

Algebra 2 Parent Function Project With Graphing

A groundbreaking introduction to vectors, matrices, and least squares for engineering applications, offering a wealth of practical examples.

This second edition of Project-Based Learning (PBL) presents an original approach to Science, Technology, Engineering and Mathematics (STEM) centric PBL. We define PBL as an “ill-defined task with a well-defined outcome,” which is consistent with our engineering design philosophy and the accountability highlighted in a standards-based environment. This model emphasizes a backward design that is initiated by well-defined outcomes, tied to local, state, or national standard that provide teachers with a framework guiding students’ design, solving, or completion of ill-defined tasks. This book was designed for middle and secondary teachers who want to improve engagement and provide contextualized learning for their students. However, the nature and scope of the content covered in the 14 chapters are appropriate for preservice teachers as well as for advanced graduate method courses. New to this edition is revised and expanded coverage of STEM PBL, including implementing STEM PBL with English Language Learners and the use of technology in PBL. The book also includes many new teacher-friendly forms, such as advanced organizers, team contracts for STEM PBL, and rubrics for assessing PBL in a larger format.

A deep and thorough coverage of fractions with the use of modeling and important number theory concepts that are essentials to master fractions. Lessons and exercises are fully modeled or illustrated with rectangles, circles, parts of a circle, and other graphs to make fractions intuitive, visual, spatial, and concrete.

An Integrated Approach

Block scheduling handbook

Mathematical Analysis

An Integrated Science, Technology, Engineering, and Mathematics (STEM) Approach

Next Steps for Research, Policy, and Practice

Course 2

Changes in society and the workplace require a careful analysis of the algebra curriculum that we teach. The curriculum, teaching, and learning of yesterday do not meet the needs of today’s students.

The remarkable story of the Algebra Project, a community-based effort to develop math-science literacy in disadvantaged schools—as told by the program’s founder “Bob Moses was a hero of mine. His quiet confidence helped shape the civil rights movement, and he inspired generations of young people looking to make a difference”—Barack Obama At a time when popular solutions to the educational plight of poor children of color are imposed from the outside—national standards, high-stakes tests, charismatic individual saviors—the acclaimed Algebra Project and its founder, Robert Moses, offer a vision of school reform based in the power of communities. Begun in 1982, the Algebra Project is transforming math education in twenty-five cities. Founded on the belief that math-science literacy is a prerequisite for full citizenship in society, the Project works with entire communities—parents, teachers, and especially students—to create a culture of literacy around algebra, a crucial stepping-stone to college math and opportunity. Telling the story of this remarkable program, Robert Moses draws on lessons from the 1960s Southern voter registration he famously helped organize: “Everyone said sharecroppers didn’t want to vote. It wasn’t until we got them demanding to vote that we got attention. Today, when kids are falling wholesale through the cracks, people say they don’t want to learn. We have to get the kids themselves to demand what everyone says they don’t want.” We see the Algebra Project organizing community by community. Older kids serve as coaches for younger students and build a self-sustained tradition of leadership. Teachers use innovative techniques. And we see the remarkable success stories of schools like the predominately poor Hart School in Bessemer, Alabama, which outscored the city’s middle-class flagship school in just three years. Radical Equations provides a model for anyone looking for a community-based solution to the problems of our disadvantaged schools.

High school algebra, grades 9–12.

Reveal Algebra 2

An Overview

Discovering Advanced Algebra

The Day Punctuation Came to Town

Ten Cheap Lessons: Easy, Engaging Ideas for Every Secondary Classroom

College Algebra

The second edition of a bestselling textbook, Using R for Introductory Statistics guides students through the basics of R, helping them overcome the sometimes steep learning curve. The author does this by breaking the material down into small, task-oriented steps. The second edition maintains the features that made the first edition so popular, while updating data, examples, and changes to R in line with the current version. See What’s New in the Second Edition: Increased emphasis on more idiomatic R provides a grounding in the functionality of base R. Discussions of the use of RStudio helps new R users avoid as many pitfalls as possible. Use of knitr package makes code easier to read and therefore easier to reason about. Additional information on computer-intensive approaches motivates the traditional approach. Updated examples and data make the information current and topical. The book has an accompanying package, UsingR, available from CRAN. R’s repository of user-contributed packages. The package contains the data sets mentioned in the text (data(package=“UsingR”), answers to selected problems (answersR[]), a few demonstrations (demo[]), the errata (errata[]), and sample code from the text. The topics of this text line up closely with traditional teaching progression; however, the book also highlights computer-intensive approaches to motivate the more traditional approach. The authors emphasize realistic data and examples and rely on visualization techniques to gather insight. They introduce statistics and R seamlessly, giving students the tools they need to use R and the information they need to navigate the sometimes complex world of statistical computing.

