

And Do Parker Matt Make To The Things In Fourth Dimension

[#fourth dimension](#) [#Matt Parker](#) [#dimensional concepts](#) [#theoretical constructs](#) [#beyond perception](#)

Explore the innovative work of Matt Parker and his collaborator as they delve into the fascinating realm of the fourth dimension. Their collective efforts focus on understanding and creating unique dimensional concepts, pushing the boundaries of perception. This project aims to bring abstract theoretical constructs to life, offering a deeper insight into exploring dimensions beyond our conventional understanding of the fourth dimension.

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We provide the entire full version Matt Parker Fourth Dimension Projects for free, exclusively here.

Things to Make and Do in the Fourth Dimension

Stand-up mathematician and star of Festival of the Spoken Nerd, Matt Parker presents Things to Make and Do in the Fourth Dimension -- a riotous journey through the possibilities of numbers, with audience participation - Cut pizzas in new and fairer ways! - Fit a 2p coin through an impossibly small hole! - Make a perfect regular pentagon by knotting a piece of paper! - Tie your shoes faster than ever before, saving literally seconds of your life! - Use those extra seconds to contemplate the diminishing returns of an exclamation-point at the end of every bullet-point! - Make a working computer out of dominoes! Maths is a game. This book can be cut, drawn in, folded into shapes and will even take you to the fourth dimension. So join stand-up mathematician Matt Parker on a journey through narcissistic numbers, optimal dating algorithms, at least two different kinds of infinity and more.

Visualizing Mathematics with 3D Printing

The first book to explain mathematics using 3D printed models. Winner of the Technical Text of the Washington Publishers Wouldn't it be great to experience three-dimensional ideas in three dimensions? In this book—the first of its kind—mathematician and mathematical artist Henry Segerman takes readers on a fascinating tour of two-, three-, and four-dimensional mathematics, exploring Euclidean and non-Euclidean geometries, symmetry, knots, tilings, and soap films. Visualizing Mathematics with 3D Printing includes more than 100 color photographs of 3D printed models. Readers can take the book's insights to a new level by visiting its sister website, 3dprintmath.com, which features virtual three-dimensional versions of the models for readers to explore. These models can also be ordered online or downloaded to print on a 3D printer. Combining the strengths of book and website, this volume pulls higher geometry and topology out of the realm of the abstract and puts it into the hands of anyone fascinated by mathematical relationships of shape. 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.

Humble Pi

#1 INTERNATIONAL BESTSELLER AN ADAM SAVAGE BOOK CLUB PICK The book-length answer to anyone who ever put their hand up in math class and asked, "When am I ever going to use this in the real world?" "Fun, informative, and relentlessly entertaining, *Humble Pi* is a charming and very readable guide to some of humanity's all-time greatest miscalculations—that also gives you permission to feel a little better about some of your own mistakes." —Ryan North, author of *How to Invent Everything* Our whole world is built on math, from the code running a website to the equations enabling the design of skyscrapers and bridges. Most of the time this math works quietly behind the scenes . . . until it doesn't. All sorts of seemingly innocuous mathematical mistakes can have significant consequences. Math is easy to ignore until a misplaced decimal point upends the stock market, a unit conversion error causes a plane to crash, or someone divides by zero and stalls a battleship in the middle of the ocean. Exploring and explaining a litany of glitches, near misses, and mathematical mishaps involving the internet, big data, elections, street signs, lotteries, the Roman Empire, and an Olympic team, Matt Parker uncovers the bizarre ways math trips us up, and what this reveals about its essential place in our world. Getting it wrong has never been more fun.

