Basic Mathematics

An Introduction

Game Theory

More than three centuries after its creation, calculus remains a dazzling intellectual achievement and the gateway to higher mathematics. This book charts its growth and development by sampling from the work of some of its foremost practitioners, beginning with Isaac Newton and Gottfried Wilhelm Leibniz in the late seventeenth century and continuing to Henri Lebesgue at the dawn of the twentieth. Now with a new preface by the author, this book documents the evolution of calculus from a powerful but logically chaotic subject into one whose foundations are thorough, rigorous, and unflinching—a story of genius triumphing over some of the toughest, subtlest problems imaginable. In touring The Calculus Gallery, we can see how it all came to be.

'the Galaxy's Greatest Guide to Gravity'

A Mathematical Perspective