

Punchline Bridge To Algebra Slopes And Intercepts

A Quick Steep Climb Up Linear Algebra - and its companion site "allthemath" - are completely-and-forever-free-and-open-source educational materials dedicated to the mathematics that budding computer science practitioners actually need to know. They feature the fun and addictive teaching of award-winning lecturer Dr. Stephen Davies of the University of Mary Washington in Fredericksburg, Virginia!

In the tradition of *The Power of Habit* and *Thinking, Fast and Slow* comes a practical, playful, and endlessly fascinating guide to what we really know about learning and memory today—and how we can apply it to our own lives. From an early age, it is drilled into our heads: Restlessness, distraction, and ignorance are the enemies of success. We're told that learning is all self-discipline, that we must confine ourselves to designated study areas, turn off the music, and maintain a strict ritual if we want to ace that test, memorize that presentation, or nail that piano recital. But what if almost everything we were told about learning is wrong? And what if there was a way to achieve more with less effort? In *How We Learn*, award-winning science reporter Benedict Carey sifts through decades of education research and landmark studies to uncover the truth about how our brains absorb and retain information. What he discovers is that, from the moment we are born, we are all learning quickly, efficiently, and automatically; but in our zeal to systematize the process we have ignored valuable, naturally enjoyable learning tools like forgetting, sleeping, and daydreaming. Is a dedicated desk in a quiet room really the best way to study? Can altering your routine improve your recall? Are there times when distraction is good? Is repetition necessary? Carey's search for answers to these questions yields a wealth of strategies that make learning more a part of our everyday lives—and less of a chore. By road testing many of the counterintuitive techniques described in this book, Carey shows how we can flex the neural muscles that make deep learning possible. Along the way he reveals why teachers should give final exams on the first day of class, why it's wise to interleave subjects and concepts when learning any new skill, and when it's smarter to stay up late prepping for that presentation than to rise early for one last cram session. And if this requires some suspension of disbelief, that's because the research defies what we've been told, throughout our lives, about how best to learn. The brain is not like a muscle, at least not in any straightforward sense. It is something else altogether, sensitive to mood, to timing, to circadian rhythms, as well as to location and environment. It doesn't take orders well, to put it mildly. If the brain is a learning machine, then it is an eccentric one. In *How We Learn*, Benedict Carey shows us how to exploit its quirks to our advantage.

Tropical geometry is a combinatorial shadow of algebraic geometry, offering new polyhedral tools to compute invariants of algebraic varieties. It is based on tropical algebra, where the sum of two numbers is their minimum and the product is their sum. This turns polynomials into piecewise-linear functions, and their zero sets into polyhedral complexes. These tropical varieties retain a surprising amount of information about their classical counterparts. Tropical geometry is a young subject that has undergone a rapid development since the beginning of the 21st century. While establishing itself as an area in its own right, deep connections have been made to many branches of pure and applied mathematics. This book offers a self-contained introduction to tropical geometry, suitable as a course text for beginning graduate students. Proofs are provided for the main results, such as the Fundamental Theorem and the Structure Theorem. Numerous examples and explicit computations illustrate the main concepts. Each of the six chapters concludes with problems that will help the readers to practice their tropical skills, and to gain access to the research literature.

An Episodic History of Mathematics will acquaint students and readers with mathematical language, thought, and mathematical life by means of historically important mathematical vignettes. It will also serve to help prospective teachers become more familiar with important ideas of in the history of mathematics both classical and modern. Contained within are wonderful and engaging stories and anecdotes about Pythagoras and Galois and Cantor and Poincaré, which let readers indulge themselves in whimsy, gossip, and learning. The mathematicians treated here were complex individuals who led colorful and fascinating lives, and did fascinating mathematics. They remain interesting to us as people and as scientists. This history of mathematics is also an opportunity to have some fun because the focus in this text is also on the practical getting involved with the mathematics and solving problems. This book is unabashedly mathematical. In the course of reading this book, the neophyte will become involved with mathematics by working on the same problems that, for instance, Zeno and Pythagoras and Descartes and Fermat and Riemann worked on. This is a book to be read, therefore, with pencil and paper in hand, and a calculator or computer close by. All will want to experiment; to try things; and become a part of the mathematical process.

