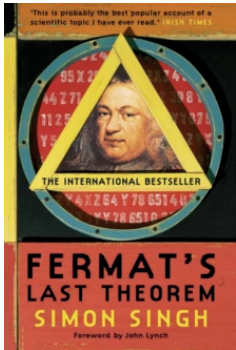


Maths & Further Maths Edexcel GCE 'A' Level

TITLE

AUTHOR

ISBN



Fermat's last theorem : the story of a riddle that confounded the world's greatest minds for 358 years

The story of the solving of a puzzle that has confounded mathematicians since the 17th century. In 1963, a schoolboy browsing in his local library stumbled across the world's greatest mathematical problem: Fermat's Last Theorem, a puzzle that every child can understand but which has baffled mathematicians for over 300 years. Aged just ten, Andrew Wiles dreamed that he would crack it. Wiles's lifelong obsession with a seemingly simple challenge set by a long-dead Frenchman is an emotional tale of sacrifice and extraordinary determination. In the end, Wiles was forced to work in secrecy and isolation for seven years, harnessing all the power of modern maths to achieve his childhood dream.

Simon
Singh

9781841157917



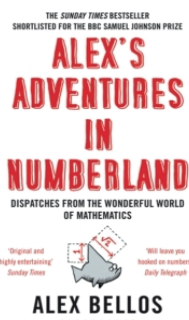
Uncle Petros and Goldbach's conjecture

Uncle Petros is a family joke. An ageing recluse, he lives alone in a suburb of Athens, playing chess and tending to his garden. If you didn't know better, you'd surely think he was one of life's failures. But his young nephew suspects otherwise. For Uncle Petros, he discovers, was once a celebrated mathematician, brilliant and foolhardy enough to stake everything on solving a problem that had defied all attempts at proof for nearly three centuries - Goldbach's Conjecture. His quest brings him into contact with some of the century's greatest mathematicians, including the Indian prodigy Ramanujan and the young Alan Turing. But his struggle is lonely and single-minded, and by the end it has apparently destroyed his life. Until that is a final encounter with his nephew opens up to Petros, once more, the deep mysterious beauty of mathematics. Uncle Petros and Goldbach's Conjecture is an inspiring novel of intellectual adventure, proud genius, the exhilaration of pure mathematics - and the rivalry and antagonism which torment those who pursue impossible goals.

Apostolos
Doxiades

9780571205110

Maths & Further Maths Edexcel GCE 'A' Level



TITLE

Alex's adventures in numberland

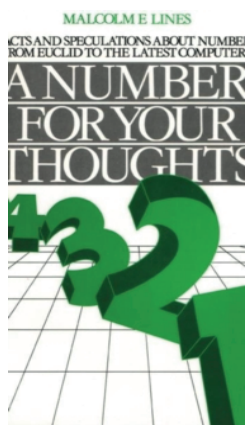
The world of maths can seem mind-boggling, irrelevant and, let's face it, boring. This groundbreaking book reclaims maths from the geeks. Mathematical ideas underpin just about everything in our lives: from the surprising geometry of the 50p piece to how probability can help you win in any casino. In search of weird and wonderful mathematical phenomena, Alex Bellos travels across the globe and meets the world's fastest mental calculators in Germany and a startlingly numerate chimpanzee in Japan. Packed with fascinating, eye-opening anecdotes, Alex's Adventures in Numberland is an exhilarating cocktail of history, reportage and mathematical proofs that will leave you awestruck.