A Visual Introduction to the Fourth Dimension (Rectangular 4D Geometry)

This colorful, visual introduction to the fourth dimension provides a clear explanation of the concepts and numerous illustrations. It is written with a touch of personality that makes this an engaging read instead of a dry math text. The content is very accessible, yet at the same time detailed enough to satisfy the interests of advanced readers. This book is devoted to geometry; there are no spiritual or religious components to this book. May you enjoy your journey into the fascinating world of the fourth dimension! Contents: Introduction Chapter 0: What Is a Dimension? Chapter 1: Dimensions Zero and One Chapter 2: The Second Dimension Chapter 3: Three-Dimensional Space Chapter 4: A Fourth Dimension of Space Chapter 5: Tesseract and Hypercubes Chapter 6: Hypercube Patterns Chapter 7: Planes and Hyperplanes Chapter 8: Tesseracts in Perspective Chapter 9: Rotations in 4D Space Chapter 10: Unfolding a Tesseract Chapter 11: Cross Sections of a Tesseract Chapter 12: Living in a 4D House Further Reading Glossary About the Author Put on your spacesuit, strap on your safety harness, swallow your anti-nausea medicine, and enjoy this journey into a fourth dimension of space! 10D, 9D, 8D, 7D, 6D, 5D, 4D, 3D, 2D, 1D, 0D. Blast off!

The Maths Book

Learn about the most important mathematical ideas, theorems, and movements in *The Maths Book*. Part of the fascinating Big Ideas series, this book tackles tricky topics and themes in a simple and easy to follow format. Learn about Maths in this overview guide to the subject, great for novices looking to find out more and experts wishing to refresh their knowledge alike! *The Maths Book* brings a fresh and vibrant take on the topic through eye-catching graphics and diagrams to immerse yourself in. This captivating book will broaden your understanding of Maths, with: - More than 85 ideas and events key to the development of mathematics - Packed with facts, charts, timelines and graphs to help explain core concepts - A visual approach to big subjects with striking illustrations and graphics throughout - Easy to follow text makes topics accessible for people at any level of understanding *The Maths Book* is a captivating introduction to the world's most famous theorems, mathematicians and movements, aimed at adults with an interest in the subject and students wanting to gain more of an overview. Charting the development of maths around the world from Babylon to Bletchley Park, this book explains how maths help us understand everything from patterns in nature to artificial intelligence. Your Maths Questions, Simply Explained What is an imaginary number? Can two parallel lines ever meet? How can maths help us predict the future? This engaging overview explores answers to big questions like these and how they contribute to our understanding of maths. If you thought it was difficult to learn about topics like algebra and statistics, *The Maths Book* presents key information in an easy to follow layout. Learn about the history of maths, from ancient ideas such as magic squares and the abacus to modern cryptography, fractals, and the final proof of Fermat's Last Theorem. The Big Ideas Series With millions of copies sold worldwide, *The Maths Book* is part of the award-winning Big Ideas series from DK. The series uses striking graphics along with engaging writing, making big topics easy to understand. r to understand.

In Code

Originally published in England and cowritten with her father, "In Code" is "a wonderfully moving story about the thrill of the mathematical chase" ("Nature") and "a paean to intellectual adventure" ("Times

Educational Supplement"). A memoir in mathematics, it is all about how a girl next door became an award-winning mathematician. photo insert.

The Fourth Dimension

A detailed description of what the fourth dimension would be like.

Why Beliefs Matter

In the follow-up to his acclaimed *Science in the Looking Glass*, Brian Davies discusses deep problems about our place in the world, using a minimum of technical jargon. The book argues that 'absolutist' ideas of the objectivity of science, dating back to Plato, continue to mislead generations of both theoretical physicists and theologians. It explains that the multi-layered nature of our present descriptions of the world is unavoidable, not because of anything about the world, but because of our own human natures. It tries to rescue mathematics from the singular and exceptional status that it has been assigned, as much by those who understand it as by those who do not. Working throughout from direct quotations from many of the important contributors to its subject, it concludes with a penetrating criticism of many of the recent contributions to the often acrimonious debates about science and religions.

