



Program Overview

Introduction

This guide provides an overview of a brand new Florida high school math series: Prentice Hall Algebra 1, Geometry, and Algebra 2.

It explains the flexible custom solutions that enable teachers to deliver targeted instruction, and it demonstrates cool program features that increase student engagement. This guide also discusses how students build their conceptual understanding of mathematics and develop their problem-solving skills.

Flexible Custom Solutions

The Prentice Hall High School Math series for Florida offers flexible custom solutions that enable teachers to deliver targeted instruction with a blend of digital and print materials. Whatever the classroom situation, teachers find the solution they need. Consider the following situations:

- There is a solution to help teachers deliver instruction if they have a single computer in their classroom or if every student has his or her own laptop.
- There is a solution for teachers who use an interactive whiteboard.
- There is a solution for teachers who work with struggling learners and for those who teach advanced students.

The Honors Gold Series

The Honors Gold Series aligns to the Next Generation Sunshine State Standards. The focus on mathematical thinking, reasoning, and problem solving helps students succeed in school and prepare for their future careers.

Teachers can use an array of print and online resources to easily adapt instruction to the changing needs of students in their classrooms.

The Regular Series

The Regular Series follows a parallel path to the Honors Gold Series and provides exactly the same curriculum in a more accessible format. Some of the chapters and lessons have been split to make the more content manageable and allow for frequent assessment.

Hint boxes assist students who might get stuck so they can start solving the problem.

Hint

Start by separating the coefficients from the powers. Then group powers with the same base.

The first practice problem also includes guided practice and the solution.

<p>Online Interactive Content</p>	<p>PowerAlgebra.com and PowerGeometry.com provide access to the full curriculum in an interactive format. The videos show real-world connections and the lessons model thinking and reasoning skills one step at a time.</p> <p>Students interact with visual models to process information, observe change, and draw conclusions. Teachers can use PowerAlgebra.com and PowerGeometry.com for whole-class instruction or as stand-alone courses.</p>
<p>Engage Students</p>	<p>Prentice Hall High School Math for Florida includes a variety of program features that engage students and place math in a context of being relevant and meaningful to their lives.</p>
<p>My Math Videos</p>	<p>The digital curriculum included with PowerAlgebra.com and PowerGeometry.com speaks to 21st century learners. My Math Videos engage students in math concepts that are relevant to their lives. Also, the Pearson Video Challenge enables students to produce their own videos and submit them for sharing.</p>
<p>Dynamic Activities</p>	<p>Dynamic Activities provide an interactive way for students to explore math concepts. Changing the values in an equation or graph dynamically displays the effect on the outcome. This helps students visualize the math.</p>
<p>MathXL® for School</p>	<p>MathXL® for School is an interactive tutorial that provides instruction and feedback for mid-chapter and end-of-chapter practice.</p>
<p>Conceptual Understanding</p>	<p>Students often think of math as a discrete set of rules and formulas, but teachers want students to be able to transfer and apply knowledge to solve real-world problems. To do this, students need to conceptually understand mathematics.</p> <p>The Florida program helps students build their understanding of math by interweaving a strand of thinking and reasoning throughout each lesson, providing visual instruction, and connecting lesson concepts to the real world.</p>
<p>The Understanding by Design® Framework</p>	<p>The Understanding by Design® framework, codeveloped by consulting author Grant Wiggins, sets the foundation of conceptual understanding by introducing students to the Big Ideas covered in each chapter.</p> <div data-bbox="828 1522 1079 1711" style="border: 1px solid #00a0e3; padding: 5px; margin: 10px 0;"> <p>BIG ideas</p> <p>1 Equivalence Essential Question: How can you represent very large and very small numbers?</p> <p>2 Properties Essential Question: How can you simplify expressions involving exponents?</p> <p>3 Function Essential Question: What are the characteristics of exponential functions?</p> </div> <p>Students also explore corresponding Essential Understandings as they complete lessons. The Essential Understandings help students make connections around the Big Ideas.</p>

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Essential Understanding You can use powers of 10 to write and compare very large or very small numbers more easily. *Scientific notation* is a shorthand way to write numbers using powers of 10.

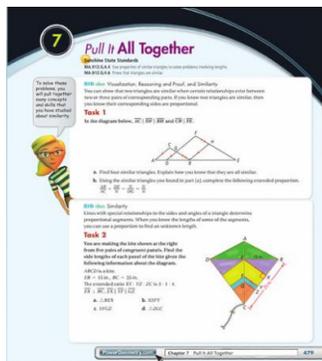
Take note **Key Concept** Scientific Notation

A number in **scientific notation** is written as the product of two factors in the form $a \times 10^n$, where n is an integer and $1 \leq a < 10$.

Examples 8.3×10^5 4.12×10^{22} 7.1×10^{-5}

Pull It All Together

Pull It All Together appears toward the end of each chapter. It summarizes the Big Ideas and answers the Essential Questions. Students complete performance tasks to demonstrate their understanding of concepts and relationships.