AUTHOR

Alex Bellos

ISBN

9781408809594

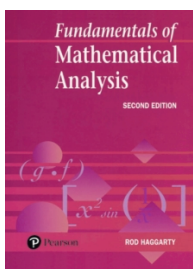


A Number for your Thoughts : Facts and Speculations About Numbers from Euclid to the Latest Computers

Why do we count the way we do? What is a prime number or a friendly, perfect, or weird one? How many are there and who has found the largest yet known? What is the Baffling Law of Benford and can you really believe it? Do most numbers you meet in every day life really begin with a 1, 2, or 3? What is so special about 6174? Can cubes, as well as squares, be magic? What secrets lie hidden in decimals? How do we count the infinite, and is one infinity really larger than another? These and many other fascinating questions about the familiar 1, 2, and 3 are collected in this adventure into the world of numbers. Both entertaining and informative, A Number for Your Thoughts: Facts and Speculations about Numbers from Euclid to the Latest Computers contains a collection of the most interesting facts and speculations about numbers from the time of Euclid to the most recent computer research. Requiring little or no prior knowledge of mathematics, the book takes the reader from the origins of counting to number problems that have baffled the world's greatest experts for centuries, and from the simplest notions of elementary number properties all the way to counting the infinite.

Malcolm
Lines

9780852744956



Fundamentals of mathematical analysis (2nd ed)

Providing students with a clear and understandable introduction to the fundamentals of analysis, this book continues to present the fundamental concepts of analysis in as painless a manner as possible. To achieve this aim, the second edition has made many improvements in exposition.

Rod
Haggarty

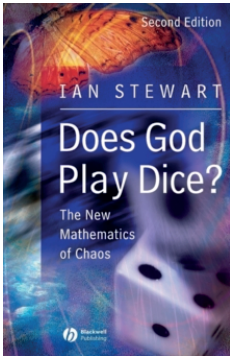
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Maths & Further Maths Edexcel GCE 'A' Level

TITLE

AUTHOR

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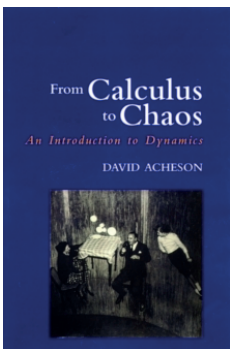


Does God play dice? (2nd ed)

"You believe in a God who plays dice, and I in complete law and order", Albert Einstein. The science of chaos is forcing scientists to rethink Einstein's fundamental assumptions regarding the way the universe behaves. Chaos theory has already shown that simple systems, obeying precise laws, can nevertheless act in a random manner. Perhaps God plays dice within a cosmic game of complete law and order. "Does God Play Dice?" reveals a strange universe in which nothing may be as it seems. Familiar geometrical shapes such as circles and ellipses give way to infinitely complex structures known as fractals, the fluttering of a butterfly's wings can change the weather, and the gravitational attraction of a creature in a distant galaxy can change the fate of the solar system.

Ian
Stewart

9780631232513

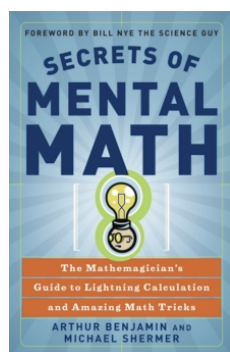


From calculus to chaos : an introduction to dynamics

What is calculus really for? This book is a highly readable introduction to applications of calculus, from Newton's time to the present day. These often involve questions of dynamics, i.e. of how - and why - things change with time. Problems of this kind lie at the heart of much of applied mathematics, physics, and engineering. From Calculus to Chaos takes a fresh approach to the subject as a whole, by moving from first steps to the frontiers, and by highlighting only the most important and interesting ideas, which can get lost amid a snowstorm of detail in conventional texts. The book is aimed at a wide readership, and assumes only some knowledge of elementary calculus.

David
Acheson

9780198500773



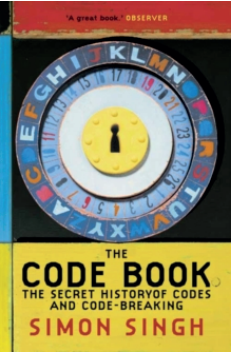

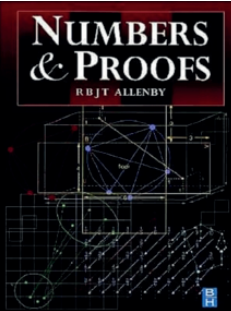
Secrets of mental math : the mathemagician's guide to lightning calculation and amazing mental math tricks

An accessible guide to mathematical calculation reveals the secrets of rapid mental calculation, memorization, and other feats of the mind, with tips on how to add, subtract, multiply, divide, and work with fractions, squares, and cube roots.