My Best Mathematical and Logic Puzzles

The noted expert selects 70 of his favorite "short" puzzles, including such mind-bogglers as *The Returning Explorer*, *The Mutilated Chessboard*, *Scrambled Box Tops*, and dozens more involving logic and basic math. Solutions included.

How to Cut a Cake

Welcome back to Ian Stewart's magical world of mathematics! This is a strange world of never-ending chess games, empires on the moon, furious fireflies, and, of course, disputes over how best to cut a cake. Each quirky tale presents a fascinating mathematical puzzle — challenging, fun, and also introducing the reader to a significant mathematical problem in an engaging and witty way.

Flashes of Creation

A respected physics professor and author breaks down the great debate over the Big Bang and the continuing quest to understand the fate of the universe. Today, the Big Bang is so entrenched in our understanding of the cosmos that to doubt it would seem crazy. But as Paul Halpern shows in *Flashes of Creation*, just decades ago its mere mention caused sparks to fly. At the center of the debate were Russian American physicist George Gamow and British astrophysicist Fred Hoyle. Gamow insisted that a fiery explosion explained how the elements of the universe were created. Attacking the idea as half-baked, Hoyle countered that the universe was engaged in a never-ending process of creation. The battle was fierce. In the end, Gamow turned out to be right -- mostly -- and Hoyle, along with his many achievements, is remembered for giving the theory the silliest possible name: "The Big Bang." Halpern captures the brilliance of both thinkers and reminds us that even those proved wrong have much to teach us about boldness, imagination, and the universe itself.

Zero

A NEW YORK TIMES NOTABLE BOOK The Babylonians invented it, the Greeks banned it, the Hindus worshipped it, and the Christian Church used it to fend off heretics. Today it's a timebomb ticking in the heart of astrophysics. For zero, infinity's twin, is not like other numbers. It is both nothing and everything. Zero has pitted East against West and faith against reason, and its intransigence persists in the dark core of a black hole and the brilliant flash of the Big Bang. Today, zero lies at the heart of one of the biggest scientific controversies of all time: the quest for a theory of everything. Within the concept of zero lies a philosophical and scientific history of humanity. Charles Seife's elegant and witty account takes us from Aristotle to superstring theory by way of Egyptian geometry, Kabbalism, Einstein, the Chandrasekhar limit and Stephen Hawking. Covering centuries of thought, it is a concise tour of a world of ideas, bound up in the simple notion of nothing.

The Perfect Bet

Gamblers have been trying to figure out how to game the system since our ancestors first made wagers over dice fashioned from knucklebones: in revolutionary Paris, the 'martingale' strategy was rumoured to lead to foolproof success at roulette ; today, professional gamblers are using cutting-edge techniques to tilt the odds in their favour. Science is giving us the competitive edge over opponents, casinos and bookmakers. But is there such a thing as a perfect bet? The Perfect Bet looks beyond probability and statistics to examine how wagers have inspired a plethora of new disciplines - spanning chaos theory, machine learning and game theory - which are not just revolutionising gambling, but changing our fundamental notions about chance, randomness and luck. Explaining why poker is gaming's last bastion of human superiority over AI, how methods originally developed for the US nuclear programme are helping pundits predict sports results and why a new breed of algorithms are losing banks millions, The Perfect Bet has the inside track on any wager you'd care to place.

The Knowledge

If the world as we know it ended tomorrow, how would you survive? A nuclear war, viral pandemic or asteroid strike. The world as we know it has ended. You and the other survivors must start again. What knowledge would you need to start rebuilding civilisation from scratch? How do you grow food, generate power, prepare medicines, or get metal out of rocks? Could you avert another Dark Ages, or take shortcuts to accelerate redevelopment? Living in the modern world, we have become disconnected from the basic processes and key fundamentals of science that sustain our lives. Ingenious and ground-breaking, The Knowledge explains everything you need to know about everything, revolutionising your understanding of the world. 'A glorious compendium of the knowledge we have lost in the living...the most inspiring book I've read in a long time' Independent 'A terrifically engrossing history of science and technology' Guardian <http://the-knowledge.org/>