A perfect resource for high school mathematics teachers, this book helps them develop or refine their own teaching philosophy. They’ll learn how to create a supportive classroom environment in which their students think together, take intellectual risks, and debate ideas. They’ll gain a better understanding about the importance of cooperative learning strategies through immersion. And they’ll engage in logic and reasoning. Puzzles and activities are presented to bring the material to life as well. All of this will help high school mathematics bring the excitement of the subject into the classroom.

Ten Cheap Lessons is not your ordinary teacher resource book. If you’re tired of compilations of meaningless worksheets and boring busy work passing themselves off as “exciting hands-on activities,” you’re not alone. This book is designed for real-life classrooms, where teachers have no time, no budget, and eager students just waiting for something to engage them. This book contains ten complete ideas that can be easily adapted for any topic in any secondary subject area. It’s meant to be easy as possible for any teacher to start using immediately.

Research in Education

Resources in Education

Modeling With Mathematics

STEM Project-Based Learning

Precalculus

Using R for Introductory Statistics

Runner-up for the Reading the West Book Awards

*Designed for juniors and seniors in high school who have not succeeded using traditional approaches to teaching mathematics, but want to prepare for Algebra II or a College Algebra course”—Publisher.

This document was created because of the need for new assessment strategies and practices to be developed to enable teachers and others to assess students’ performance in a manner that reflects the NCTM’s reform vision for school mathematics. Instead of assuming that the purpose of assessment is to rank students on a particular trait, the new approach assumes that high public expectations can be set that every student can strive for and achieve, that different performances can and will meet agreed-on expectations, and that teachers can be fair and consistent judges of diverse student performances. The first sections of the document discuss six mathematics assessment standards: (1) The Mathematics Standard, (2) The Learning Standard, (3) The Equity Standard, (4) The Openness Standard, (5) The Inferences Standard, and (6) The Coherence Standard. The use of the assessment standards is then discussed in the context of different purposes such as monitoring students’ progress, making instructional decisions, evaluating students’ achievement, and evaluating programs. The next section discusses what should happen next with regard to mathematical assessment. The document concludes with a glossary and a selected assessment bibliography with 116 citations. Contains 28 references. (MKR)

Vectors, Matrices, and Least Squares

Core Connections

Precalculus with Limits

Algebra

An Investigative Approach

Algebra 2

Precalculus is adaptable and designed to fit the needs of a variety of precalculus courses. It is a comprehensive text that covers more ground than a typical one- or two-semester college-level precalculus course. The content is organized by clearly-defined learning objectives, and includes worked examples that demonstrate problem-solving approaches in an accessible way. Coverage and Scope Precalculus contains twelve chapters, roughly divided into three groups. Chapters 1–4 discuss various types of functions, providing a foundation for the remainder of the course. Chapter 1: Functions Chapter 2: Linear Functions Chapter 3: Polynomial and Rational Functions Chapter 4: Exponential and Logarithmic Functions Chapters 5–8 focus on Trigonometry. In Precalculus, we approach trigonometry by first introducing angles and the unit circle, as opposed to the right triangle approach more commonly used in College Algebra and Trigonometry courses. Chapter 5: Trigonometric Functions Chapter 6: Periodic Functions Chapter 7: Trigonometric Identities and Equations Chapter 8: Further Applications of Trigonometry Chapters 9–12 present some advanced Precalculus topics that build on topics introduced in chapters 1–8. Most Precalculus syllabi include some of the topics in these chapters, but few include all. Instructors can select material as needed from this group of chapters, since they are not cumulative. Chapter 9: Systems of Equations and Inequalities Chapter 10: Analytic Geometry Chapter 11: Sequences, Probability and Counting Theory Chapter 12: Introduction to Calculus

The purpose of this handbook is to help launch institutional transformations in mathematics departments to improve student success. We report findings from the Student Engagement in Mathematics through an Institutional Network for Active Learning (SEMINAL) study. SEMINAL’s purpose is to help change agents, those looking to (or currently attempting to) enact change within mathematics departments and beyond—trying to reform the instruction of their lower division mathematics courses in order to promote high achievement for all students. SEMINAL specifically studies the change mechanisms that allow postsecondary institutions to incorporate and sustain active learning in Precalculus to Calculus 2 learning environments. Out of the approximately 2.5 million students enrolled in collegiate mathematics courses each year, over 90% are enrolled in Precalculus to Calculus 2 courses. Forty-four percent of mathematics departments think active learning mathematics strategies are important for Precalculus to Calculus 2 courses, but only 15 percent state that they are very successful at implementing them. Therefore, insights into the following research question will help with institutional transformations: What conditions, strategies, interventions and actions at the departmental and classroom levels contribute to the initiation, implementation, and institutional sustainability of active learning in the undergraduate calculus sequence (Precalculus to Calculus 2) across varied institutions?