Arthur
Benjamin

9780307338402

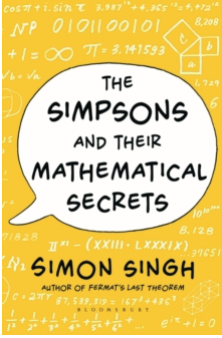
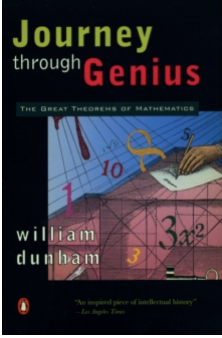
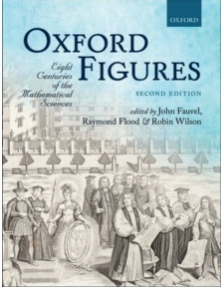
Maths & Further Maths Edexcel GCE 'A' Level

	TITLE	AUTHOR	ISBN
	<p>The code book : the science of secrecy form ancient Egypt to quantum cryptography The Science of Secrecy from Ancient Egypt to Quantum Cryptography From the best-selling author of Fermat's Last Theorem, The Code Book is a history of man's urge to uncover the secrets of codes, from Egyptian puzzles to modern day computer encryptions. As in Fermat's Last Theorem, Simon Singh brings life to an anstonishing story of puzzles, codes, languages and riddles that reveals man's continual pursuit to disguise and uncover, and to work out the secret languages of others. Codes have influenced events throughout history, both in the stories of those who make them and those who break them.</p>	Simon Singh	9781857028898
	<p>1089 and all that : a journey into mathematics David Acheson's extraordinary little book makes mathematics accessible to everyone. From very simple beginnings he takes us on a thrilling journey to some deep mathematical ideas. On the way, via Kepler and Newton, he explains what calculus really means, gives a brief history of pi, and even takes us to chaos theory and imaginary numbers. Every short chapter is carefully crafted to ensure that no one will get lost on the journey. Packed with puzzles and illustrated by world famous cartoonists, this is one of the most readable and imaginative books on mathematics ever written.</p>	David Acheson	9780199590025
	<p>Numbers and proofs 'Numbers and Proofs' presents a gentle introduction to the notion of proof to give the reader an understanding of how to decipher others' proofs as well as construct their own. Useful methods of proof are illustrated in the context of studying problems concerning mainly numbers (real, rational, complex and integers). An indispensable guide to all students of mathematics. Each proof is preceded by a discussion which is intended to show the reader the kind of thoughts they might have before any attempt proof is made. Established proofs which the student is in a better position to follow then follow.</p>	Reg Allenby	9780340676530

Maths & Further Maths Edexcel GCE 'A' Level

	TITLE	AUTHOR	ISBN
	<p>What is mathematics? : an elementary approach to ideas and methods (2nd ed.) For more than two thousand years a familiarity with mathematics has been regarded as an indispensable part of the intellectual equipment of every cultured person. Today, unfortunately, the traditional place of mathematics in education is in grave danger. The teaching and learning of mathematics has degenerated into the realm of rote memorization, the outcome of which leads to satisfactory formal ability but does not lead to real understanding or to greater intellectual independence. Its goal is to put the meaning back into mathematics.</p>	<p>Richard Courant</p>	<p>9780195105193</p>
	<p>Mathematics : the new golden age (New and rev. ed) A second revised edition, this survey on mathematics includes recent developments with sections on Fermat's Last Theorem, knots and topology and the mathematics of the physical universe.</p>	<p>Keith Devlin</p>	<p>9780231116381</p>
	<p>The number mysteries Every time we download a song from Itunes, take a flight across the Atlantic or talk on our mobile phones, we are relying on great mathematical inventions. Maths may fail to provide answers to various of its own problems, but it can provide answers to problems that don't seem to be its own - how prime numbers are the key to Real Madrid's success, to secrets on the Internet and to the survival of insects in the forests of North America. In 'The Number Mysteries', Marcus du Sautoy explains how to fake a Jackson Pollock; how to work out whether or not the universe has a hole in the middle of it; how to make the world's roundest football.</p>	<p>Marcus Du Sautoy</p>	<p>9780007309863</p>

