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Program Overview Grades 9–12



Georgia Reveal **MATH**[®]

Algebra 1 • Geometry • Algebra 2

mheonline.com/georgia



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Georgia Reveal Algebra 1, Georgia Reveal Geometry, and Georgia Reveal Algebra 2 ensures that your students can meet Georgia Mathematics Standards, while also developing the thinking and reasoning skills needed for high achievement and success on their pathway toward college and career.

02 **Motivate Students** **04**

Motivate students by instilling confidence and an appreciation for how mathematics goes beyond the “right” answer. Learn how *Georgia Reveal Algebra 1, Georgia Reveal Geometry, and Georgia Reveal Algebra 2* gives you the tools to create a classroom of learners who possess a positive mindset focused on growth and who make mathematical connections to the world around them and each other.

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Elevate learning through curiosity, exploration, and questioning. With *Georgia Reveal Algebra 1*, *Georgia Reveal Geometry*, and *Georgia Reveal Algebra 2*, your students take increased ownership of their learning while you facilitate an active classroom environment. Explore solutions together while strengthening your students' problem-solving and reasoning skills.

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Designed to Meet Georgia Mathematics Standards

01

Georgia
Mathematics
Standards

With Georgia Mathematics Standards as the center of development, *Georgia Reveal Math* is designed to ensure teachers have the tools to deliver the high-quality instruction needed for student success in math class and beyond.

1. Lesson Goal and Contents

The focused goal of the lesson and the segments within is outlined. Note the icons recommending class, pair, and individual student activities.

2. Differentiated Resources

At-a-glance resources for lesson differentiation make planning easy.

3. Pacing

Lesson pacing for each activity is represented for 45 or 90 minute periods.

4. Georgia Mathematics Standards

Each Lesson Opener specifies the Big Idea(s), Standards, Learning Objectives, and Mathematical Practices

5. Balanced Structure

The tasks, problems, and exercises reflect a balance of the three pillars of rigor: Conceptual Understanding, Procedural Skill & Fluency, and Application.

6. Mathematical Background

Each lesson includes a point-of-use explanation of the mathematical context for teachers.

Lesson 5-1

Writing Equations in Slope-Intercept Form

A.DSR.10.4

1 LESSON GOAL

Students create linear equations in slope-intercept form.

1 LAUNCH

Launch the lesson with a **Warm Up** and an introduction.

2 EXPLORE AND DEVELOP

Explore: Slope-Intercept Form

Develop:

Creating Linear Equations in Slope-Intercept Form Given the Slope and a Point

- Write an Equation Given the Slope and a Point
- Write an Equation in Slope-Intercept Form

Creating Linear Equations in Slope-Intercept Form Given Two Points

- Write Equations Given Two Points
- Write an Equation Given Real-World Data

You may want your students to complete the **Checks** online.

3 REFLECT AND PRACTICE

Exit Ticket

Practice

DIFFERENTIATE

View reports of student progress on the **Checks** after each example.

Resources	AL	GL	EL
Remediation: Slope-Intercept Form			
Extension: Collinearity			

Language Development Handbook

Assign page 27 of the *Language Development Handbook* to help your students build mathematical language related to linear equations in slope-intercept form.

ELL You can use the tips and suggestions on page T27 of the handbook to support students who are building English proficiency.

Suggested Pacing

90 min **0.5 day**

45 min **1 day**

Focus

Big Ideas: Algebra, Statistics and Probability

Learning Objectives/Expectations: A.DSR.10.4

Standards for Mathematical Practice:

- 1 Make sense of problems and persevere in solving them.
- 2 Reason abstractly and quantitatively.
- 4 Model with mathematics.

Coherence

Vertical Alignment

Previous

Students used similar triangles to derive the slope-intercept form of an equation. 8.FGR.6.3

Now

Students create linear equations in slope-intercept form. A.DSR.10.4

Next

Students will create linear equations in point-slope form and standard form. A.PAR.8.3, A.PAR.8.4

Rigor

The Three Pillars of Rigor

1 CONCEPTUAL UNDERSTANDING	2 FLUENCY	3 APPLICATION
Conceptual Bridge In this lesson, students extend their understanding of equations in one variable to equations in two variables and build fluency by writing these equations in slope-intercept form. They apply their understanding by interpreting slope and intercept in context.		

Mathematical Background

The slope-intercept form of the equation of a line is $y = mx + b$, where m is the slope of the line, and b is the y-intercept of the line. This general equation can be used to write the equation of a line when its slope and y-intercept are known.

Progression Alignment

The scope and sequence within *Georgia Reveal Math* feature the logical learning progression of mathematical content across all grades and within each grade, from Kindergarten to high school. Vertical and horizontal progressions help strengthen each students' learning.

Module-Level Learning Progression

helps teachers understand previously learned concepts and skills, the focus of the upcoming module, and follow-on concepts and skills.

Module 5

Creating Linear Equations

Module Goals

- Students create linear equations in slope-intercept, point-slope, and standard forms.
- Students use scatter plots to make and evaluate predictions, and use best-fit lines and correlation coefficients to determine how well linear functions fit sets of data.
- Students determine whether a situation illustrates correlation or causation.
- Students find inverses of functions.

Focus

Big Ideas: Algebra, Functions, Statistics and Probability

Learning Objectives/Expectations: **A.DSR.10.3, A.DSR.10.4, A.DSR.10.5, A.DSR.10.6, A.DSR.10.7, A.GSR.3.1, A.MM.1.5**

Standards for Mathematical Practice: All Standards for Mathematical Practice will be addressed in this module.

Coherence

Vertical Alignment

Previous
Students understood the connections between proportional relationships, lines, and linear equations.
8.FGR.5.9

Now
Students create linear equations and analyze data to make predictions.
A.DSR.10.3, A.DSR.10.4, A.DSR.10.5, A.DSR.10.6, A.DSR.10.7, A.GSR.3.1, A.MM.1.5

Next
Students will use their knowledge of linear equations to build linear functions to model linear relationships.
A.FGR.2.4, A.FGR.7.1, A.FGR.9.1, A.FGR.9.4

Rigor

The Three Pillars of Rigor
To help students meet standards, they need to illustrate their ability to use the three pillars of rigor. Students gain conceptual understanding as they move from the Explore to Learn sections within a lesson. Once they understand the concept, they practice procedural skills and fluency and apply their mathematical knowledge as they go through the Examples and Practice.