With the same design and feature sets as the market leading Precalculus, 8/e, this addition to the Larson Precalculus series provides both students and instructors with sound, consistently structured explanations of the mathematical concepts. Designed for a two-term course, this text contains the features that have made Precalculus a complete solution for both students and instructors: interesting applications, cutting-edge design, and innovative technology combined with an abundance of carefully written exercises. In addition to a brief algebra review and the core precalculus topics, PRECALCULUS WITH LIMITS covers analytic geometry in three dimensions and introduces concepts covered in calculus. Important Notice: Media content referenced within the product description or the product text may not be available in the ebook version.

Assessment Standards for School Mathematics

Expert Data Visualization

Making Schools Work for Underachieving Minority Students

Secondary Two Mathematics

Distance Education for Teacher Training

CK-12 Foundation’s Math Analysis FlexBook is a rigorous text that takes students from analyzing functions to mathematical induction to an introduction to calculus.

An encyclopedia designed especially to meet the needs of elementary, junior high, and senior high school students.

College Algebra provides a comprehensive exploration of algebraic principles and meets scope and sequence requirements for a typical introductory algebra course. The modular approach and richness of content ensure that the book meets the needs of a variety of courses. College Algebra offers a wealth of examples with detailed, conceptual explanations, building a strong foundation in the material before asking students to apply what they’ve learned. Coverage and Scope In determining the concepts, skills, and topics to cover, we engaged dozens of highly experienced instructors with a range of student audiences. The resulting scope and sequence proceeds logically while allowing for a significant amount of flexibility in instruction. Chapters 1 and 2 provide both a review and foundation for study of Functions that begins in Chapter 3. The authors recognize that while some institutions may find this material a prerequisite, other institutions have told us that they have a cohort that need the prerequisite skills built into the course. Chapter 1: Prerequisites Chapter 2: Equations and Inequalities Chapters 3–6: The Algebraic Functions Chapter 3: Functions Chapter 4: Linear Functions Chapter 5: Polynomial and Rational Functions Chapter 6: Exponential and Logarithmic Functions Chapters 7–9: Further Study in College Algebra Chapter 7: Systems of Equations and Inequalities Chapter 8: Analytic Geometry Chapter 9: Sequences, Probability and Counting Theory

Transformational Change Efforts: Student Engagement in Mathematics through an Institutional Network for Active Learning

Trigonometry For Dummies

Mathematical Mindsets

HRW Algebra One Interactions

Intermediate Algebra

Civil Rights from Mississippi to the Algebra Project

Explains how to utilize the Mozilla development framework to create cross-platform applications using JavaScript, Cascading Style Sheets, and XUL (XML-based User-interface Language), along with other technologies. Original. (Intermediate)

CK-12 Math AnalysisCK-12 Foundation

A comprehensive introduction to statistics that teaches the fundamentals with real-life scenarios, and covers histograms, quartiles, probability, Bayes’ theorem, predictions, approximations, random samples, and related topics.

CK-12 Math Analysis

Illustrated Fractions

Teacher Edition

Introduction to Probability

Teaching and Learning High School Mathematics

Head First Statistics

Banish math anxiety and give students of all ages a clear roadmap to success Mathematical Mindsets provides practical strategies and activities to help teachers and parents show all children, even those who are convinced that they are bad at math, that they can enjoy and succeed in math. Jo Boaler—Stanford researcher, professor of math education, and expert on math learning—has studied why students don’t like math and often fail in math classes. She’s followed thousands of students through middle and high schools to study how they learn and to find the most effective ways to unleash the math potential in all students. 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. Mathematical Mindsets: Explains how the brain processes mathematics learning Reveals how to turn mistakes and struggles into valuable learning experiences Provides examples of rich mathematical activities to replace rote learning Explains ways to give students a positive math mindset Gives examples of how assessment and grading policies need to change to support real understanding Scores of students hate and fear math, so they end up leaving school without an understanding of basic mathematical concepts. Their evasion and departure hinders math-related pathways and STEM career opportunities. Research has shown very clear methods to change this phenomena, but the information has been confined to research journals—until now. Mathematical Mindsets provides a proven, practical roadmap to mathematics success for any student at any age.

Developed from celebrated Harvard statistics lectures, Introduction to Probability provides essential language and tools for understanding statistics, randomness, and uncertainty. The book explores a wide variety of applications and examples, ranging from coincidences and paradoxes to Google PageRank and Markov chain Monte Carlo (MCMC). Additional

First published in 2002. Routledge is an imprint of Taylor & Francis, an informa company.