Alex's Adventures in Numberland

A tenth anniversary edition of the iconic book about the wonderful world of maths Sunday Times bestseller | Shortlisted for the BBC Samuel Johnson Prize 'Original and highly entertaining' Sunday Times 'A page turner about humanity's strange, never easy and, above all, never dull relationship with numbers' New Scientist 'Will leave you hooked on numbers' Daily Telegraph In this richly entertaining and accessible book, Alex Bellos explodes the myth that maths is best left to the geeks, and demonstrates the remarkable ways it's linked to our everyday lives. Alex explains the surprising geometry of the 50p piece, and the strategy of how best to gamble it in a casino. He shines a light on the mathematical patterns in nature, and on the peculiar predictability of random behaviour. He eats a potato crisp whose revolutionary shape was unpalatable to the ancient Greeks, and he shows the deep connections between maths, religion and philosophy. From the world's fastest mental calculators in Germany to numerologists in the US desert, from a startlingly numerate chimpanzee in Japan to venerable Hindu sages in India, these dispatches from 'Numberland' are an unlikely but exhilarating cocktail of history, reportage and mathematical proofs. The world of maths is a much friendlier and more colourful place than you might have imagined. This anniversary edition is fully revised and updated.

The Pea and the Sun

Take an apple and cut it into five pieces. Would you believe that these five pieces can be reassembled in such a fashion so as to create two apples equal in shape and size to the original? Would you believe that you could make something as large as the sun by breaking a pea into a finite number of pieces and putting it back together again? Neither did Leonard Wapner, author of The Pea and the Sun, when he was first introduced to the Banach-Tarski paradox, which asserts exactly such a notion. Written in an engaging style, The Pea and the Sun catalogues the people, events, and mathematics that contributed to the discovery of Banach and Tarski's magical paradox. Wapner makes one of the most interesting problems of advanced mathematics accessible to the non-mathematician.

The Unfinished Global Revolution

The Unfinished Global Revolution is a front-line view of the challenges of leadership and the importance of creating greater global cooperation. The former United Nations Deputy Secretary-General, Mark Malloch-Brown diagnoses the central global predicament of the 21st century. As we have become more integrated, we have also become less governed. National governments are no longer equipped to address complex global issues. From climate change to poverty, international organizations have not yet been empowered to step into the breach. The Unfinished Global Revolution chronicles how

over the past few decades, domestic problems - from unemployment to environmental distress - have international roots. Increasingly, ad hoc arrangements between NGOs, civil society and the private sector are filling in the gap created by the failures of individual governments. Malloch-Brown urges us to embrace these evermore powerful international institutions and the values needed to underpin a truly globalist agenda - the rule of law, human rights, and greater opportunity for all. Now is the moment for creative statesmanship to form a new approach to global politics, one that will produce stronger international institutions that revive rather than replace national governments. Malloch-Brown has been at the centre of recent world events. Drawing on his experiences at the frontlines of international development - from Cambodia to Darfur, Washington to UN headquarters - Malloch-Brown provides a personal, on-the-ground view of seemingly abstract challenges and forecasts the way forward in global politics. This book should be required reading for all policy makers, politicians and concerned citizens of the world.

The Grapes of Math

From triangles, rotations and power laws, to cones, curves and the dreaded calculus, Alex takes you on a journey of mathematical discovery with his signature wit and limitless enthusiasm. He sifts through over 30,000 survey submissions to uncover the world's favourite number, and meets a mathematician who looks for universes in his garage. He attends the World Mathematical Congress in India, and visits the engineer who designed the first roller-coaster loop. Get hooked on math as Alex delves deep into humankind's turbulent relationship with numbers, and reveals how they have shaped the world we live in.