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

EXPLORE LEARN EXAMPLE & PRACTICE

Suggested Pacing

Lessons	Learning Objectives/Expectations	45-min classes	90-min classes
Module Pretest and Launch the Module Video			
5.1 Writing Equations in Slope-Intercept Form	A.DSR.10.4	1	0.5
5.2 Writing Equations in Standard and Point-Slope Forms	A.GSR.3.1	2	1
Put It All Together: Lessons 5.1 through 5.2			
5.3 Scatter Plots and Lines of Fit	A.MM.1.5, A.GSR.3.1, A.DSR.10.3, A.DSR.10.4, A.DSR.10.6	2	1
5.4 Correlation and Causation	A.DSR.10.7	1	0.5
5.5 Linear Regression	A.DSR.10.3, A.DSR.10.4, A.DSR.10.5, A.DSR.10.6	1	0.5
5.6 Inverses of Linear Functions		2	1
		1	0.5
		1	0.5
		13	6.5

Module 5 • Creating Linear Equations 285a

Lesson 5.1

Writing Equations in Slope-Intercept Form

LESSON GOAL:
Students create linear equations in slope-intercept form.

1 LAUNCH
Launch the lesson with a Warm-Up and an introduction.

2 EXPLORE AND DEVELOP
Explore Slope-Intercept Form

Develop
Creating Linear Equations in Slope-Intercept Form Given the Slope and a Point
• Write an Equation Given the Slope and a Point
• Write an Equation in Slope-Intercept Form
Creating Linear Equations in Slope-Intercept Form Given Two Points
• Write Equations Given Two Points
• Write an Equation Given One Point and Slope

Now try your students to complete the Check and Retain.

3 REFLECT AND PRACTICE
Exit Ticket
Review

DIFFERENTIATE
View reports of student progress on the Checks after each lesson.

Language Development Handbook
Answer page 27 of the Language Development Handbook to help your students build mathematical language related to linear equations in slope-intercept form.
You can use the tips and suggestions on page 137 of the handbook to support students who are building English proficiency.

Suggested Pacing

45 min 0.5 day
90 min 1 day

Focus
Students: Algebra, Statistics and Probability
 Tennessee Standards for Mathematical Practices:
 MA.02.A.2 Create equations in two variables to represent relationships between quantities and use them to solve problems in a real-world context. Graph equations with two variables on coordinate axes with labels and scales, and use the graphs to make predictions.
 MA.02.A.3 Create technical and systems of equations and inequalities to represent constraints in a contextual situation, and interpret solutions as viable or non-viable.
 Also addresses **AT.02.C.3**, Supporting **MA.02.A.1.B.IV.B.8**
 Tennessee Standards for Mathematics of Practice:
 1 Make sense of problems and persevere in solving them.
 2 Reason abstractly and quantitatively.
 4 Model with mathematics.

Coherence

Vertical Alignment

Previous
Students used similar triangles to derive the slope-intercept form of an equation.
8.EE.6

Now
Students create linear equations in slope-intercept form.
MA.02.A.2, MA.02.A.3, MA.02.C.3

Next
Students will create linear equations in point-slope form and standard form.
MA.02.A.2, MA.02.A.3

Rigor

The Three Pillars of Rigor

1 CONCEPTUAL UNDERSTANDING 2 FLUENCY 3 APPLICATION

Conceptual Bridge In this lesson, students extend their understanding of equations in one variable to equations in two variables, and build fluency by writing linear equations in slope-intercept form. They apply their understanding by interpreting slope and intercept in context.

Mathematical Background
The slope-intercept form of the equation of a line is $y = mx + b$, where m is the slope of the line, and b is the y-intercept of the line. This general equation can be used to write the equation of a line when its slope and

Lesson-Level Learning Progression

guidance provides a more granular analysis of the learning progression from lesson to lesson within the module.

Establish Positivity and Habits for Growth

02 | Motivate Students

Georgia Reveal Math is infused with research-based best practices designed for teachers to establish a culture of positivity and success where students find purpose in effort and learning opportunities through questions, errors, and discourse.

Mindset Matters

Teachers are prompted at the beginning of every module with **Mindset Matters** to implement strategies for encouraging a growth mindset during upcoming lessons.

Mindset Matters

View Challenges as Opportunities

Part of cultivating a growth mindset in math involves viewing challenging problems or tasks as an opportunity to learn and make new connections in your brain.

How Can I Apply It?

Encourage students to embrace challenges by trying problems that are thought provoking, such as the **Higher-Order Thinking Problems** in the practice section of each lesson. Remember to regularly remind students that each new challenge is an opportunity to grow.

The screenshot displays the Georgia Reveal Math Student Edition interface for a lesson on right triangles. The main content area features a diagram of a right triangle with medians intersecting at a point. The sidebar on the right contains 'Questions for Mathematical Discourse' and an 'Exit Ticket' section. The 'Exit Ticket' section includes a 'Recommended Use' and an 'Alternative Use'.

Questions for Mathematical Discourse

- What do you know about $m\angle BDC + m\angle DBC + m\angle C$? The sum is 180° .
- What kind of angles are $\angle BAF$ and $\angle EAF$? complementary angles
- Can you find $m\angle EFD$ before you find $m\angle AFB$? Explain. No; sample answer: You don't have enough information to find $m\angle EFD$ until you find $m\angle AFB$.

Exit Ticket

Recommended Use
At the end of class, go online to display the Exit Ticket prompt and ask students to respond using a separate piece of paper. Have students hand you their responses as they leave the room.

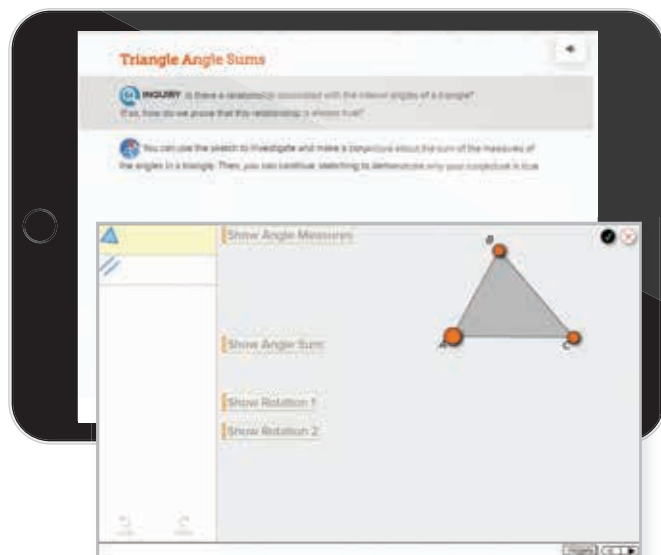
Alternative Use
At the end of class, go online to display the Exit Ticket prompt and ask students to respond verbally or by using a mini-whiteboard. Have students hold up their whiteboards so that you can see all student responses. Tap to reveal the answer when most or all students have completed the Exit Ticket.