Visual Instruction

Visual instruction also helps students deepen their mathematical understanding. Color coding explicitly communicates information to help students analyze complex problems. Talking charts and graphs clarify important information. Students also have access to a visual glossary of key vocabulary terms in their student edition and online.

Solve It!

The Solve It! activities at the beginning of each lesson use engaging visuals and real-world examples. Students tap into their prior knowledge to solve the problem and apply their thinking and reasoning skills. Students connect what they know to important concepts in the lesson.

Problem Solving

Lessons provide problem-solving strategies and model effective thinking and reasoning to foster students' mathematical understanding.

Modeled Thinking and Reasoning

The Think-Write callouts model the problem-solving process.

<p>Plan</p> <p>How can you make a table to solve this problem? Define the variables, write an equation and enter it into a graphing calculator. Then you can inspect a table to find the solution.</p>	<p>Think</p> <p>Define the variables.</p> <p>Determine the model.</p> <p>Make a table using the table feature on a graphing calculator. Find the input when the output is 1500.</p> <p>The account pays interest only once a year. The balance after the 9th year is not yet \$1500.</p>	<p>Write</p> <p>Let t = the number of years. Let $A(t)$ = the amount in the account after t years.</p> $A(t) = 1000(1 + 0.05)^t$ $= 1000(1.05)^t$ <table border="1" style="margin: 10px 0;"> <thead> <tr> <th>X</th> <th>Y1</th> </tr> </thead> <tbody> <tr><td>4</td><td>1216.7</td></tr> <tr><td>5</td><td>1266.8</td></tr> <tr><td>6</td><td>1320.8</td></tr> <tr><td>7</td><td>1378.8</td></tr> <tr><td>8</td><td>1440.8</td></tr> <tr><td>9</td><td>1506.8</td></tr> </tbody> </table> <p>The account will not contain \$1500 until the ninth year. After nine years, the balance will be \$1591.33.</p>	X	Y1	4	1216.7	5	1266.8	6	1320.8	7	1378.8	8	1440.8	9	1506.8
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Another modeled thinking strategy is Know-Need-Plan.

<p>Know</p> <ul style="list-style-type: none"> • Number of trees • Rate of decay 	<p>Need</p> <p>Number of years it takes to harvest 600,000 trees</p>	<p>Plan</p> <ul style="list-style-type: none"> • Write an exponential equation. • Use logarithms to solve the equation.
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The online problems provide step-by-step instruction with guided support from an avatar, which enables students to progress at their own pace.

Got It?

The Got It? provides a check for understanding so that teachers can make instructional decisions during the lesson.

 **Got It?** 1. Does the table or rule represent an exponential function? Explain.

a.

x	1	2	3	4
y	-1	1	3	5

b. $y = 3 \cdot 6^x$

Differentiated Instruction

The Prentice Hall High School Math series for Florida simplifies the difficult task of personalizing instruction to help teachers meet the needs of all students in the classroom.

Student Companion

The Student Companion worktext provides additional lesson support. This worktext contains graphic organizers, Vocabulary Builder, and step-by-step support for the Got It? problems.

Leveled Resources

Teachers can find a variety of leveled resources for instruction and remediation in the All-in-One Teaching Resources. On the Lesson Resources pages of the Teacher’s Edition, notice the personalized prescriptions based on the Lesson Quiz results. This enables teachers to make data-driven instructional decisions about review assignments.

Success Tracker

PowerAlgebra.com and PowerGeometry.com include Success Tracker, an online assessment tool. Success Tracker instantly analyzes student performance and assigns appropriate remediation. Teachers can also find benchmark assessments correlated to the Next Generation Sunshine State Standards. Robust reports enable teachers to easily track performance and mastery of skills and concepts.

Classroom Management

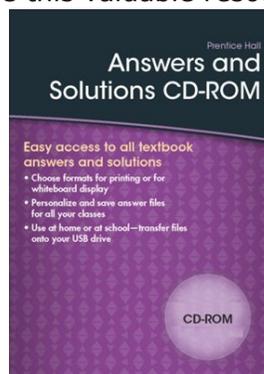
The Prentice Hall High School Math series for Florida includes resources that simplify classroom management tasks.

Online Lesson Planner

Teachers can use a convenient lesson planner on PowerAlgebra.com and PowerGeometry.com to save valuable time. Also, lesson resources are conveniently available in print, on DVD, and online.

Answers and Solutions CD-ROM

The Answers and Solutions CD not only provides the answers to all lesson problems but also provides the stepped out solutions. Teachers will find many ways to use this valuable resource.



Review

This guide presented an overview of Prentice Hall Algebra 1, Geometry, and Algebra 2 for Florida. It examined several custom solutions and program features that increase student engagement. The guide also discussed how the program helps students build conceptual understanding of mathematics and develop problem-solving skills. Finally, it looked at differentiated instruction and classroom management. With the Prentice Hall High School Math series for Florida, teachers will find a perfect solution that fits their classrooms and the needs of their students.