Man Alive

If he is to become a man, what sort of man should Thomas Page McBee be? To find out, McBee must confront the suffering he has endured at the hands of men: the abuse he endured as a child from his father, and the violent mugging which almost killed him as an adult. Standing at the brink of the life-changing decision to transition from female to male, McBee seeks to understand these examples of flawed manhood, and reclaim his body on his own terms. Powerful, uplifting and profound, *Man Alive* is a story about transformation; about freedom, and love, and finding the strength to rebuild ourselves as the people we are meant to be.

Molecules

In his highly anticipated sequel to *The Elements*, Theodore Gray demonstrates how the elements of the periodic table combine to form the molecules that make up our world. Everything physical is made up of the elements and the infinite variety of molecules they form when they combine with each other. In *Molecules*, Theodore Gray takes the next step in the grand story that began with the periodic table in his best-selling book, *The Elements: A Visual Exploration of Every Known Atom in the Universe*. Here, he explores through fascinating stories and trademark stunning photography the most interesting, essential, useful, and beautiful of the millions of chemical structures that make up every material in the world. Gray begins with an explanation of how atoms bond to form molecules and compounds, as well as the difference between organic and inorganic chemistry. He then goes on to explore the vast array of materials molecules can create, including: soaps and solvents; goops and oils; rocks and ores; ropes and fibers; painkillers and dangerous drugs; sweeteners; perfumes and stink bombs; colors and pigments; and controversial compounds including asbestos, CFCs, and thimerosal. Big, gorgeous photographs, as well as diagrams of the compounds and their chemical bonds, rendered with never before seen beauty, fill the pages and capture molecules in their various states. As he did in *The Elements*, Gray shows us molecules as we've never seen them before. It's the perfect book for his loyal fans who've been eager for more and for anyone fascinated with the mysteries of the material world.

Trespassing on Einstein's Lawn

NAMED ONE OF THE BEST BOOKS OF THE YEAR BY KIRKUS REVIEWS In a memoir of family bonding and cutting-edge physics for readers of Brian Greene's *The Hidden Reality* and Jim Holt's *Why Does the World Exist?*, Amanda Geffer tells the story of how she conned her way into a career as a science journalist—and wound up hanging out, talking shop, and butting heads with the world's most brilliant minds. At a Chinese restaurant outside of Philadelphia, a father asks his fifteen-year-old daughter a deceptively simple question: "How would you define nothing?" With that, the girl who

once tried to fail geometry as a conscientious objector starts reading up on general relativity and quantum mechanics, as she and her dad embark on a life-altering quest for the answers to the universe's greatest mysteries. Before Amanda Geffer became an accomplished science writer, she was a twenty-one-year-old magazine assistant willing to sneak her and her father, Warren, into a conference devoted to their physics hero, John Wheeler. Posing as journalists, Amanda and Warren met Wheeler, who offered them cryptic clues to the nature of reality: The universe is a self-excited circuit, he said. And, The boundary of a boundary is zero. Baffled, Amanda and Warren vowed to decode the phrases—and with them, the enigmas of existence. When we solve all that, they agreed, we'll write a book. Trespassing on Einstein's Lawn is that book, a memoir of the impassioned hunt that takes Amanda and her father from New York to London to Los Alamos. Along the way, they bump up against quirky science and even quirkier personalities, including Leonard Susskind, the former Bronx plumber who invented string theory; Ed Witten, the soft-spoken genius who coined the enigmatic M-theory; even Stephen Hawking. What they discover is extraordinary: the beginnings of a monumental paradigm shift in cosmology, from a single universe we all share to a splintered reality in which each observer has her own. Reality, the Geffers learn, is radically observer-dependent, far beyond anything of which Einstein or the founders of quantum mechanics ever dreamed—with shattering consequences for our understanding of the universe's origin. And somehow it all ties back to that conversation, to that Chinese restaurant, and to the true meaning of nothing. Throughout their journey, Amanda struggles to make sense of her own life—as her journalism career transforms from illusion to reality, as she searches for her voice as a writer, as she steps from a universe shared with her father to at last carve out one of her own. It's a paradigm shift you might call growing up. By turns hilarious, moving, irreverent, and profound, Trespassing on Einstein's Lawn weaves together story and science in remarkable ways. By the end, you will never look at the universe the same way again. Praise for Trespassing on Einstein's Lawn “Nothing quite prepared me for this book. Wow. Reading it, I alternated between depression—how could the rest of us science writers ever match this?—and exhilaration.”—Scientific American “To Do: Read Trespassing on Einstein's Lawn. Reality doesn't have to bite.”—New York “A zany superposition of genres . . . It's at once a coming-of-age chronicle and a father-daughter road trip to the far reaches of this universe and 10,500 others.”—The Philadelphia Inquirer

