The Math Book From Pythagoras To The 57th Dimension 250 Milestones In The History Of Mathematics

Pythagoras, a famous Greek scholar, sathematician, and philosopher, formulated a proof for a theorem that is named for him—the Pythagorean theorem. This theorem states that in any right triangle, the square of the hypotenuse is equal to the sum of the squares of the other two sides. The Pythagorean theorem for right-angled triangles likely was known long before the time of Pythagoras. It was probably used by the ancient Egyptians to construct the pyramids. The theorem is quite believable without rigorous proof to anyone willing to expend a modest effort in some experimentation. One method is to draw a number of right-angled triangles in as wide a variety as practicable and measure all of the sides. It will be determined that, for each triangle drawn, the square of the length of the side opposite the right angle is about equal to the sum of the lengths of the squares of the other two sides. Another method requires the availability of a balance. For this more interesting experiment, construct a right-angled triangle and a square on each side using a piece of sheet metal or cardboard. Then cut out the three squares and weigh them on the balance. The square on the hypotenuse should balance the other two. Contained within this book are some rigorous proofs and some interesting perspectives regarding right angles and right-angled triangles. Doubtless, this theorem is one of the most useful concepts in mathematics.

The enthralling story of Pythagoras and the Pythagoreans, whose insights transformed the ancient world and still inspire the realms of science, mathematics, philosophy, and the arts. "Pythagoras's influence on the ideas, and therefore on the destiny, of the human race was probably greater than that of any single man before or after him," wrote Arthur Koestler. Though most people know of him only for the famous Pythagorean Theorem $(a^2 + b^2 = c^2)$, in fact the pillars of our scientific tradition-belief that the universe is rational, that there is unity to all things, and that numbers and mathematics are a powerful guide to truth about nature and the cosmos-hark back to the convictions of this legendary sixth-century B.C. scholar. Born around 570 B.C. on the cultured Aegean island of Samos, Pythagoras (according to ancient tales) studied with the sage Thales nearby at Miletus, and with priests and scribes in Egypt and Babylon. Eventually he founded his own school at Croton in southern Italy, where he and his followers began to unravel the surprising deep truths concealed behind such ordinary tasks as tuning a lyre. While considering why some string lengths produced beautiful sounds and others discordant ones, they uncovered the ratios of musical harmony, and recognized that hidden behind the confusion and complexity of nature are patterns and orderly relationships. They had surprised the Creator at his drafting board and had glimpsed the mind of God! Some of them later would also find something darker in numbers and nature: irrationality, a revelation so unsettling and subversive that it may have contributed to the destruction of their brotherhood.

A hilarious reeducation in mathematics-full of joy, jokes, and stick figures-that sheds light on the countless practical and wonderful ways that math structures and shapes our world. In Math With Bad Drawings, Ben Orlin reveals to us what math actually is; its myriad uses, its strange symbols, and the wild leaps of logic and faith that define the usually impenetrable work of the mathematician. Truth and knowledge come in multiple forms: colorful drawings, encouraging jokes, and the stories and insights of an empathetic teacher who believes that math should belong to everyone. Orlin shows us how to think like a mathematician by teaching us a brand-new game of tic-tac-toe, how to understand an economic crises by rolling a pair of dice, and the mathematical headache that ensues when attempting to build a spherical Death Star. Every discussion in the book is illustrated with Orlin's trademark "bad drawings," which convey his message and insights with perfect pitch and clarity. With 24 chapters covering topics from the electoral college to human genetics to the reasons not to trust statistics, Math with Bad Drawings is a life-changing book for the math-estranged and math-enamored alike.