Mathematical Discourse

As a discourse-driven program, *Georgia Reveal Math* makes class discussion part of the norm through Student Edition **Talk About It!** prompts and corresponding Teacher Edition **Questions for Mathematical Discourse** prompts.

Purposeful Tasks to Deepen Understanding

Georgia Reveal Math tasks are designed to provide students structure to explore, uncover ideas, justify thinking, and ask each other questions to deepen understanding.



Encourage Collaboration:

Provide opportunities for students to collaborate using the **Ignite!** activity or within the lesson using **Explore and Learn** activities, which supply a framework to solve, discuss, and evaluate problems.

Share and Narrow

Have students respond to the *Talk About It!* question with a partner.

As a class, narrow down to one question that they will work with their partner to answer for the duration of the activity. Have them record the question. You may wish to guide them to the target question, which targets the common misconception shown.

Target Question How many triangles can you find?

Common Misconceptions Some students will approach this problem by listing all of the potential triangles they can find. Other students will try to find a pattern in the triangles. Both methods should help them find all 42 triangles. Students may not notice that some of the triangles are being counted twice. However, working with a partner may help them identify that potential pitfall.

Focus on Inquiry:

Online **Explore** activities begin with an open-ended **Inquiry Question** to encourage deep thinking and reasoning. Students document their findings either online or on an **Explore Recording Sheet**.

NAME _____ DATE _____ PERIOD _____

Explore Triangle Angle Sums

Online Activity In this Explore, you will use a sketch to graph a triangle, measure its angles and compute their sum. Then, you will investigate what happens to the angle measurements when the triangle is moved around or is changed.

INQUIRY Is there a relationship associated with the interior angles of a triangle? If so, how do we prove that this relationship is always true?

You can use the sketch to investigate and make a conjecture about the sum of the measures of the angles in a triangle. Then, you can continue sketching to demonstrate why your conjecture is true.

Explore Angle Measures

- What observation can you make about the measures of the angles in $\triangle ABC$?
- Make a conjecture about the sum of the measures of the interior angles in any triangle.
- How is $\angle BAC$ related to $\angle CBA$? Justify your answer.

Explore • Triangle Angle Sums

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Talk About It! prompts ask students to explain their reasoning and discuss their thinking.

Talk About It!

Ellie believes that she can solve for $m\angle 3$ before solving for $m\angle 1$. What useful questions can you ask to understand her approach?

Build Math Language Together

Georgia Reveal Math was developed around the belief that mathematics is about communication: listening, speaking, reading, and writing. All students will benefit from support designed to develop and promote the use of mathematical language.

MLR

Math Language Routines

Occur in every lesson to promote the use of mathematical language.

Language Development Handbook Pages

Graphic organizers, tools, and tips to build students' academic and math vocabulary within each lesson.

EL

English Learner Scaffolds

Embedded in each lesson and based on combined WIDA proficiency levels to help students understand math vocabulary, ideas, and concepts in context.

Language of Math

Promotes the development of key vocabulary terms that support how students talk and think about math in the context of each lesson.



Walter Secada, Ph.D.
—Expert Advisor, ELL

Support for English Language Learners (ELLs)

In addition to embedded Teacher Edition language support strategies, *Georgia Reveal Math* includes resources to assist ELLs with context and language proficiency.

- Spanish Videos
- Audio to Improve Listening Comprehension Skills
- English/Spanish Glossary
- Multilingual eGlossary
- *ALEKS* Bilingual Courses in Spanish

Make Real-World Connections

Georgia Reveal Math is about students recognizing that math is everywhere in the world around them and that the world offers them an infinite number of problem-solving opportunities.

Relatable Scenarios

A **Launch the Module** video highlighting an authentic, recognizable scenario engages students in the upcoming lesson topics.



Relevant Connections

A **Launch the Lesson** real-world situation related to the mathematics in the upcoming lesson helps students make connections.

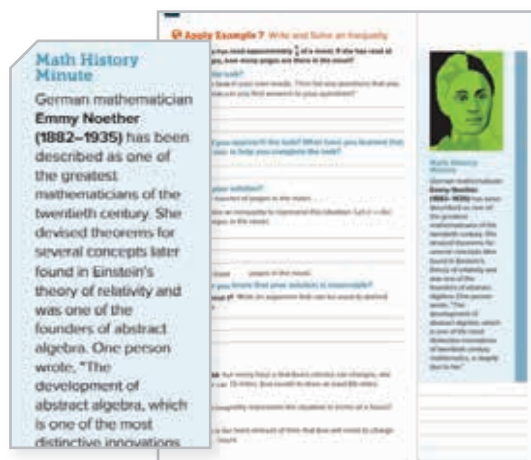
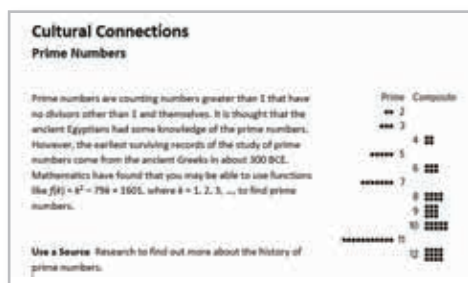


Example

Lessons also contain real-world **Examples** and **Apply Examples**, highlighted with a globe icon, designed to provide relevant contexts in which students can see themselves.

Multicultural Contributions

To provide students with diverse perspectives, **Math History Minutes** highlight the contributions of leading mathematicians, past and present, from all over the world.

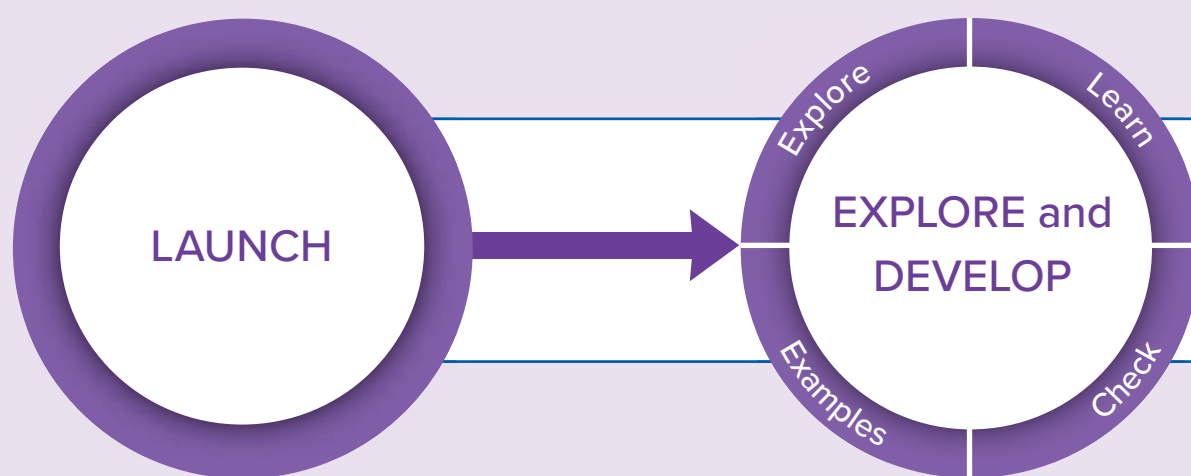


Cultural Connections

These module activities highlight various cultural contributions to mathematics and require students to use a source to do additional research on the culture or topic.