The Quantum Universe

The Quantum Universe brings together two authors on a brilliantly ambitious mission to show that everyone can understand the deepest questions of science. But just what is quantum physics? How does it help us understand the world? Where does it leave Newton and Einstein? And why, above all, can we be sure that the theory is good? The bizarre behaviour of the atoms and energy that make up the universe has led to some very woolly pronouncements on the nature of all interconnectedness. Here, Brian Cox and Jeff Forshaw give us the real science, and reveal the profound theories that allow for concrete, yet astonishing, predictions about the world. This is our most up-to-date picture of reality.

Game, Set and Math

Twelve essays take a playful approach to mathematics, investigating the topology of a blanket, the odds of beating a superior tennis player, and how to distinguish between fact and fallacy.

Digital Cosmopolitans: Why We Think the Internet Connects Us, Why It Doesn't, and How to Rewire It

“One of our most important books on globalization.” —Steve O'Keefe, New York Journal of Books The enormous scope of the Internet can lead us to assume that as the online community grows, our world grows smaller and more cosmopolitan. In Digital Cosmopolitans, Ethan Zuckerman explains why the technological ability to communicate with someone does not guarantee human interaction or the healthy exchange of information and ideas. Combining the latest psychological and sociological research with current trends both online and off, Digital Cosmopolitans highlights the challenges we face and the headway being made in creating a world that is truly connected.

The Future of You

'Who am I?' is one of the most fundamental questions we ask of ourselves throughout our lives. But in the twenty-first century, this is becoming increasingly difficult to answer as technology forces us to negotiate different versions of ourselves distributed across a digital world. Now, Facebook gets a say in verifying who we are, science can alter our biology and reinvent us over time, and advances in AI

are revolutionizing how we interact with the world around us. Understanding and defining who you are has become confusing and chaotic and in some ways is already out of our control. In an age of digital disruption, creativity and innovation, Follows argues that we need to find a way to embrace a new era of personal identity, while ensuring we preserve our autonomy from state authorities, technology platforms and emergent social systems. From surveillance and identity hacking to social media and our legacies beyond the grave, *The Future of You* is a fascinating and urgent exploration of what personal identity will mean for all of us in the coming decades.

Maths on the Back of an Envelope: Clever ways to (roughly) calculate anything

'Another terrific book by Rob Eastaway' SIMON SINGH 'A delightfully accessible guide to how to play with numbers' HANNAH FRY

1089 and All that

This excellent book, written by the established author David Acheson, makes mathematics accessible to everyone. Providing an entertaining and witty overview of the subject, the text includes several fascinating puzzles, and is accompanied by numerous illustrations and sketches by world famous cartoonists. This unusual book is one of the most readable explanations of mathematics available.

The Math of Life and Death

"Few of us really appreciate the full power of math--the extent to which its influence is not only in every office and every home, but also in every courtroom and hospital ward. In this ... book, Kit Yates explores the true stories of life-changing events in which the application--or misapplication--of mathematics has played a critical role: patients crippled by faulty genes and entrepreneurs bankrupted by faulty algorithms; innocent victims of miscarriages of justice; and the unwitting victims of software glitches"--Publisher marketing.