In this sequel to his award-winning How Mathematics Happened, physicist Peter S. Rudman explores the history of mathematics among the Babylonians and Egyptians, showing how their scribes in the era from 2000 to 1600 BCE used visualizations of how plane geometric figures could be partitioned into squares, rectangles, and right triangles to invent geometric algebra, even solving problems that we now do by quadratic algebra. Using illustrations adapted from both Babylonian cuneiform tablets and Egyptian hieroglyphic texts, Rudman traces the evolution of mathematics from the metric geometric algebra of Babylon and Egypt-which used numeric quantities on diagrams as a means to work out problems-to the nonmetric geometric algebra of Euclid (ca. 300 BCE).Thus, Rudman traces the evolution of calculations of square roots from Egypt and Babylon to India, and then to Pythagoras, Archimedes, and Ptolemy. Surprisingly, the best calculation was by a Babylonian scribe who calculated the square root of two to seven decimal-digit precision. Rudman provocatively asks, and then interestingly conjectures, why such a precise calculation was made in a mud-brick culture.From his analysis of Babylonian geometric algebra, Rudman formulates a Babylonian Theorem, which he shows was used to derive the Pythagorean Theorem, about a millennium before its purported discovery by Pythagoras.He also concludes that what enabled the Greek mathematicians to surpass their predecessors was the insertion of alphabetic notation onto geometric figures. Such symbolic notation was natural for users of an alphabetic language, but was impossible for the Babylonians and Egyptians, whose writing systems (cuneiform and hieroglyphics, respectively) were not alphabetic.Rudman intersperses his discussions of early math conundrums and solutions with Fun Questions for those who enjoy recreational math and wish to test their understanding. The Babylonian Theorem is a masterful, fascinating, and entertaining book, which will interest both math enthusiasts and students of history.Peter S. Rudman (Tel Aviv, Israel), a retired professor of physics at the Technion-Israel Institute of Technology, is the author of How Mathematics Happened: The First 50,000 Years, which was selected in 2008 as an Outstanding Academic Text by the American Library Association.

Mr. Ruche, a Parisian bookseller, receives a bequest from a long lost friend in the Amazon of a vast library of math books, which propels him into a great exploration of the story of mathematics. Meanwhile Max, whose family lives with Mr. Ruche, takes in a voluble parrot who will discuss math with anyone. When Mr. Ruche learns of his friend's mysterious death in a Brazilian rainforest, he decides that with the parrot's help he will use these books to teach Max and his brother and sister the mysteries of Euclid's Elements, Pythagoras's Theorem and the countless other mathematical wonders. But soon it becomes clear that Mr. Ruche has inherited the library for reasons other than enlightenment, and before he knows it the household is racing to prevent the parrot and vital, new theorems from falling into the wrong hands. An immediate bestseller when first published in France, The Parrot's Theorem charmingly combines a straightforward history of mathematics and a first-rate murder mystery.

The timeless brilliance of this exhaustive survey of the best classical writers of antiquity on Pythagoras was first published in 1687 in Thomas Stanley's massive tome, The History of Philosophy. It remains as contemporary today as it was over three hundred years ago. The text of the 1687 book has been reset and modernized to make it more accessible to the modern reader. Spelling has been regularized, obsolete words not found in a modern dictionary have been replaced, and contemporary conventions of punctuation have been used. Biographical sketches of Thomas Stanley and Pythagoras by Manly Palmer Hall, founder of the Philosophical Research Society, have been included, along with a profound overview of Pythagorean philosophy by Platonic scholar Dr. Henry L. Drake. The extensive Greek language references throughout the text have been corrected and contextualized, and reset in a modern Greek font. Each quotation has been verified with the source document in Greek. An extensive annotated appendix of these classical sources is included. A complete bibliography details all the reference works utilized, and a small Glossary defines a number of terms, especially those from musical theory, which may be unfamiliar to the non-technical reader.

An undergraduate-level 2003 introduction whose only prerequisite is a standard calculus course.

For this first English edition of his distinguished study of Pythagoreanism, Weisheit und Wissenschajt: Studien zu Pythagoras, Philolaos, und Platon, Walter Burkert has carefully revised text and notes, taking

account of additional literature on the subject which appeared between 1962 and 1969. By a thorough critical sifting of all the available evidence, the author lays a new foundation for the understanding of ancient Pythagoreanism and in particular of the relationship within it of "lore" and "science." He shows that in the twilight zone when the Greeks were discovering the rational interpretation of the world and quantitative natural science, Pythagoras represented not the origin of the new, but the survival or revival of ancient, pre-scientific lore or wisdom, based on superhuman authority and expressed in ritual obligation.