This book constitutes an introduction to the theory of binary switching networks (binary logic circuits) such as are encountered in industrial automatic systems, in communications networks and, more particularly, in digital computers. These logic circuits, with or without memory, (sequential circuits, combinational circuits) play an increasing part in many sectors of industry. They are, naturally, to be found in digital computers where, by means of an assembly (often complex) of elementary circuits, the functions of computation and decision which are basic to the treatment of information, are performed. In their turn these computers form the heart of an increasing number of digital systems to which they are coupled by interface units which, themselves, fulfil complex functions of information processing. Thus the digital techniques penetrate ever more deeply into industrial and scientific activities in the form of systems with varying degrees of specialization, from the wired-in device with fixed structure to those systems centered on a general-purpose programmable computer. In addition, the present possibility of mass producing microminatured logic circuits (integrated circuits, etc.) gives a foretaste of the introduction of these techniques into the more familiar aspects of everyday life. The present work is devoted to an exposition of the algebraic techniques necessary for the study and synthesis of such logic networks. No previous knowledge of this field of activity is necessary: any technician or engineer possessing an elementary knowledge of mathematics and electronics can undertake its reading.

Middle School Math with Pizzazz!: E. Ratio and proportion; Percent; Statistics and graphs; Probability; Integers; Coordinate graphing; Equations Probability Theory and Examples Cambridge University Press

In this book, master teacher, trainer, and celebrated math author Becky Bride will show you step-by-step, activity-by-activity, and lesson-by-lesson how she used cooperative learning structures to help her students succeed with algebra year after year. When the power of student-to-student interaction is unleashed in algebra, students enjoy learning more and the abstract algebraic concepts become more concrete and understandable.

After a career working and living with American Indians and studying their traditions, Barre Toelken has written this sweeping study of Native American folklore in the West. Within a framework of performance theory, cultural worldview, and collaborative research, he examines Native

American visual arts, dance, oral tradition (story and song), humor, and patterns of thinking and discovery to demonstrate what can be gleaned from Indian traditions by Natives and non-Natives alike. In the process he considers popular distortions of Indian beliefs, demystifies many traditions by showing how they can be comprehended within their cultural contexts, considers why some aspects of Native American life are not meant to be understood by or shared with outsiders, and emphasizes how much can be learned through sensitivity to and awareness of cultural values. Winner of the 2004 Chicago Folklore Prize, *The Anguish of Snails* is an essential work for the collection of any serious reader in folklore or Native American studies.

The Complete Beginner's Guide to Understanding and Building Machine Learning Systems with Python Machine Learning with Python for Everyone will help you master the processes, patterns, and strategies you need to build effective learning systems, even if you're an absolute beginner. If you can write some Python code, this book is for you, no matter how little college-level math you know. Principal instructor Mark E. Fenner relies on plain-English stories, pictures, and Python examples to communicate the ideas of machine learning. Mark begins by discussing machine learning and what it can do; introducing key mathematical and computational topics in an approachable manner; and walking you through the first steps in building, training, and evaluating learning systems. Step by step, you'll fill out the components of a practical learning system, broaden your toolbox, and explore some of the field's most sophisticated and exciting techniques. Whether you're a student, analyst, scientist, or hobbyist, this guide's insights will be applicable to every learning system you ever build or use. Understand machine learning algorithms, models, and core machine learning concepts Classify examples with classifiers, and quantify examples with regressors Realistically assess performance of machine learning systems Use feature engineering to smooth rough data into useful forms Chain multiple components into one system and tune its performance Apply machine learning techniques to images and text Connect the core concepts to neural networks and graphical models Leverage the Python scikit-learn library and other powerful tools Register your book for convenient access to downloads, updates, and/or corrections as they become available. See inside book for details. Drucker skillfully traces the development of this critical position, suggesting a methodology closer to the actual practices of the early avant-garde artists based on a rereading of their critical and theoretical writings. After reviewing theories of signification, the production of meaning, and materiality, she analyzes the work of four poets active in the typographic experimentation of the 1910s and 1920s: Ilya Zdanevich, Filippo Marinetti, Guillaume Apollinaire, and Tristan Tzara. Drucker explores the context for experimental typography in terms of printing, handwriting, and other practices concerned with the visual representation of language. Her book concludes with a brief look at the ways in which experimental techniques of the early avant-garde were transformed in both literary work and in applications to commercial design throughout the 1920s and early 1930s.