An Adaptable Lesson Model

The *Georgia Reveal Math* lesson is organized into a three-part instructional model supported by differentiation throughout. Each lesson includes opportunities for flexibility using both print and digital resources.



Teachers use the **Warm-Up** at the start of the lesson for a brief review of prerequisite skills before leading into **Launch the Lesson**, designed as a real-world problem to interest students and introduce them to questions they can answer by the end of the lesson.

Teachers introduce the **Explore** activity and have the option to break students into pairs or small groups to work together on this exploratory mathematical task to build a shared understanding. This is followed by a whole group share out and **Learn** activity to formalize student understanding.

Students continue to take ownership of learning by working through **Examples** and **Talk About It!** prompts to encourage math discourse. **Checks** after several **Examples** provide a quick formative assessment moment for teachers to evaluate students' understanding.



At the conclusion of the lesson, the teacher displays the **Exit Ticket** to evaluate student understanding.

The **Practice**, **Extra Practice**, and/or **Spiral Review** assignments follow the Differentiate phase and conclude the lesson.

Using the data from **Checks** and the **Exit Ticket**, teachers can choose from a variety of **Differentiated Resources** to support student learning needs.

AL Approaching Level

Resources designed to provide prerequisite skill support.

OL On Level

Resources for on-level instructional needs.

BL Beyond Level

Resources to extend lesson concepts.

Activate Curiosity and Fuel Learning



Each module includes an **Ignite!** activity designed to:

- Spark students' interest and curiosity.
- Provide multiple entry points.
- Motivate students to persevere through problem-solving challenges.



“Let’s bring curiosity, wonder, and joy back into the classroom and make math irresistible for kids.”

—Raj Shah,
Contributing Author

NAME _____ DATE _____ PERIOD _____

IGNITE! Mathematical Modeling
Who Doesn't Use the Internet?

The table shows the results of surveys on Internet non-usage taken every few years since 2000. Study the table.

Year	Percent of Respondents
2000	48
2005	32
2010	24
2015	15
2019	10

Source: Pew Research Center

What do you notice?	What questions can you ask?

Talk About It! Share your observations and questions with a partner.
You will work with your partner to answer this question: **When will almost everyone use the Internet?**

Analyze the Problem

1. What assumptions are you making? Why are you making these assumptions?
2. What constraints, if any, need to be considered? How might they affect the solution?

Formulate the Model

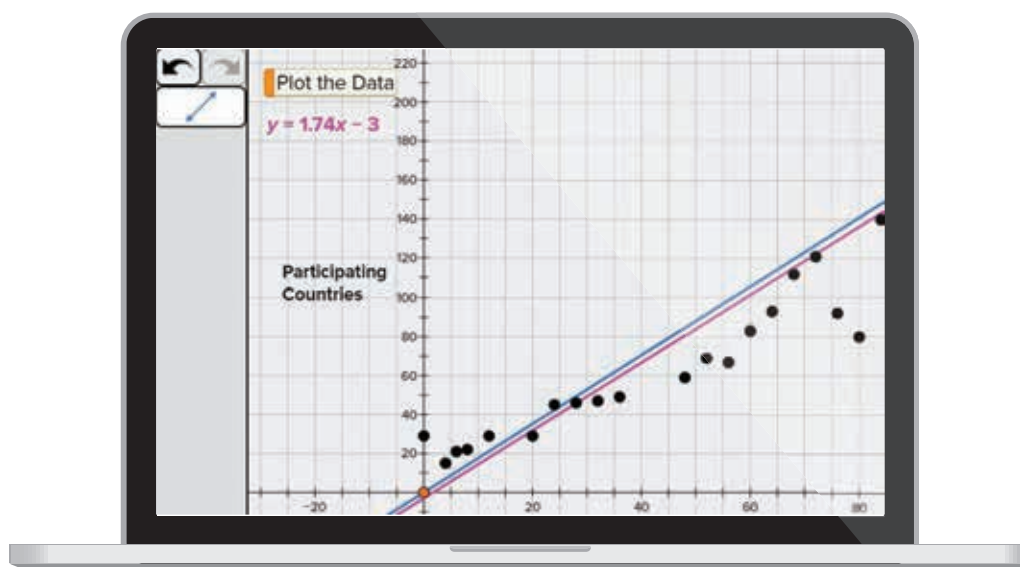
3. What type of model best represents the data set?
4. What variables will you use? What do they represent and how are they related?

Ignite - Who Doesn't Use the Internet? - 1 - © McGraw-Hill Education

Exploration Leading the Way

Sense-Making and Reasoning

Online **Explore** activities focus on an **Inquiry Question** and place a unique emphasis on student discovery, exploration, sense-making, and reasoning, rather than focusing solely on the correct answer.



“We have a huge opportunity today in helping students become such strong, fluid, and flexible thinkers that they are able to use mathematics and see opportunities to use it in places we may not even imagine.”

—Cathy Seeley,
Expert Advisor

Problem Solving and Application

Georgia Reveal Math provides a foundation for students to take increased ownership of learning to become effective problem solvers and critical thinkers.

Demonstrating Perseverance

Rich multi-step application exercises and higher-order thinking questions encourage productive struggle.

Check

Given $f(x) = -x + 1$ and $g(x) = 2x^2 - x$, find $f \circ g(x)$ and $g \circ f(x)$. State the domain and range for each.

$f \circ g(x) =$ _____ $g \circ f(x) =$ _____

Domain of $f \circ g(x)$ _____ Domain of $g \circ f(x)$ _____

Range of $f \circ g(x)$ _____ Range of $g \circ f(x)$ _____

Apply Example 6 Use Composition of Functions

Watch Out!