An exploration of one of the most celebrated and well-known theorems in mathematics By any measure, the Pythagorean theorem is the most famous statement in all of mathematics. In this book, Eli Maor reveals the full story of this ubiquitous geometric theorem. Although attributed to Pythagoras, the theorem was known to the Babylonians more than a thousand years earlier. Pythagoras may have been the first to prove it, but his proof—if indeed he had one—is lost to us. The theorem itself, however, is central to almost every branch of science, pure or applied. Maor brings to life many of the characters that played a role in its history, providing a fascinating backdrop to perhaps our oldest enduring mathematical legacy.

The history of medicine is as old as the history of human civilization. In The Medical Book, popular science writer Clifford A. Pickover explores 250 milestone discoveries in medicine that span more than 12,000 years. Whether writing on 'hard science' topics such as DNA structure, reverse transcriptase and AIDS, polymerase chain reaction, and magnetic resonance imaging (MRI), or ideas from the medical fringe such as witch doctors, patent medicines, bloodletting, and near-death experiences, Pickover brings insight and acumen to the broad spectrum of medical studies and makes it understandable to all readers. This volume is abundantly illustrated in full colour with clinical and historical art.

Children can test their math skills and learn the Pythagorean Theorem alongside young Pythagoras in this STEM adventure. Pythagoras' curiosity takes him from Samos to Alexandria, where he meets a builder named Neferheperhersekeper, who introduces him to the right angle. While building, Pythagoras uses geometry to learn how to measure angles and discovers all he needs to know about right triangles. With playful puns and wordplay Ellis creates the perfect STEM/STEAM resource for introducing young readers to a fundamental mathematical equation. A fun and accessible way to get young minds asking "what's your angle?".

The Harvard mathematician authors of The Art of the Infinite present a history of the famous relation "A squared plus B squared equals C squared" that assesses its contributors from da Vinci to the Freemasons while analyzing its numerous proofs and applications.

The author presents a complex history of the Pythagorean Theorem, examining the earliest evidence of knowledge of the theorem to Einstein's theory of relativity.

Biography of the Greek philosopher Pythagoras and his lasting contributions on the fields of mathematics and philosophy.

In ancient Greece, young Pythagoras discovers a special number pattern (the Pythagorean theorem) and uses it to solve problems involving right triangles.

What is an imaginary number? Can two parallel lines ever meet? How can maths help us predict the future? Charting the development of maths around the world from Babylon to Bletchley Park, this book explores big questions like these and explains how the answers help us understand everything from patterns in nature to artificial intelligence. Written in clear English, The Maths Book is packed with short, pithy explanations that cut through the jargon, step-by-step diagrams that untangle knotty theories, memorable quotes, and witty illustrations that play with our ideas about numbers. This diverse and inclusive account of mathematics will have something for everybody, including the maths behind world economies and espionage. But it also traces 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. Continuing the "Big Ideas" series' trademark combination of authoritative, clear text and bold graphics, The Maths Book uses an innovative visual approach to make the subject accessible to everyone, whether you're an avid student or just curious about maths.

Euclid was a mathematician from the Greek city of Alexandria who lived during the 4th and 3rd century B.C. and is often referred to as the "father of geometry." Within his foundational treatise "Elements," Euclid presents the results of earlier mathematicians and includes many of his own theories in a systematic, concise book that utilized a brief set of axioms and meticulous proofs to solidify his deductions. In addition to its easily referenced geometry, "Elements" also includes number theory and other mathematical considerations. For centuries, this work was a primary textbook of mathematics, containing the only framework for geometry known by mathematicians until the development of "non-Euclidian" geometry in the late 19th century. The extent to which Euclid's "Elements" is of his own original authorship or borrowed from previous scholars is unknown, however despite this fact it was his collation of these basic mathematical principles for which most of the world would come to the study of geometry. Today, Euclid's "Elements" is acknowledged as one of the most influential mathematical texts in history. This volume includes all thirteen books of Euclid's "Elements," is printed on premium acid-free paper, and follows the translation of Thomas Heath.

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 famouscartoonists. This unusual book is one of the most readable explanations of mathematics available.