Maths & Further Maths Edexcel GCE 'A' Level

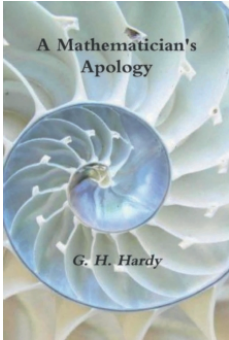
	TITLE	AUTHOR	ISBN
	<p>The Simpsons and their mathematical secrets</p> <p>A valuable, entertaining book that, above all, celebrates a supremely funny, sophisticated show' Financial Times You may have watched hundreds of episodes of The Simpsons (and its sister show Futurama) without ever realising that they contain enough maths to form an entire university course. In The Simpsons and Their Mathematical Secrets, Simon Singh explains how the brilliant writers, some of the mathematicians, have smuggled in mathematical jokes throughout the cartoon's twenty-five year history, exploring everything from to Mersenne primes, from Euler's equation to the unsolved riddle of P vs.NP, from perfect numbers to narcissistic numbers, and much more.</p>	Simon Singh	9781408842812
	<p>Journey through Genius : The Great Theorems of Mathematics</p> <p>Like masterpieces of art, music, and literature, great mathematical theorems are creative milestones, works of genius destined to last forever. Now William Dunham gives them the attention they deserve. Dunham places each theorem within its historical context and explores the very human and often turbulent life of the creator — from Archimedes, the absentminded theoretician whose absorption in his work often precluded eating or bathing, to Gerolamo Cardano, the sixteenth-century mathematician whose accomplishments flourished despite a bizarre array of misadventures, to the paranoid genius of modern times, Georg Cantor. He also provides step-by-step proofs for the theorems, each easily accessible to readers with no more than a knowledge of high school mathematics.</p>	William Dunham	9780140147391
	<p>Oxford figures : eight centuries of the mathematical sciences (2nd edition)</p> <p>For eight centuries mathematics has been researched and studied at Oxford, and the subject and its teaching have undergone profound changes during that time. This highly readable and beautifully illustrated book reveals the richness and influence of Oxford's mathematical tradition and the fascinating characters that helped to shape it. The story begins with the founding of the University of Oxford and the establishing of the medieval curriculum, in which mathematics had an important role. The Black Death, the advent of printing, the Civil War, and the Newtonian revolution all had a great influence on the development of mathematics at Oxford.</p>	John Fauvel	9780199681976

Maths & Further Maths Edexcel GCE 'A' Level

TITLE

AUTHOR

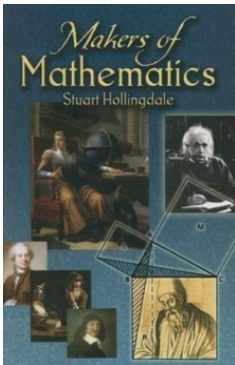
ISBN



A Mathematician's Apology

Mathematician's Apology is the famous essay by British mathematician G. H. Hardy. It concerns the aesthetics of mathematics with some personal content, and gives the layman an insight into the mind of a working mathematician. Indeed, this book is often considered one of the best insights into the mind of a working mathematician written for the layman.