This book provides eloquent support for the idea that spontaneous neuron activity, far from being mere noise, is actually the source of our cognitive abilities. In a sequence of "cycles," György Buzsáki guides the reader from the physics of oscillations through neuronal assembly organization to complex cognitive processing and memory storage. His clear, fluid writing-accessible to any reader with some scientific knowledge-is supplemented by extensive footnotes and references that make it just as gratifying and instructive a read for the specialist. The coherent view of a single author who has been at the forefront of research in this exciting field, this volume is essential reading for anyone interested in our rapidly evolving understanding of the brain.

Having trouble deciding which coding scheme to employ, how to design a new scheme, or how to improve an existing system? This summary of the state-of-the-art in iterative coding makes this decision more straightforward. With emphasis on the underlying theory, techniques to analyse and design practical iterative coding systems are presented. Using Gallager's original ensemble of LDPC codes, the basic concepts are extended for several general codes, including the practically important class of turbo codes. The simplicity of the binary erasure channel is exploited to develop analytical techniques and intuition, which are then applied to general channel models. A chapter on factor graphs helps to unify the important topics of information theory, coding and communication theory. Covering the most recent advances, this text is ideal for graduate students in electrical engineering and computer science, and practitioners. Additional resources, including instructor's solutions and figures, available online: www.cambridge.org/9780521852296.

An original, endlessly thought-provoking, and controversial look at the nature of consciousness and identity argues that the key to understanding selves and consciousness is the "strange loop," a special kind of abstract feedback loop inhabiting our brains.

Logic concepts are more mainstream than you may realize. There's logic every place you look and in almost everything you do, from deciding which shirt to buy to asking your boss for a raise, and even to watching television, where themes of such shows as *CSI* and *Numbers* incorporate a variety of logistical studies. *Logic For Dummies* explains a vast array of logical concepts and processes in easy-to-understand language that make everything clear to you, whether you're a college student or a student of life. You'll find out about: Formal Logic Syllogisms Constructing proofs and refutations Propositional and predicate logic Modal and fuzzy logic Symbolic logic Deductive and inductive reasoning *Logic For Dummies* tracks an introductory logic course at the college level. Concrete, real-world examples help you understand each concept you encounter, while fully worked out proofs and fun logic problems encourage you students to apply what you've learned.

In this instant New York Times bestseller, Angela Duckworth shows anyone striving to succeed that the secret to outstanding achievement is not talent, but a special blend of passion and persistence she calls "grit." "Inspiration for non-geniuses everywhere" (People). The daughter of a scientist who frequently noted her lack of "genius," Angela Duckworth is now a celebrated researcher and professor. It was her early eye-opening stints in teaching, business consulting, and neuroscience that led to her hypothesis about what really drives success: not genius, but a unique combination of passion and long-term perseverance. In *Grit*, she takes us into the field to visit cadets struggling through their first days at West Point, teachers working in some of the toughest schools, and young finalists in the National Spelling Bee. She also mines fascinating insights from history and shows what can be gleaned from modern experiments in peak performance. Finally, she shares what she's learned from interviewing dozens of high achievers—from JP Morgan CEO Jamie Dimon to New Yorker cartoon editor Bob Mankoff to Seattle Seahawks Coach Pete Carroll. "Duckworth's ideas about the cultivation of tenacity have clearly changed some lives for the better" (The New York Times Book Review). Among *Grit's* most valuable insights: any effort you make ultimately counts twice toward your goal; grit can be learned, regardless of IQ or circumstances; when it comes to child-rearing, neither a warm embrace nor high standards will work by themselves; how to trigger lifelong interest; the magic of the Hard Thing Rule; and so much more. Winningly personal, insightful, and even life-changing, *Grit* is a book about what goes through your head when you fall down, and how that—not talent or luck—makes all the difference. This is "a fascinating tour of the psychological research on success" (The Wall Street Journal).

An argument that the complexities of brain function can be understood hierarchically, in terms of different levels of abstraction, as silicon computing is.

TRENDS IN LINGUISTICS is a series of books that open new perspectives in our understanding of language. The series publishes state-of-the-art work on core areas of linguistics across theoretical frameworks as well as studies that provide new insights by building bridges to neighbouring fields such as neuroscience and cognitive science. *TRENDS IN LINGUISTICS* considers itself a forum for cutting-edge research based on solid empirical data on language in its various manifestations, including sign languages. It regards linguistic variation in its synchronic and diachronic dimensions as well as in its social contexts as important sources of insight for a better understanding of the design of linguistic systems and the ecology and evolution of language. *TRENDS IN LINGUISTICS* publishes monographs and outstanding dissertations as well as edited volumes, which provide the opportunity to address controversial topics from different empirical and theoretical

viewpoints. High quality standards are ensured through anonymous reviewing.