As the famous Pythagorean statement reads, 'Number rules the universe', and its veracity is proven in the many mathematical discoveries that have accelerated the development of science, engineering, and even philosophy. A so called ", mathematics has guided and stimulated many aspects of human innovation down through the centuries. In this book, Marcel Danesi presents a historical overview of the ten greatest achievements in mathematics, and dynamically explores their importance and effects on our daily lives. Considered as a chain of events rather than isolated incidents, Danesi takes us from the beginnings of modern day mathematics with Pythagoras, through the concept of zero, right the way up to modern computational algorithms. Loaded with thought-provoking practical exercises and puzzles, Pythagoras' Legacy allows the reader to apply their knowledge and discover the significance of mathematics in their everyday lives.

FINALLY IN ENGLISH: THE THRILLER THAT WAS THE BEST-SELLING EBOOK IN SPANISH IN THE WORLD IN 2013 In 2012, Killing Pythagoras was selected as a Finalist for the Planeta Prize, the most valuable literary award in the world after the Nobel Prize for Literature (e601,000/$800,000) In May of 2013, one month after being published on Amazon, it became the

bestselling ebook in Spanish in the world, holding the #1 spot for eleven consecutive months In June of 2013, after offers from publishing houses in Europe, the Americas, and Asia, Mauri Spagnol, the 2nd largest editorial group in Italy, was awarded publishing rights In October of 2013, Killing Pythagoras appeared in print form in Spain, becoming an immediate bestseller. It is currently being translated into numerous languages, and in 2014 will be published in a dozen countries Killing Pythagoras is a thriller that will keep readers on the edge of their seats from the prologue to the final page. Based on real historical events, the novel is an extraordinary combination of intrigue, emotion, and action. Synopsis: The venerable philosopher Pythagoras, one of the most powerful political figures of his time, is preparing to name a successor from among his grand masters when a string of murders rocks the Pythagorean community. The killings, each more baffling and unpredictable than the last, gradually unveil the workings of a dark and powerful mind, more formidable than that of Pythagoras himself. Egyptian investigator Akenon and the enigmatic Ariadne work to identify the murderer while at the same time coming to terms with their own tumultuous relationship. The challenge they face is one in which the ghosts of the past are interwoven with the sinister threats of the present: a challenge from which it seems impossible they will escape alive. Killing Pythagoras, based on real-life historical events, will plunge readers into an apparently unsolvable mystery. Readers will unearth cryptic clues and come face to face with some of the most unnerving characters ever to appear in the pages of fiction: Glaucus the Sybarite, the gruesome Boreas, the vengeful Cylon, and above all, the mysterious stranger who wields his prodigious capabilities to sow death. Media "Crime, mystery, and romance in a fast-paced action novel" HISTORIA NATIONAL GEOGRAPHIC "Maximum excitement and fun; [the author] achieves a compelling mix of strong elements" ONDA CERO RADIO "A fast-paced historical thriller that transports us to the cradle of civilization among intrigues and passion" LA VANGUARDIA "An edge-of-your-seat narrative driven by suspenseful action, it succeeds in creating a tense atmosphere in the face of the deadly threat that attempts to destroy the main characters" QUÉ LEER Literature Blogs "A supremely interesting novel that surprised and hooked me, by an author who expertly juggles the tension and suspense up to the last second. Highly recommended" LEER ES VIAJAR "...it has all the ingredients necessary in a book to hook you: crime, mystery, love, action... I loved it. I didn't know there was a sequel and I'm very happy to hear there is! I can't wait to read it" MARIÁNLEEMÁSLIBROS "The meticulous detail with which the era is recreated gives the novel incredible realism... While the novel is fast-moving from the beginning, the pace accelerates even more toward the end, creating an action-packed finish" ADIVINA QUIÉN LEE "The novel hooks you from the first page to the last. The plot is so intricately woven it's hard to put down once you begin" AL RICO LIBRO About the Author In 2009, the life of writer Marcos Chicot changed radically. The result of that change was Killing Pythagoras. You can learn more about the story behind the novel on Marcos Chicot's author page.

Shares behind-the-scenes stories for ten of the most significant equations in human history, covering a range of topics, from Feynman's statement about Maxwell's pivotal electromagnetic equations and the influence of Newton's law of gravitation to the reason Euler's formula has been called "God's equation" and Heisenberg's uncertainty principle. 20,000 first printing.

