

Bibliography

Sorted by Call Number / Author.

- 003.54 DOM Domingos, Pedro. The master algorithm : how the quest for the ultimate learning machine will remake our world. New York : Basic Books, a member of the Perseus Books Group, 2015.
The machine learning revolution -- The master algorithm -- Hume's problem of induction -- How does your brain learn? -- Evolution : nature's learning algorithm -- In the church of the Reverend Bayes -- You are what you resemble -- Learning without a teacher -- The pieces of the puzzle fall into place -- This is the world on machine learning. Algorithms increasingly run our lives. They find books, movies, jobs, and dates for us, manage our investments, and discover new drugs. More and more, these algorithms work by learning from the trails of data we leave in our newly digital world. Like curious children, they observe us, imitate, and experiment. And in the world's top research labs and universities, the race is on to invent the ultimate learning algorithm: one capable of discovering any knowledge from data, and doing anything we want, before we even ask.
- 510 BEL Bellos, Alex, 1969-. The grapes of math : how life reflects numbers and numbers reflect life. 1st Simon & Schuster hardcover ed. New York : Simon & Schuster, 2014.
Every number tells a story -- The long tail of the law -- Love triangles -- Coneheads -- Bring on the revolution -- All about e -- The positive power of negative thinking -- Professor calculus -- The title of this chapter contains three errors -- Cell mates. "From triangles, rotations and power laws, to cones, curves and calculus, Alex takes you on a journey of mathematical discovery. He sifts through over 30,000 survey submissions to uncover the world's favorite 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"--Provided by publisher.
- 510 BEN Benjamin, Arthur. The magic of math : solving for x and figuring out why. New York : Basic Books, a member of the Perseus Books Group, 2015.
The magic of numbers -- The magic of algebra -- The magic of 9 -- The magic of counting -- The magic of Fibonacci numbers -- The magic of proofs -- The magic of geometry -- The magic of [symbol for pi] -- The magic of trigonometry -- The magic of i and e -- The magic of calculus -- The magic of infinity -- Aftermath. The Magic of Math is the math book you wish you had in school. Using a delightful assortment of examples--from ice cream scoops and poker hands to measuring mountains and making magic squares--this book empowers you to see the beauty, simplicity, and truly magical properties behind those formulas and equations that once left your head spinning. You'll learn the key ideas of classic areas of mathematics like arithmetic, algebra, geometry, trigonometry, and calculus, but you'll also have fun fooling around with Fibonacci numbers, investigating infinity, and marveling over mathematical magic tricks that will make you look like a math genius!.
- 510 ELL Ellenberg, Jordan, 1971-. How not to be wrong : the power of mathematical thinking. New York : The Penguin Press, 2014.
In 'How Not to Be Wrong', Jordan Ellenberg shows us that math isn't confined to abstract incidents that never

occur in real life, but rather touches everything we do...pulls from history as well as from the latest theoretical developments to provide those not trained in math with the knowledge they need.

- 510 ELW Elwes, Richard, 1978-. Mathematics 1001 : absolutely everything that matters in mathematics in 1001 bite-sized explanations. Buffalo, N.Y. : Firefly Books, 2010.
Numbers -- Geometry -- Algebra -- Discrete mathematics -- Analysis -- Logic -- Metamathematics -- Probability & statistics -- Mathematical physics -- Games and recreation. A general mathematics reference that offers concise explanations of key mathematical concepts and principles, covering geometry, numbers, analysis, logic, algebra, probability and statistics, applied mathematics, discrete mathematics, games and recreational mathematics, and related topics.
- 510 HAR Harris, Michael, 1954-. Mathematics without apologies : a portrait of a problematic vocation. Princeton : Princeton University Press, 2015.
Chapter 1. Introduction: The Veil 3 -- Chapter 2. How I Acquired Charisma -- Chapter alpha. How to Explain Number Theory at a Dinner Party (First Session: Primes) -- Chapter 3. Not Merely Good, True, and Beautiful -- Chapter 4. Megaloprepeia -- Chapter beta. How to Explain Number Theory at a Dinner Party (Second Session: Equations) -- Bonus Chapter 5. An Automorphic Reading of Thomas Pynchon's Against the Day (Interrupted by Elliptical Reflections on Mason & Dixon) -- Chapter 6. Further Investigations of the Mind-Body Problem -- Chapter beta.5. How to Explain Number Theory at a Dinner Party (Impromptu Minisession: Transcendental Numbers) -- Chapter 7. The Habit of Clinging to an Ultimate Ground -- Chapter 8. The Science of Tricks -- Chapter gamma. How to Explain Number Theory at a Dinner Party (Third Session: Congruences) -- Chapter 9. A Mathematical Dream and Its Interpretation -- Chapter 10. No Apologies -- Chapter delta. How to Explain Number Theory at a Dinner Party (Fourth Session: Order and Randomness) -- Afterword: The Veil of Maya. What do pure mathematicians do, and why do they do it? Looking beyond the conventional answers--for the sake of truth, beauty, and practical applications--this book offers an eclectic panorama of the lives and values and hopes and fears of mathematicians in the twenty-first century, assembling material from a startlingly diverse assortment of scholarly, journalistic, and pop culture sources.
- 510 PAR Parker, Matt. Things to make and do in the fourth dimension : a mathematician's journey through narcissistic numbers, optimal dating algorithms, at least two kinds of infinity, and more. 1st American ed., 2014. New York : Farrar, Straus & Giroux, 2014.
The zeroth chapter -- Can you digit? -- Making shapes -- Be there and be square -- Shape shifting -- Shapes : now in 3D -- Pack it up, pack it in -- Prime time -- Knot a problem -- Just for graphs -- The fourth dimension -- The algorithm method -- How to build a computer -- Number mash-ups -- Ridiculous shapes -- Higher dimensions -- Good data die hard -- Ridiculous numbers -- To infinity and beyond -- The subsequent chapter. A mathematician and comedian offers games, puzzles, and hands-on activities to help those with a fear of math understand and enjoy the logical tools and abstract concepts of the subject normally only accessible at college-level study.
- 523.1 TEG Tegmark, Max. Our mathematical universe : my quest for the ultimate nature of reality. 1st ed. New York : Alfred A. Knopf, 2014.