Publisher Description

This book covers elementary discrete mathematics for computer science and engineering. It emphasizes mathematical definitions and proofs as well as applicable methods. Topics include formal logic notation, proof methods; induction, well-ordering; sets, relations; elementary graph theory; integer congruences; asymptotic notation and growth of functions; permutations and combinations, counting principles; discrete probability. Further selected topics may also be covered, such as recursive definition and structural induction; state machines and invariants; recurrences; generating functions.

This unique reference, aimed at research topologists, gives an exposition of the 'pseudo-Anosov' theory of foliations of 3-manifolds. This theory generalizes Thurston's theory of surface automorphisms and reveals an intimate connection between dynamics, geometry and topology in 3 dimensions. Significant themes returned to throughout the text include the importance of geometry, especially the hyperbolic geometry of surfaces, the importance of monotonicity, especially in 1-dimensional and co-dimensional dynamics, and combinatorial approximation, using finite combinatorial objects such as train-tracks, branched surfaces and hierarchies to carry more complicated continuous objects.

Are all film stars linked to Kevin Bacon? Why do the stock markets rise and fall sharply on the strength of a vague rumour? How does gossip spread so quickly? Are we all related through six degrees of separation? There is a growing awareness of the complex networks that pervade modern society. We see them in the rapid growth of the Internet, the ease of global communication, the swift spread of news and information, and in the way epidemics and financial crises develop with startling speed and intensity. This introductory book on the new science of networks takes an interdisciplinary approach, using economics, sociology, computing, information science and applied mathematics to address fundamental questions about the links that connect us, and the ways that our decisions can have consequences for others.

A classic problem in mathematics is solving systems of polynomial equations in several unknowns. Today, polynomial models are ubiquitous and widely used across the sciences. They arise in robotics, coding theory, optimization, mathematical biology, computer vision, game theory, statistics, and numerous other areas. This book furnishes a bridge across mathematical disciplines and exposes many facets of systems of polynomial equations. It covers a wide spectrum of mathematical techniques and algorithms, both symbolic and numerical. The set of solutions to a system of polynomial equations is an algebraic variety - the basic object of algebraic geometry. The algorithmic study of algebraic varieties is the central theme of computational algebraic geometry. Exciting recent developments in computer software for geometric calculations have revolutionized the field. Formerly inaccessible problems are now tractable, providing fertile ground for experimentation and conjecture. The first half of the book gives a snapshot of the state of the art of the topic. Familiar themes are covered in the first five chapters, including polynomials in one variable, Grobner bases of zero-dimensional ideals, Newton polytopes and Bernstein's Theorem, multidimensional resultants, and primary decomposition. The second half of the book explores polynomial equations from a variety of novel and unexpected angles. It introduces interdisciplinary connections, discusses highlights of current research, and outlines possible future algorithms. Topics include computation of Nash equilibria in game theory, semidefinite programming and the real Nullstellensatz, the algebraic geometry of statistical models, the piecewise-linear geometry of valuations and amoebas, and the Ehrenpreis-Palamodov theorem on linear partial differential equations with constant coefficients. Throughout the text, there are many hands-on examples and exercises, including short but complete sessions in MapleR, MATLABR, Macaulay 2, Singular, PHCpack, CoCoA, and SOSTools software. These examples will be particularly useful for readers with no background in algebraic geometry or commutative algebra. Within minutes, readers can learn how to type in polynomial equations and actually see some meaningful results on their computer screens. Prerequisites include basic abstract and computational algebra. The book is designed as a text for a graduate course in computational algebra.

This 2004 textbook fills a gap in the literature on general relativity by providing the advanced student with practical tools for the computation of many physically interesting quantities. The context is provided by the mathematical theory of black holes, one of the most elegant, successful, and relevant applications of general relativity. Among the topics discussed are congruencies of timelike and null geodesics, the embedding of spacelike, timelike and null hypersurfaces in spacetime, and the Lagrangian and Hamiltonian formulations of general relativity. Although the book is self-contained, it is not meant to serve as an introduction to general relativity. Instead, it is meant to help the reader acquire advanced skills and become a competent researcher in relativity and gravitational physics. The primary readership consists of graduate students in gravitational physics. It will also be a useful reference for more seasoned researchers working in this field.