Learn math in a guided discovery format. These "teaching textbooks" are designed to let students learn at their own pace. Summit Math books are for curious students who want learning to feel like a journey. The scenarios are arranged to show how new math concepts are related to previous concepts they have already learned. Students naturally learn at different paces and these books help teachers manage flexible pacing in their classes. Learn more at www.summitmathbooks.com. Topics in this book: The Pythagorean Theorem The distance between two points The Distance Formula Dividing a square to make a special right triangle The 45-45-90 triangle Dividing an equilateral triangle to make a special right triangle The 30-60-90 triangle Right triangle scenarios Cumulative Review Answer Key Book description: In this book, students will review the Pythagorean Theorem and then learn that they can use right triangles to create the Distance Formula. They will discover that they can use squares to learn about 45-45-90 triangles. They will realize that 30-60-90 triangles are hidden inside equilateral triangles. They will use the Pythagorean Theorem in many different ways as they encounter a wide variety of right triangle scenarios. This book comes at the end of the Algebra 2 Series to prepare students for future learning in Geometry and Trigonometry. Student testimonials: "This is the best way to learn math." "Summit Math books are unlike typical textbooks. It doesn't matter how you learn or what speed you go at...you can learn at your own pace while still understanding all the material." "Summit Math Books have guided me through algebra. They are the stepping stones of what it takes to think like a mathematician..." "I really enjoy learning from these books...they clearly demonstrate how concepts are built over other concepts." "You don't just memorize, you actually understand it." Parent testimonials: "Summit Math Books not only helped my daughter learn the math, they helped her to love learning math in and of itself! Summit Math books have a fun, self-paced way to explain math concepts..." "I am absolutely thrilled with this math program. The books are so well organized and the content builds from one lesson to the next." "We are really impressed and grateful for our boys' understanding of what the math means, not just how to get problems right...we should all learn to understand math this way." "As the mother of a teenage daughter who previously had occasional difficulty in math, it was refreshing to watch her actually enjoy her math class and to understand the subject matter without struggling" "I have three kids that have used Summit Math. Using these books, they have more freedom to learn and explore at their own pace during class, with notes already incorporated within the book." Teacher testimonials: "Summit Math allows students to work at their own pace which allows me the opportunity to provide individualized attention to those who need it..." "Summit Math emphasizes understanding concepts rather than memorizing rules. Students take ownership while acquiring the necessary skills to solve meaningful math problems..." "It has been a real benefit having problem sets that are explicitly designed to guide students through the development of their understanding of the how and why behind the concepts they are studying." See more testimonials at www.summitmathbooks.com.

Julie Ellis and Phyllis Hornung Peacock team up once again to explore Pythagorean ratios in this humorous sequel to WHAT'S YOUR ANGLE, PYTHAGORAS? Pythagoras and his cousins want to win a music contest, but first they must figure out how to play their instruments in tune, something that's never been done before. While trying to fix the problem, Pythagoras makes an important discovery--notes that sound pleasant together have a certain mathematical relationship. When Pythagoras applies this ratio to his cousins' pipes and lyres, the result is music to the ears.

Martínez discusses various popular myths from the history of mathematics. Some stories are partly true, others are entirely false, but all show the power of invention in history. Martínez inspects a wealth of primary sources, in several languages, over a span of many centuries. By exploring disagreements and ambiguities in the history of the elements of mathematics, The Cult

of Pythagoras dispels myths that obscure the actual origins of mathematical concepts. Chosen as a major selection by Scientific American Book Club (Library of Science(R))

How music has influenced mathematics, physics, and astronomy from ancient Greece to the twentieth century Music is filled with mathematical elements. The works of Bach are often said to possess a math-like logic, and Arnold Schoenberg, Iannis Xenakis, and Karlheinz Stockhausen wrote music explicitly based on mathematical principles. Yet Eli Maor argues that it is music that has had the greater influence on mathematics, not the other way around. Starting with Pythagoras, proceeding through Schoenberg, and bringing the story up to the present with contemporary string theory, Music by the Numbers tells a fascinating story of composers, scientists, inventors, and eccentrics who have played a role in the age-old relationship between music, mathematics, and the physical sciences. Weaving compelling stories of historical episodes with Maor's personal reflections as a mathematician and lover of classical music, this book will delight anyone who loves math and music.