Wonders Beyond Numbers

By introducing us to the major characters and leading us through many historical twists and turns, Johnny slowly unravels the tale of how humanity built up a knowledge and understanding of shapes, numbers and patterns from ancient times, a story that leads directly to the technological wonderland we live in today. As Galileo said, 'Everything in the universe is written in the language of mathematics', and *Wonders Beyond Numbers* is your guide to this language. (4ème de couverture)

Not on My Watch

NATIONAL BESTSELLER Alexandra Morton has been called "the Jane Goodall of Canada" because of her passionate thirty-year fight to save British Columbia's wild salmon. Her account of that fight is both inspiring in its own right and a roadmap of resistance. Alexandra Morton came north from California in the early 1980s, following her first love--the northern resident orca. In remote Echo Bay, in the Broughton Archipelago, she found the perfect place to settle into all she had ever dreamed of: a lifetime of observing and learning what these big-brained mammals are saying to each other. She was lucky enough to get there just in time to witness a place of true natural abundance, and learned how to thrive in the wilderness as a scientist and a single mother. Then, in 1989, industrial aquaculture moved into the region, chasing the whales away. Her fisherman neighbours asked her if she would write letters on their behalf to government explaining the damage the farms were doing to the fisheries, and one thing led to another. Soon Alex had shifted her scientific focus to documenting the infectious diseases and parasites that pour from the ocean farm pens of Atlantic salmon into the migration routes of wild Pacific salmon, and then to proving their disastrous impact on wild salmon and the entire ecosystem of the coast. Alex stood against the farms, first representing her community, then alone, and at last as part of an uprising that built around her as ancient Indigenous governance resisted a province and a country that wouldn't obey their own court rulings. She has used her science, many acts of protest and the legal system in her unrelenting efforts to save wild salmon and ultimately the whales--a story that reveals her own doggedness and bravery but also shines a bright light on the ways other humans doggedly resist the truth. Here, she brilliantly calls those humans to account for the sake of us all.

Math on Trial

In the wrong hands, math can be deadly. Even the simplest numbers can become powerful forces when manipulated by politicians or the media, but in the case of the law, your liberty -- and your life -- can depend on the right calculation. In *Math on Trial*, mathematicians Leila Schneps and Coralie Colmez describe ten trials spanning from the nineteenth century to today, in which mathematical arguments were used -- and disastrously misused -- as evidence. They tell the stories of Sally Clark, who was accused of murdering her children by a doctor with a faulty sense of calculation; of nineteenth-century tycoon Hetty Green, whose dispute over her aunt's will became a signal case in the forensic use of mathematics; and of the case of Amanda Knox, in which a judge's misunderstanding of probability led him to discount critical evidence -- which might have kept her in jail. Offering a fresh angle on cases from the nineteenth-century Dreyfus affair to the murder trial of Dutch nurse Lucia de Berk, Schneps and Colmez show how the improper application of mathematical concepts can mean the difference between walking free and life in prison. A colorful narrative of mathematical abuse, *Math on Trial* blends courtroom drama, history, and math to show that legal expertise isn't always enough to prove a person innocent.

How Many Socks Make a Pair?

DIV How many socks make a pair? The answer is not always two. And behind this question lies a world of maths that can be surprising, amusing and even beautiful. Using playing cards, a newspaper, the back of an envelope, a Sudoku, some pennies and of course a pair of socks, Rob Eastaway shows how maths can demonstrate its secret beauties in even the most mundane of everyday objects. If you already like maths you'll discover plenty of new surprises. And if you've never picked up a maths book in your life, this one will change your view of the subject forever. /div

Mathematical Card Magic

Mathematical card effects offer both beginning and experienced magicians an opportunity to entertain with a minimum of props. Featuring mostly original creations, *Mathematical Card Magic: Fifty-Two New Effects* presents an entertaining look at new mathematically based card tricks. Each chapter contains four card effects, generally starting with simple applications of a particular mathematical principle and ending with more complex ones. Practice a handful of the introductory effects and, in no time, you'll establish your reputation as a "mathemagician." Delve a little deeper into each chapter and the mathematics gets more interesting. The author explains the mathematics as needed in an easy-to-follow way. He also provides additional details, background, and suggestions for further explorations. Suitable for recreational math buffs and amateur card lovers or as a text in a first-year seminar, this color book offers a diverse collection of new mathemagic principles and effects.