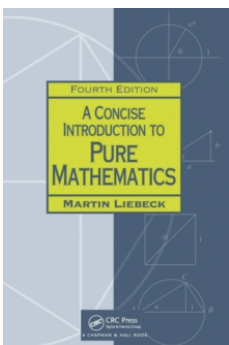
G H Hardy 9781774641408



Makers of Mathematics

Fascinating and highly readable, this book recounts the history of mathematics as revealed in the lives and writings of the most distinguished practitioners of the art: Archimedes, Descartes, Fermat, Pascal, Newton, Leibniz, Euler, Gauss, Hamilton, Einstein, and many more. Author Stuart Hollingdale introduces and explains the roles of these gifted and often colourful figures in the development of mathematics as well as the ways in which their work relates to mathematics as a whole. Although the emphasis in this absorbing survey is primarily biographical, Hollingdale also discusses major historical themes and explains new ideas and techniques. No specialized mathematical knowledge on the part of the reader is assumed.

Stuart
Hollingdale 9780486450070

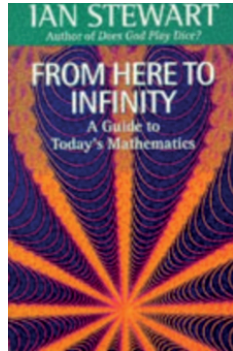
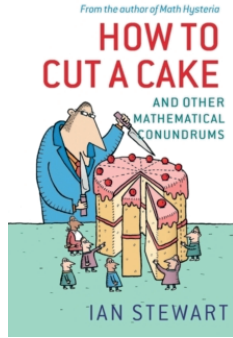
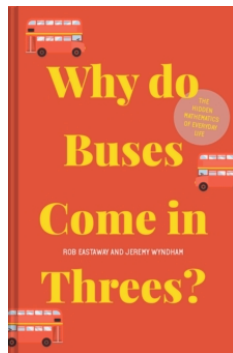


A concise introduction to pure mathematics (Fourth edition)

Accessible to all students with a sound background in high school mathematics, A Concise Introduction to Pure Mathematics, Fourth Edition presents some of the most fundamental and beautiful ideas in pure mathematics. It covers not only standard material but also many interesting topics not usually encountered at this level, such as the theory of solving cubic equations; Euler's formula for the numbers of corners, edges, and faces of a solid object and the five Platonic solids; the use of prime numbers to encode and decode secret information; the theory of how to compare the sizes of two infinite sets; and the rigorous theory of limits and continuous functions.

Martin
Liebeck 9781498722926

Maths & Further Maths Edexcel GCE 'A' Level

TITLE	AUTHOR	ISBN
 <p>From here to infinity ([Rev. ed.] Read about the latest discoveries, including Andrew Wile's amazing proof of Fermat's Last Theorem, the newest advances in knot theory, the Four Colour Theorem, Chaos Theory, and fake four-dimensional spaces. See how simple concepts from probability theory shed light on the National Lottery and tell you how to maximize your winnings. Discover how infinitesimals become respectable, why there are different kinds of infinity, and how to square the circle with the mathematical equivalent of a pair of scissors.</p>	Ian Stewart	9780192832023
 <p>How to cut a cake : an other mathematical conundrums 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.</p>	Ian Stewart	9780199205905
 <p>Why do buses come in threes? : the hidden mathematics of everyday life (New edition) An entertaining guide to how maths is relevant to our everyday lives. Why is it better to buy a lottery ticket on Friday? Why are showers always too hot or too cold? And which classic puzzle was destroyed by Allied bombing in the war? These and many other questions are answers in this entertaining and highly informative book. Why do Buses Come in Threes? is for anyone who wants to remind themselves - or discover for the first time - that maths is relevant to almost everything we do. Dating, cooking, travelling by car, gambling and life-saving techniques all have links with intriguing mathematical problems that you will find explained here - including the odd coincidence of 4 July, the exponential growth of Australian rabbits and a surprising formula for running in the rain without getting wet. Whether you have a degree in astrophysics or haven't touched maths since you left school, this book will change the way you view the world around you.</p>	Rob Eastaway	9781911622277