The celebrated mathematician and philosopher Pythagoras left no writings. But what if he had and the manuscript had never been found? Where would it be located? Two mathematicians, one American, one British, set out, unbeknownst to each other, to find the missing manuscript.

Numerology is the belief that numbers have power over events. It is a descendent of number mysticism, the belief the contemplation of numbers can give mystical and non-rational insights into life, the universe, and everything. Twenty-five hundred years ago, Pythagoras originated number mysticism, crediting certain numbers with characteristics, though numerology is a more recent invention that allots numbers, hence, characteristics to individuals. Underwood Dudley outlines here the history of number mysticism and numerology and gives many examples, including biorhythms, Bible-numberists, pyram.

This is the story of Pythagoras and the Pythagoreans, whose insights transformed the ancient world and still inspire the realms of science, mathematics, philosophy and the arts. Einstein said that the most incredible thing about our universe was that it was comprehensible at all. As Kitty Ferguson explains, Pythagoras had much the same idea - but 2,500 years earlier. Though known by many only for his famous Theorem, in fact the pillars of our scientific tradition - belief that the universe is rational, that there is unity to all things, and that numbers and mathematics are a powerful guide to truth about nature and the cosmos - hark back to the convictions of this legendary scholar. Kitty Ferguson brilliantly evokes Pythagoras' ancient world of, showing how ideas spread in antiquity, and chronicles the incredible influence he and his followers have had on so many extraordinary people in the history of Western thought and science. 'Pythagoras' influence on the ideas, and therefore on the destiny, of the human race was probably greater than that of any single man before or after him' - Arthur Koestler.

The road that leads from the Möbius strip — a common-sense-defying continuous loop with only one side and one edge, made famous by the illustrations of M.C. Escher — goes to some of the strangest spots imaginable. It takes us to where the purely intellectual enters our world: where our senses, overloaded with grocery bills, the price of gas, and what to eat for lunch, are expected to absorb really bizarre ideas. And no better guide to this weird universe exists than the brilliant thinker Clifford A. Pickover, the 21st century's answer to Buckminster Fuller. From molecules and metal sculptures to postage stamps, architectural structures, and models of the universe, The Möbius Strip gives readers a glimpse of new ways of thinking and other worlds as Pickover reaches across cultures and peers beyond our ordinary reality. Lavishly illustrated, this is an infinite fountain of wondrous forms that can be used to help explain how mathematics has permeated every field of scientific endeavor, such as the colors of a sunset or the architecture of our brains; how it helps us build supersonic aircraft and roller coasters, simulate the flow of Earth's natural resources, explore subatomic quantum realities, and depict faraway galaxies.

This book covers 250 milestones in mathematical history, beginning millions of years ago with ancient "ant odometers" and moving through time to our modern-day quest for new dimensions.

Although we all remember the Pythagorean Theorem from our school days, not until you read this book will you find out about the marvelous treasures this most famous mathematical concept holds. In an easily understood manner, the author entertains us with the wonders surrounding this theorem. This is the sort of treatment that will help popularize mathematics!-Charlotte K. Frank, PhD, SVP, research and development, McGraw-Hill Education, The McGraw-Hill CompaniesUsing the familiar Pythagorean theorem as the main theme the authors show the power and beauty of mathematics as we would have perhaps wished to have seen it when we were first introduced to this ubiquitous theorem in our school days. This book is a must read for anyone with even a small interest in mathematics.-Daniel Jaye, principal, Bergen County Academies, Hackensack, NJThe first time I have enjoyed anything about mathematics.-Bob Simon, 60 Minutes CorrespondentNot only is this book a very valuable resource for mathematics teachers, but it is also a book that can convince the general public that there is genuine beauty in mathematics. Perhaps this book will help bring 'converts' to mathematics!-Dr. Anton Dobart, director general, Austrian Ministry for Education, Art and CultureIt is often overheard in academic environments that 'math is'fun!' This little book on the Pythagorean theorem is surely proof enough, especially since, like the theorem, the fun is on almost every page.-Leon M. Lederman, Nobel laureateThe Pythagorean theorem may be the best-known equation in mathematics. Its origins reach back to the beginnings of civilization, and today every student continues to study it. What most nonmathematicians don't understand or appreciate is why this simply stated theorem has fascinated countless generations.In this entertaining and informative book, veteran math educator Alfred S. Posamentier makes the importance of the Pythagorean theorem delightfully clear.He begins with a brief history of Pythagoras and the early use of his theorem by the ancient Egyptians, Babylonians, Indians, and Chinese, who used it intuitively long before Pythagoras's name was attached to it.He then shows the many ingenious ways in which the theorem has been proved