Max Tegmark explains the physics, astronomy, and mathematics that are the foundation of his work, focusing on his hypothesis that physical reality is a mathematical structure and his theory of the ultimate multiverse.

- 612.8 KAK Kaku, Michio. The future of the mind : the scientific quest to understand, enhance, and empower the mind. 1st ed. New York : Doubleday, 2014.
Book I: The mind and consciousness -- Unlocking the mind -- Consciousness--a physicist's viewpoint -- Book II: Mind over matter -- Telepathy: a penny for your thoughts -- Telekinesis: mind controlling matter -- Memories and thoughts made to order -- Einstein's brain and enhancing our intelligence -- Book III: Altered consciousness -- In your dreams -- Can the mind be controlled? -- Altered states of consciousness -- The artificial mind and silicon consciousness -- Reverse engineering the brain -- The future: mind beyond matter -- The mind as pure energy -- The alien mind -- Concluding remarks. Examines research from the field of neuroscience and explores, from a philosophical perspective, the human brain and consciousness.
- FAC 510.7 BOA Boaler, Jo, 1964-. Mathematical mindsets : unleashing students' potential through creative math, inspiring messages, and innovative teaching. San Francisco, CA : Jossey-Bass & Pfeiffer Imprints, [2016].
The brain and mathematics learning -- The power of mistakes and struggle -- The creativity and beauty in mathematics -- Creating mathematical mindsets: the importance of flexibility with numbers -- Rich mathematical tasks -- Mathematics and the path to equity -- From tracking to growth mindset grouping -- Assessment for a growth mindset -- Teaching mathematics for a growth mindset. There is a clear gap between what research has shown to work in teaching math and what happens in schools and at home. This book bridges that gap by turning research findings into practical activities and advice. Boaler translates Carol Dweck's concept of 'mindset' into math teaching and parenting strategies, showing how students can go from self-doubt to strong self-confidence, which is so important to math learning. Boaler reveals the steps that must be taken by schools and parents to improve math education for all.
- FIC COSIMANO Cosimano, Elle. Nearly gone. New York, N.Y. : Kathy Dawson Books, a imprint of Penguin Group (USA) LLC, c2014.
A math-whiz from a trailer park discovers she's the only student capable of unravelling complex clues left by a serial killer who's systematically getting rid of her classmates.
- FIC GREEN Green, John, 1977-. An abundance of Katherines. 1st ed. New York : Dutton Books, c2006.
Having been recently dumped for the nineteenth time by a girl named Katherine, recent high school graduate and former child prodigy Colin sets off on a road trip with his best friend to try to find some new direction in life while also trying to create a mathematical formula to explain his relationships.
- FIC SANGALLI Sangalli, Arturo, 1940-. Pythagoras revenge : a mathematical mystery. Princeton, N.J. : Princeton University Press, c2009.
American mathematician Jule Davidson, who seeks to debunk a conspiracy that Pythagoras has been reincarnated, works with Elmer Galway, a professor of classical history at Oxford who is on his own quest to locate an ancient scroll said to be written by Pythagoras, but in order to realize their goals the pair will have to work together to solve philosophical and mathematical puzzles.

GN DOXIADIS

Doxiadēs, Apostolos K., 1953-. Logicomix : an epic search for truth. 1st U.S. ed. New York : Bloomsbury, 2009.
A graphic novel based on the life of English philosopher Bertrand Russell and his search for the logical foundations of mathematics.