Order matters! For two functions $f(x)$ and $g(x)$, $f \circ g(x)$ is not always equal to $g \circ f(x)$. Given that the studios take their cut after the tickets have been sold, consider how that affects the order of $f(x)$ and $g(x)$.

Go Online

You can complete your homework online.

Apply Example 6 Use Composition of Functions

BOX OFFICE A movie theater charges \$8.50 for each of the x tickets sold. The manager wants to determine how much the movie theater gets to keep of the ticket sales if they have to give the studios 75% of the money earned on ticket sales $t(x)$. If the amount they keep of each ticket sale is $k(x)$, which composition represents the total amount of money the theater gets to keep?

1 What is the task?

Describe the task in your own words. Then list any questions that you may have. How can you find answers to your questions?

Write About It Write an argument that can be used to defend your solution.

Practice

Example 1 and 2

Find $f \circ g(x)$, $f \circ g(x)$, and $\left(\frac{f}{g}\right)(x)$ for each $f(x)$ and $g(x)$.

1. $f(x) = 2x$ $g(x) = -4x + 5$

2. $f(x) = x - 1$ $g(x) = 5x - 2$

3. $f(x) = x - 2$ $g(x) = 2x - 7$

4. $f(x) = x^2$ $g(x) = x - 3$

5. $f(x) = -x^2 + 4$ $g(x) = 3x^2 - 4$

6. $f(x) = 2x^2 + 3x - 5$ $g(x) = x^2 - 4x + 4$

Example 3

3. **FOOTBALL** Timpan opens a checking account that for only wants to pay fixed bills, which are expenses that are the same each month, such as car loans or rent. Timpan

8. **BASEBALL** A coach is ordering custom practice T-shirts and game jerseys for each of the team members. The coach orders T-shirts from a local shop that charges \$7.50 for each, plus a \$35 initial printer fee. The cost of the T-shirts is modeled by $t(x) = 7.5x + 35$, where x is the number of team members. He orders jerseys online, which cost \$18 each with \$20 shipping. The cost of the jerseys is modeled by $j(x) = 18x + 20$. Define and graph the function that represents the total cost of the T-shirts and jerseys.

a. Identify and write a new function to represent total cost.

b. Graph the combined function.

c. Determine the domain and range in the context of the situation.

Total Cost (\$)

Team Members

Mathematical Modeling Tasks

Ignite! Mathematical Modeling activities call for students to construct and develop a model to analyze and present a solution to a real-world scenario. Students then share and discuss their findings with the entire class.

IGNITE! Mathematical Modeling

It's a Puzzle

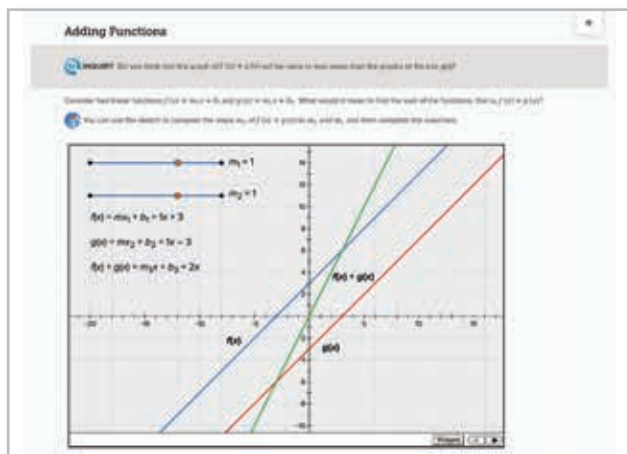
The table shows the winners of international Rubik's® cube competitions. Study the table.

Competitor, Year	Time (s)	Competitor, Year	Time (s)	Competitor, Year	Time (s)
Don Knights, 2003	16.71	Ren van Bruchem, 2007	9.55	Jacian Elmer, 2015	4.90
Jens Bonde, 2003	16.53	Hu Nakajima, 2008	8.72	Matti Valko, 2016	4.74
Shota Matsunaga, 2004	15.07	Erik Akkersdijk, 2008	7.08	Feliks Zemdegs, 2016	4.73
Shota Matsunaga, 2004	12.11	Feliks Zemdegs, 2010	7.03	Patrick Ponce, 2017	4.69
Ivan Pons, 2005	11.75	Feliks Zemdegs, 2010	6.77	Seungbeom Choi, 2017	4.59
Jayin Li, 2006	11.13	Feliks Zemdegs, 2011	6.65	Feliks Zemdegs, 2018	4.22
Toby Mao, 2006	10.48	Feliks Zemdegs, 2011	5.66	Yunheng Du, 2018	3.47
Edouard Chambon, 2007	10.36	Matti Valko, 2013	5.55		
Erik Akkersdijk, 2007	9.77	Colin Burns, 2015	5.25		

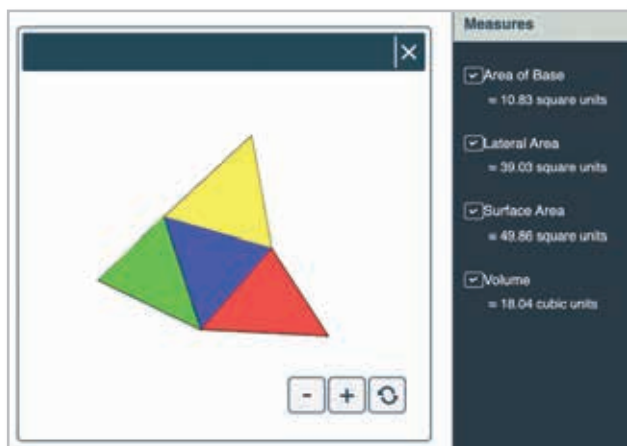
What do you notice?	What questions can you ask?

Tools to Support Visualization and Modeling

As math increases in complexity, students will benefit from tools that allow them to represent mathematics in different ways. *Georgia Reveal Math* includes **Web Sketchpad**® at the point-of-use within the lessons.

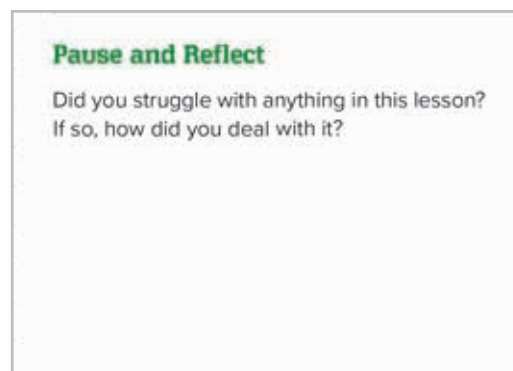


An **eToolkit** accessible from inside the Digital Student Center enables students to learn through dynamic mathematical models.