visually using highly imaginative diagrams. Some of these go back to ancient mathematicians; others are comparatively recent proofs, including one by the twentieth president of the United States, James A. Garfield.After demonstrating some curious applications of the theorem, Posamentier then explores the Pythagorean triples, pointing out the many hidden surprises of the three numbers that can represent the sides of the right triangle (e.g, 3, 4, 5 and 5, 12, 13). And many will truly amaze the reader.He then turns to the Pythagorean means (the arithmetic, geometric, and harmonic means). By comparing their magnitudes in a variety of ways, he gives the reader a true appreciation for these mathematical concepts.The final two chapters view the Pythagorean theorem from an artistic point of view-namely, how Pythagoras's work manifests itself in music and how the Pythagorean theorem can influence fractals.Posamentier's lucid presentation and gift for conveying the significance of this key equation to those with little math background will inform, entertain, and inspire the reader, once again demonstrating the power and beauty of mathematics!Alfred S. Posamentier, Ph.D. (New York, NY), is dean of the School of Education and professor of mathematics education at The City College of the City University of New York. He has published more than 40 books in the area of mathematics and mathematics education, including The Fabulous Fibonacci Numbers, Pi: A Biography of the World's Most Mysterious Number, and Math Charmers: Tantalizing Tidbits for the Mind.

Presents a selection from the archives of the New York newspaper of its writings on mathematics from 1892 to 2010, covering such topics as chaos theory, statistics, cryptography, and computers.

This classic text, written by a distinguished mathematician and teacher, focuses on a fundamental theory of geometry. Topics include all types of Pythagorean triangles.

The Pythagorean Theorem for Babies is intended to introduce babies to the principles of the Pythagorean Theorem, and also provides a colorful proof of the theorem. Mathematician Fred Carlson believes that it's never too early to introduce children, and even babies, to the basic concepts of advanced mathematics. He is sure that after reading this book, the second in his Mathematics for Babies series, you will agree with him! If you like this book, please also check out "Non-Euclidean Geometry for Babies"!

Right triangles are at the heart of this textbook's vibrant new approach to elementary number theory. Inspired by the familiar Pythagorean theorem, the author invites the reader to ask natural arithmetic questions about right triangles, then proceeds to develop the theory needed to respond. Throughout, students are encouraged to engage with the material by posing questions, working through exercises, using technology, and learning about the broader context in which ideas developed. Progressing from the fundamentals of number theory through to Gauss sums and quadratic reciprocity, the first part of this text presents an innovative first course in elementary number theory. The advanced topics that follow, such as counting lattice points and the four squares theorem, offer a variety of options for extension, or a higher-level course; the breadth and modularity of the later material is ideal for creating a senior capstone course. Numerous exercises are included throughout, many of which are designed for SageMath. By involving students in the active process of inquiry and investigation, this textbook imbues the foundations of number theory with insights into the lively mathematical process that continues to advance the field today. Experience writing proofs is the only formal prerequisite for the book, while a background in basic real analysis will enrich the reader's appreciation of the final chapters.

From Ancient Greek times, music has been seen as a mathematical art, and this relationship has fascinated generations. This new in paperback edition of diverse, comprehensive and fully-illustrated papers, authored by leading scholars, links the two fields in a lucid manner that is suitable for students of each subject as well as the general reader.

"Byrne ... considered that it might be easier to learn geometry if colors were substituted for the letters usually used to designate the angles and lines of geometric figures. Instead of referring to, say, 'angle ABC,' Byrne's text substituted a blue or yellow or red section equivalent to similarly colored sections in the theorem's main diagram."--Friedman.

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