Creating Applications with Mozilla

Algebra I

Principles and Standards for School Mathematics

A Bridge to Algebra II

Radical Equations

Unleashing Students’ Potential through Creative Math, Inspiring Messages and Innovative Teaching

Americans are seeking education reform, particularly for the underachieving minority student. Many programs have been developed but are not yet validated. This contributed volume, based on a national conference, shares the best of what is presently known and deliberates on implications for research, policy, and practice. Topics include: creating effective programs, reducing dropout rates, preparing students for secondary and postsecondary success, helping limited English proficient students, and improving teacher quality. Focus is placed on promotion of dialogue and collaboration and improvement of evaluation and testing methods.

Breathe life into your data by learning how to use D3.js V4 to visualize information About This Book Create complex visualizations powered by D3.js and open data. Provides an extensive set of visualizations that explore all the functionality provided by D3.js V4. Shows how to set up an easy-to-use environment to create stunning visualizations.

Who This Book Is For The typical target audience of this book is JavaScript developers, designers, and visual artists who have some basic JavaScript programming knowledge and who now want to master pro-level techniques to create interactive data visualizations using web standards which work on desktop as well as mobile devices. What You Will Learn Learn how D3.js works to declaratively define visualizations. Create charts from scratch by using SVG and the D3.js APIs See how to prepare data for easy visualization using D3.js. Visualize hierarchical data using chart types provided by D3.js Explore the different options provided by D3.js to visualize linked data such as graphs. Spice up your visualizations by adding interactivity and animations. Learn how to use D3.js to visualize and interact with Geo- and GIS-related information sources. Create visualization by streaming data over WebSockets In Detail Do you want to make sense of your data? Do you want to create interactive charts, data trees, info-graphics, geospatial charts, and maps efficiently? This book is your ideal choice to master interactive data visualization with D3.js V4. The book includes a number of extensive examples that to help you hone your skills with data visualization. Throughout nine chapters these examples will help you acquire a clear practical understanding of the various techniques, tools and functionality provided by D3.js. You will first setup your D3.js development environment and learn the basic patterns needed to visualize your data. After that you will learn techniques to optimize different processes such as working with selections; animating data transitions; creating graphs and charts, integrating external resources (static as well as streaming); visualizing information on maps; working with colors and scales; utilizing the different D3.js APIs; and much more. The book will also guide you through creating custom graphs and visualizations, and show you how to go from the raw data to beautiful visualizations. The extensive examples will include working with complex and realtime data streams, such as seismic data, geospatial data, scientific data, and more. Towards the end of the book, you will learn to add more functionality on top of D3.js by using it with other external libraries and integrating it with Ecmascript 6 and Typescript Style and approach This book will have a real-world, case-study approach, where you will be given data sets from different domains. These data sets will have different visualization goals; some might need 2D or 3D charts, some might need automated workflows, others might require interactive maps. While you fulfill these goals, you will learn different techniques and best practices, which will enable you to perform data visualization tasks on your own

This easy-to-read summary is an excellent tool for introducing others to the messages contained in Principles and Standards.

Intermediate Algebra a Graphing Approach

A Graphical Approach

Introduction to Applied Linear Algebra

Springboard Mathematics

The World Book Encyclopedia

The Visitor

Elayn Martin-Gay’s success as a developmental math author starts with a strong focus on mastering the basics through well-written explanations, innovative pedagogy and a meaningful, integrated program of learning resources. The revisions to this edition provide new pedagogy and resources to build reader confidence and help readers develop basic skills and understand concepts. Features incorporation of AMATYC and NCTM standards-reflected in an increased emphasis on visualization graphing, and data analysis. In addition, Martin-Gay’s 4-step problem solving process-Understand, Translate, Solve and Interpret-is integrated throughout. Also includes new features such as Study Skills Reminders, “Integrated Reviews”, and “Concept Checks.” For those in need of a graphing utility resource in intermediate algebra, and for readers who need to prepare for advanced algebra or finite math.

A plain-English guide to the basics of trig Trigonometry deals with the relationship between the sides and angles of triangles... mostly right triangles. In practical use, trigonometry is a friend to astronomers who use triangulation to measure the distance between stars. Trig also has applications in fields as broad as financial analysis, music theory, biology, medical imaging, cryptology, game development, and seismology. From sines and cosines to logarithms, conic sections, and polynomials, this friendly guide takes the torture out of trigonometry, explaining basic concepts in plain English and offering lots of easy-to-grasp example problems. It also explains the “why” of trigonometry, using real-world examples that illustrate the value of trigonometry in a variety of careers. Tracks to a typical Trigonometry course at the high school or college level Packed with example trig problems From the author of Trigonometry Workbook For Dummies Trigonometry For Dummies is for any student who needs an introduction to, or better understanding of, high-school to college-level trigonometry.

HRW Algebra

Algebra I New York