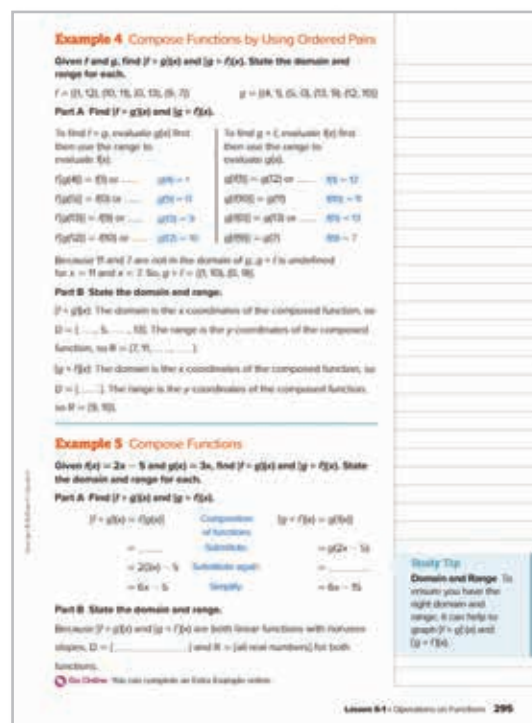
Pause and Reflect

Reflection helps drive accountability and gives students the opportunity to think and write about their learning. Students are regularly asked during **Pause and Reflect** to explain what they have learned.



Notetaking for Understanding

The **Student Edition** is organized with Cornell-inspired margins for students to document notes, draw figures, list key takeaways, or outline strategies.

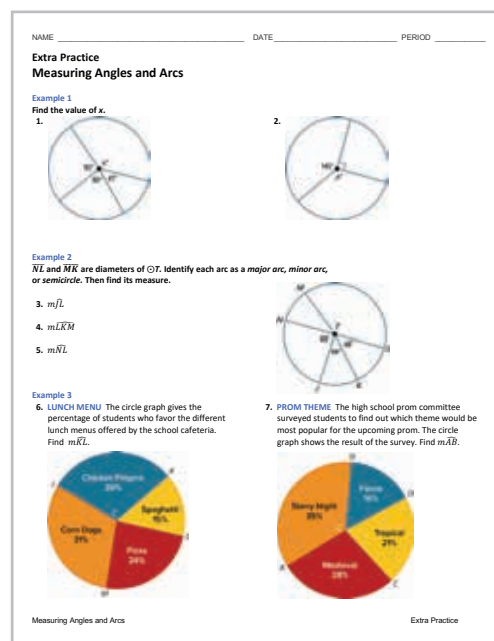
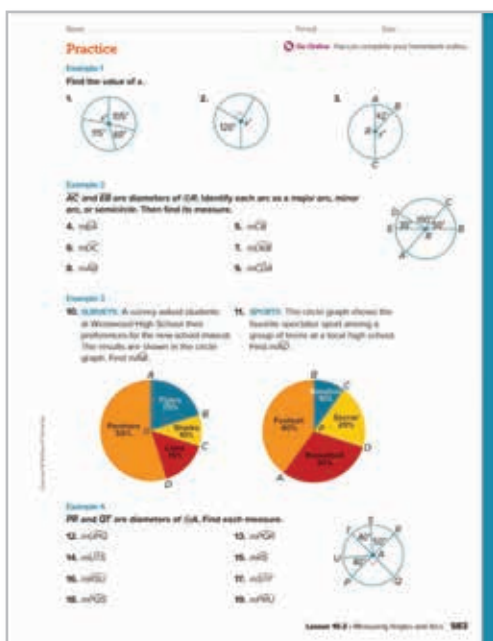


Purposeful Practice for Challenge and Understanding

Practice in *Georgia Reveal Math* provides students with ample opportunity to demonstrate conceptual understanding and procedural fluency. Teachers may choose to fully customize pre-built practice sets and questions.

Practice assignments can be completed in the print Student Edition, using a printable worksheet, or within the Digital Student Center.

Extra Practice assignments contain additional questions for each lesson on a printable worksheet or within the Digital Student Center.



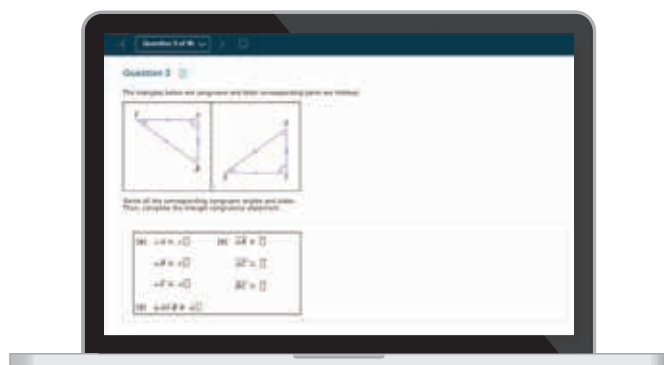
Benefits of Digital Practice

- Multiple Attempts
- Embedded Student Learning Aids
- Tech-Enhanced Question Types
- Dynamic Question Functionality
- Auto-Scoring
- Thousands of Practice Bank Questions



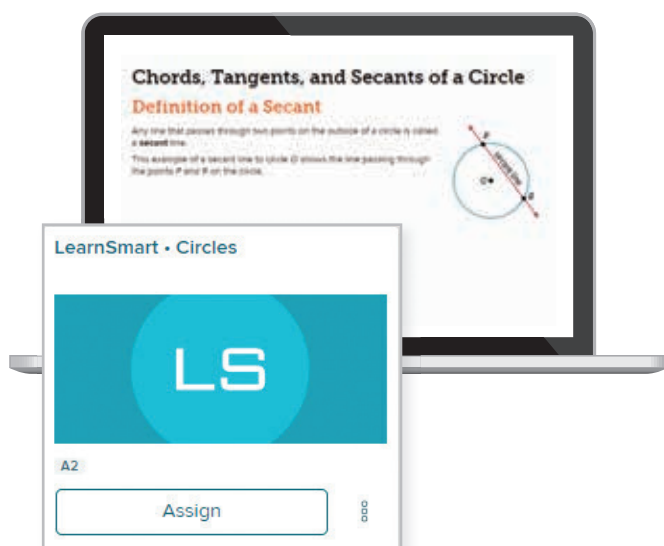
Dynamic Practice

Questions that change value for each student and each attempt are found in Extra Practice, Spiral Review, and Dynamic Module Practice sets.