Game theory has become increasingly popular among undergraduate as well as business school students. This text is the first to provide both a complete theoretical treatment of the subject and a variety of real-world applications, primarily in economics, but also in business, political science, and the law. Game theory has become increasingly popular among undergraduate as well as business school students. This text is the first to provide both a complete theoretical treatment of the subject and a variety of real-world applications, primarily in economics, but also in business, political science, and the law. Strategies and Games grew out of Prajit Dutta's experience teaching a course in game theory over the last six years at Columbia University. The book is divided into three parts: Strategic Form Games and Their Applications, Extensive Form Games and Their Applications, and Asymmetric Information Games and Their Applications. The theoretical topics include dominance solutions, Nash equilibrium, backward induction, subgame perfect equilibrium, repeated games, dynamic games, Bayes-Nash equilibrium, mechanism design, auction theory, and signaling. An appendix presents a thorough discussion of single-agent decision theory, as well as the optimization and probability theory required for the course. Every chapter that introduces a new theoretical concept opens with examples and ends with a case study. Case studies include Global Warming and the Internet, Poison Pills, Treasury Bill Auctions, and Final Jeopardy. Each part of the book also contains several chapter-length applications including Bankruptcy Law, the NASDAQ market, OPEC, and the Commons problem. This is also the first text to provide a detailed analysis of dynamic strategic interaction.

Superb non-technical introduction to game theory, primarily applied to social sciences. Clear, comprehensive coverage of

utility theory, 2-person zero-sum games, 2-person non-zero-sum games, n-person games, individual and group decision-making, more. Bibliography.

The need to improve the mathematical proficiency of elementary teachers is well recognized, and it has long been of interest to educators and researchers in the U.S. and many other countries. But the specific proficiencies that elementary teachers need and the process of developing and improving them remain only partially conceptualized and not well validated empirically. To improve this situation, national workshops were organized at Texas A&M University to generate focused discussions about this important topic, with participation of mathematicians, mathematics educators and teachers. Developing Mathematical Proficiency for Elementary Instruction is a collection of articles that grew out of those exciting cross-disciplinary exchanges. Developing Mathematical Proficiency for Elementary Instruction is organized to probe the specifics of mathematical proficiency that are important to elementary teachers during two separate but interconnected professional stages: as pre-service teachers in a preparation program, and as in-service teachers teaching mathematics in elementary classrooms. From this rich and inspiring collection, readers may better understand, and possibly rethink, their own practices and research in empowering elementary teachers mathematically and pedagogically, as educators or researchers. .

Political Game Theory is a self-contained introduction to game theory and its applications to political science. The book presents choice theory, social choice theory, static and dynamic games of complete information, static and dynamic games of incomplete information, repeated games, bargaining theory, mechanism design and a mathematical appendix covering, logic, real analysis, calculus and probability theory. The methods employed have many applications in various disciplines including comparative politics, international relations and American politics. Political Game Theory is tailored to students without extensive backgrounds in mathematics, and traditional economics, however there are also many special sections that present technical material that will appeal to more advanced students. A large number of exercises are also provided to practice the skills and techniques discussed.

This classic introduction to probability theory for beginning graduate students covers laws of large numbers, central limit theorems, random walks, martingales, Markov chains, ergodic theorems, and Brownian motion. It is a comprehensive treatment concentrating on the results that are the most useful for applications. Its philosophy is that the best way to learn probability is to see it in action, so there are 200 examples and 450 problems. The fourth edition begins with a short chapter on measure theory to orient readers new to the subject.

0. 0 Psychology versus Complex Systems Science Over the last century, psychology has become much less of an art and much more of a science. Philosophical speculation is out; data collection is in. In many ways this has been a very positive trend. Cognitive science (Mandler, 1985) has given us scientific analyses of a variety of intelligent behaviors: short-term memory, language processing, vision processing, etc. And thanks to molecular psychology (Franklin, 1985), we now have a rudimentary understanding of the chemical processes underlying personality and mental illness. However, there is a growing feeling—particularly among non-psychologists (see e. g. Sommerhoff, 1990) - that, with the new emphasis on data collection, something important has been lost. Very little attention is paid to the question of how it all fits together. The early psychologists, and the classical philosophers of mind, were concerned with the general nature of mentality as much as with the mechanisms underlying specific phenomena. But the new, scientific psychology has made disappointingly little progress toward the resolution of these more general questions. One way to deal with this complaint is to dismiss the questions themselves. After all, one might argue, a scientific psychology cannot be expected to deal with fuzzy philosophical questions that probably have little empirical significance. It is interesting that behaviorists and cognitive scientists tend to be in agreement regarding the question of the overall structure of the mind.