50 Math Ideas You Really Need to Know

In a series of 50 accessible essays, Tony Crilly explains and introduces the mathematical laws and principles - ancient and modern, theoretical and practical, everyday and esoteric - that allow us to understand the world around us. From Pascal's triangle to money management, ideas of relativity to the very real uses of imaginary numbers, *50 Math Ideas* is a complete introduction to the most important mathematical concepts in history.

30-Second Theories

When it comes to big science, very few things are conclusively known. From Quantum Mechanics to Natural Selection, what we have instead are theories - ideas explain why things happen the way they do. We don't know for certain these are correct - no one ever saw the Big Bang - but with them we can paint beautiful, breathtaking pictures of everything from human behaviour to what the future may hold. Profiling the key scientists behind each theory, "30-Second Theories" presents each entry in a unique, eye-catching full-colour design, with thought-provoking extras and stylish illustrations. It is essential for anyone keen on expanding their mind with science's most thrilling ideas.

Imagining the Tenth Dimension

"A fascinating excursion into the multiverse - clear, elegant, personal, provocative." - (Hugo and Nebula award-winning author Greg Bear.) Read the book whose companion website (tenthdimension.com) has already achieved worldwide popularity.

Eureka!

Introduced by Jim Al-Khalili Could you surf down an erupting volcano? Why do zebras have stripes? Are you breathing the same air as Leonardo da Vinci? Are there any green mammals? Why do pineapples have spikes? Why do songs get stuck in your head? What happens when black holes collide? Can you extract your DNA? New Scientist has been a treasure trove of fascinating and surprising questions and answers for over a decade. From how to measure the speed of light using chocolate, to why dogs howl at sirens, Eureka! brings together 365 mindblowing questions, fascinating facts and exciting experiments. If you've ever wondered how to escape quicksand, what would happen if the moon vanished, and why cats (nearly) always land on their feet, you've come to the right place.

Great Moments in Science

A brilliant tour of mathematical thought and a guide to becoming a better thinker, How Not to Be Wrong shows that math is not just a long list of rules to be learned and carried out by rote. Math touches everything we do; It's what makes the world make sense. Using the mathematician's methods and hard-won insights-minus the jargon-professor and popular columnist Jordan Ellenberg guides general readers through his ideas with rigor and lively irreverence, infusing everything from election results to baseball to the existence of God and the psychology of slime molds with a heightened sense of clarity and wonder. Armed with the tools of mathematics, we can see the hidden structures beneath the messy and chaotic surface of our daily lives. How Not to Be Wrong shows us how--Publisher's description.

How Not to Be Wrong

'Beguiling ... Olsson is evocative on curiosity as an appetite of the mind, on the pleasure of glutting oneself on knowledge' New York Times Simone Weil- philosopher, political activist, mystic and sister to Andr , one of the most influential mathematicians of the twentieth century. These two extraordinary siblings formed an obsession for Karen Olsson, who studied mathematics at Harvard, only to turn to writing as a vocation. When Olsson got hold of the 1940 letters between the siblings, she found they shared a curiosity about the inception of creative thought o that flash of insight o that Olsson experienced as both a maths student, and later, novelist. Following this thread of connections, The Weil Conjectures explores the lives of Simone and Andr , the lore and allure of mathematics, and its significance in Olsson's own life.

The Weil Conjectures