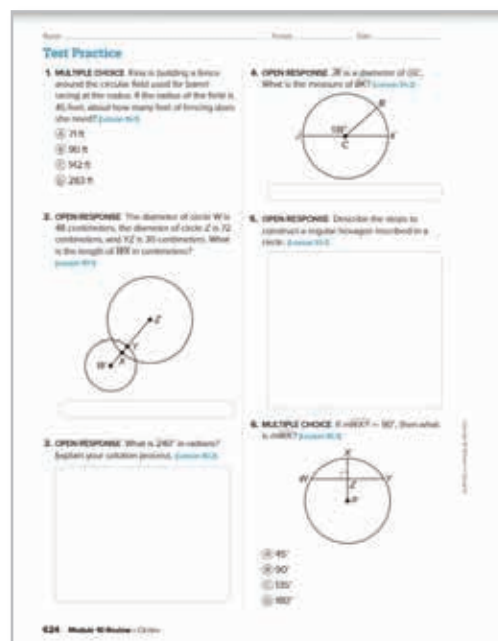
LearnSmart®

After several modules, assign students personalized, adaptive practice focused on learning objectives.



Module Test Practice

Assessment practice concludes the module in the student edition.



Spiral Review

End-of-lesson practice on concepts presented in prior lessons.



ACT® and SAT® Practice

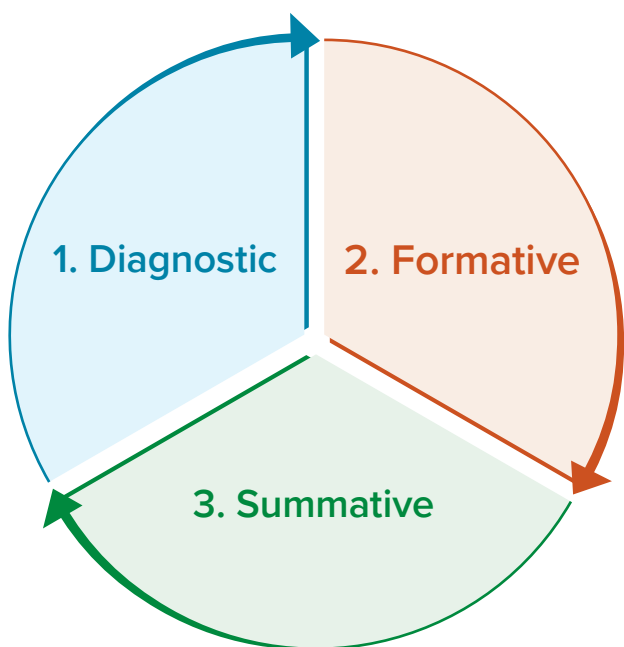
Each *Georgia Reveal Math* high school course includes student-directed practice support with a **McGraw Hill ACT Practice Book** or **McGraw Hill SAT Practice Book** option. Question sets are also available for digital administration.



Monitor Student Understanding

04 | Achieve Success

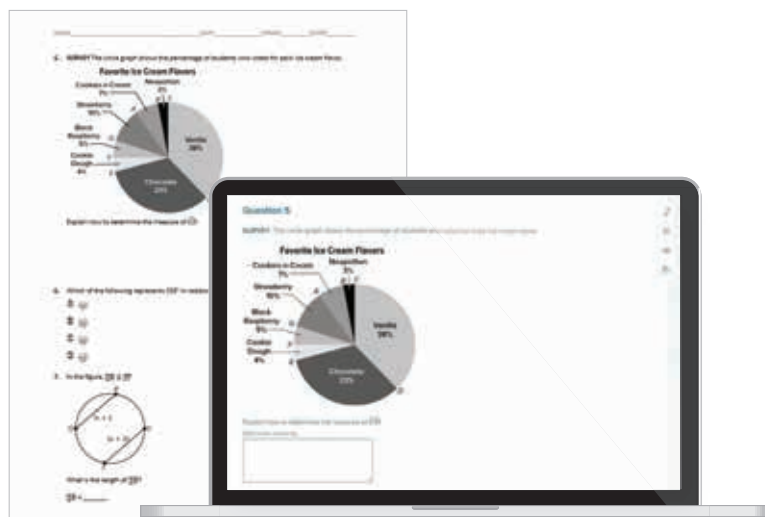
Georgia Reveal Math offers a comprehensive set of assessments, including diagnostic, formative, and summative options for teachers to effectively evaluate what students know and where they need support.



Type	Student Edition	Online Resources
Diagnostic	<ul style="list-style-type: none"> Are You Ready? 	<ul style="list-style-type: none"> Course Diagnostic Module Diagnostic Warm Up
Formative	<ul style="list-style-type: none"> Examples Lesson Practice including Skills, Application, Higher Order Thinking Cheryl Tobey Formative Assessment Probe Check 	<ul style="list-style-type: none"> Items from Student Edition Extra Examples Extra Practice Spiral Review Put it All Together Exit Ticket ALEKS
Summative	<ul style="list-style-type: none"> Module Review 	<ul style="list-style-type: none"> Module Tests Forms A, B and C Performance Task End-of-Course Assessment

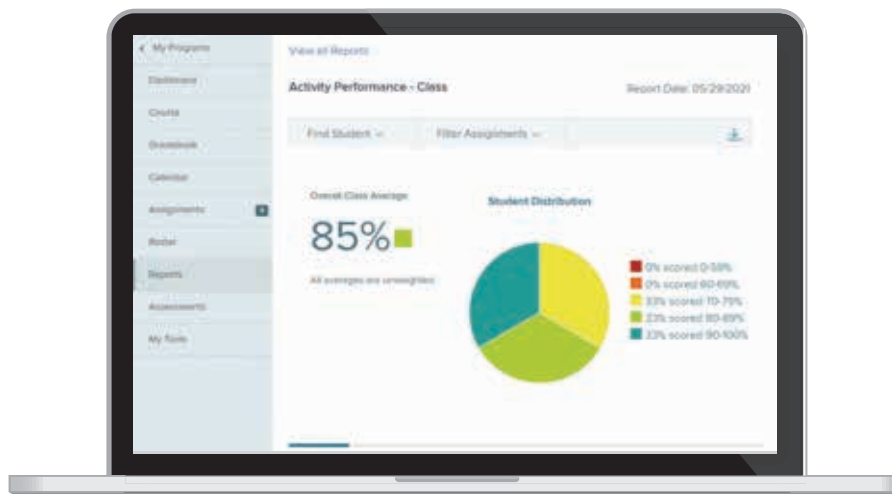
Print and Digital Formats

All *Georgia Reveal Math* assessments are available for either print or digital administration. Print assessments can be found in the **Digital Teacher Center** as editable Word documents.