What do Bach's compositions, Rubik's Cube, the way we choose our mates, and the physics of subatomic particles have in common? All are governed by the laws of symmetry, which elegantly unify scientific and artistic principles. Yet the mathematical language of symmetry—known as group theory—did not emerge from the study of symmetry at all, but from an equation that couldn't be solved. For thousands of years mathematicians solved progressively more difficult algebraic equations, until they encountered the quintic equation, which resisted solution for three centuries. Working independently, two great prodigies ultimately proved that the quintic cannot be solved by a simple formula. These geniuses, a Norwegian named Niels Henrik Abel and a romantic Frenchman named Évariste Galois, both died tragically young. Their incredible labor, however, produced the origins of group theory. The first extensive, popular account of the mathematics of symmetry and order, *The Equation That Couldn't Be Solved* is told not through abstract formulas but in a beautifully written and dramatic account of the lives and work of some of the greatest and most intriguing mathematicians in history.

String theory says we live in a ten-dimensional universe, but that only four are accessible to our everyday senses. According to theorists, the missing six are curled up in bizarre structures known as Calabi-Yau manifolds. In *The Shape of Inner Space*, Shing-Tung Yau, the man who mathematically proved that these manifolds exist, argues that not only is geometry fundamental to string theory, it is also fundamental to the very nature of our universe. Time and again, where Yau has gone, physics has followed. Now for the first time, readers will follow Yau's penetrating thinking on where we've been, and where mathematics will take us next. A fascinating exploration of a world we are only just beginning to grasp, *The Shape of Inner Space* will change the way we consider the universe on both its grandest and smallest scales.

Six days ago, astronaut Mark Watney became one of the first people to walk on Mars. Now, he's sure he'll be the first person to die there. After a dust storm nearly kills him and forces his crew to evacuate while thinking him dead, Mark finds himself stranded and completely alone with no way to even signal Earth that he's alive—and even if he could get word out, his supplies would be gone long before a rescue could arrive. Chances are, though, he won't have time to starve to death. The damaged machinery, unforgiving environment, or plain old "human error" are much more likely to kill him first. But Mark isn't ready to give up yet. Drawing on his ingenuity, his engineering skills—and a relentless, dogged refusal to quit—he steadfastly confronts one seemingly insurmountable obstacle after the next. Will his resourcefulness be enough to overcome the impossible odds against him?

- The only program that supports the Common Core State Standards throughout four-years of high school mathematics with an

unmatched depth of resources and adaptive technology that helps you differentiate instruction for every student. * Connects students to math content with print, digital and interactive resources. * Prepares students to meet the rigorous Common Core Standards with aligned content and focus on Standards of Mathematical Practice. * Meets the needs of every student with resources that enable you to tailor your instruction at the classroom and individual level. * Assesses student mastery and achievement with dynamic, digital assessment and reporting. Includes Print Student Edition

This book is a captivating account of a professional mathematician's experiences conducting a math circle for preschoolers in his apartment in Moscow in the 1980s. As anyone who has taught or raised young children knows, mathematical education for little kids is a real mystery. What are they capable of? What should they learn first? How hard should they work? Should they even "work" at all? Should we push them, or just let them be? There are no correct answers to these questions, and the author deals with them in classic math-circle style: he doesn't ask and then answer a question, but shows us a problem--be it mathematical or pedagogical--and describes to us what happened. His book is a narrative about what he did, what he tried, what worked, what failed, but most important, what the kids experienced. This book does not purport to show you how to create precocious high achievers. It is just one person's story about things he tried with a half-dozen young children. Mathematicians, psychologists, educators, parents, and everybody interested in the intellectual development in young children will find this book to be an invaluable, inspiring resource. In the interest of fostering a greater awareness and appreciation of mathematics and its connections to other disciplines and everyday life, MSRI and the AMS are publishing books in the Mathematical Circles Library series as a service to young people, their parents and teachers, and the mathematics profession. Titles in this series are co-published with the Mathematical Sciences Research Institute (MSRI).

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