Data to Drive Instructional Insights

Actionable data is a click away in the Digital Teacher Center with the *Georgia Reveal Math* Reporting Dashboard.



Activity Performance Report

Teachers can review useful data points for class activities, including item analysis by student and class, as well as overall performance.

Georgia Standards Report

Teachers can access information on class performance by Georgia Mathematics Standards, including a cumulative score by class and student.

MAP Growth Report

Teachers can view students' *MAP® Growth™* RIT scores and progress throughout the year.

Integrate *MAP Growth* Data* to Identify Gaps Quickly

MAP Growth, the market's most trusted and accurate interim assessment, integrates its data with *Georgia Reveal Math* on the Open Learning Platform.

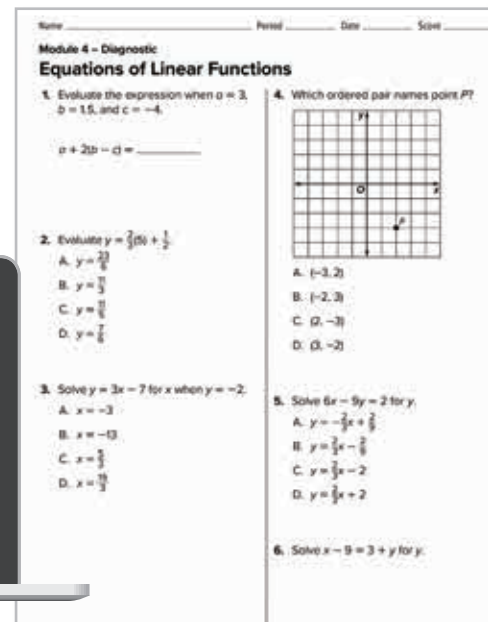
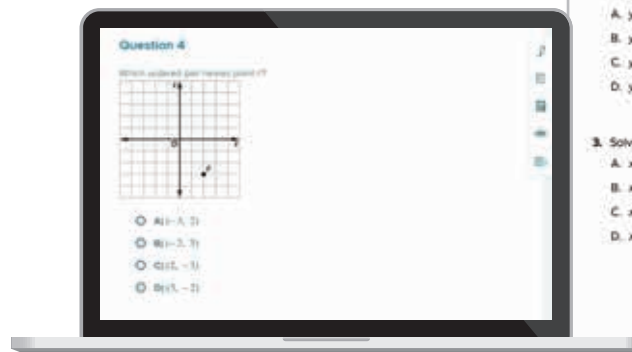
MAP Growth data can save teachers time by identifying students who may need additional support to access grade-level content. **Auto-Grouping** and **Recommended Targeted Skill Paths** provide support and review of critical prerequisite skills.

* For districts that use Map Growth Data

Provide Targeted Remediation and Differentiation

Identify Unfinished Learning

Before beginning the module, assign the **Module Diagnostic** to evaluate student readiness for the module content.



Targeted Remediation

Review student scores to evaluate and determine the appropriate resources to assign.



ALEKS

Using adaptive questioning, *ALEKS* quickly and accurately determines what topics a student knows and is ready to learn next.



Review Activities

Each **Review Learn** and **Review Example** provides students with a key concept overview and several examples to meet their prerequisite skill needs.

Enrich Learning with Differentiated Resources

During instruction, after reviewing formative assessment sources and data, choose from a variety of differentiation options to meet the needs of your students.

Take Another Look On-Level Reteach

Mini-Lessons*

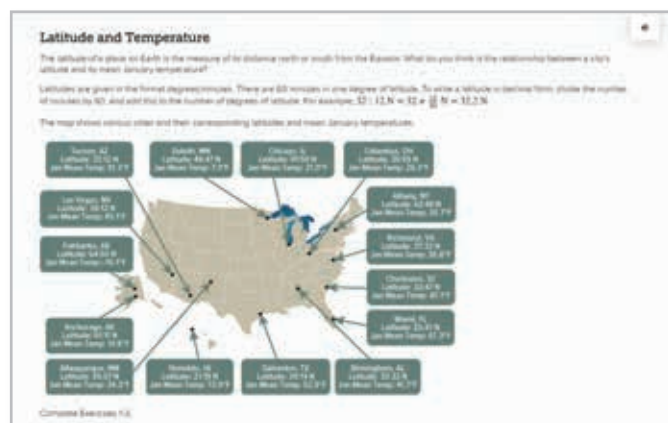
Supplement core instruction with built-in reteach support, including **Model**, **Interactive Practice**, and **Data Check** resources.

* Georgia Reveal Algebra 1



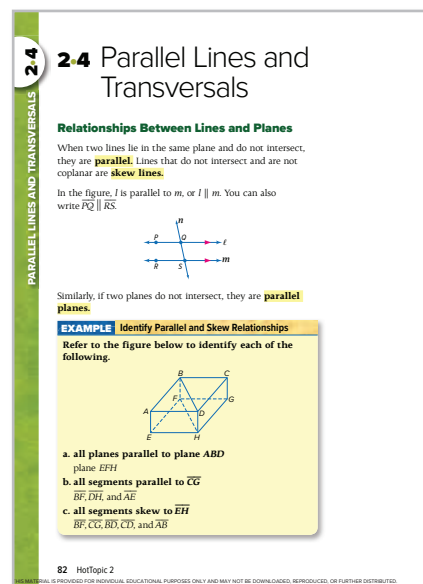
Extension Activities

Digitally assign to students who are ready for a challenge.



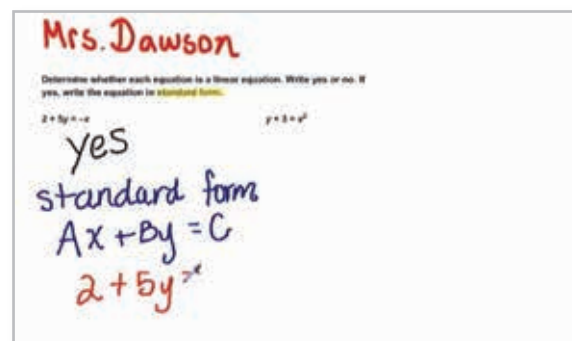
Quick Review Math Handbook

This resource provides additional instruction and practice for prerequisite skills.



Video Library

Students have access to help videos, **Foldables** support videos, and **Personal Tutor** concept videos for reference. Teachers may choose to assign them for additional student support.



Meet Students at Their Level with *Georgia Reveal Math* and *ALEKS*

Georgia Reveal Math with *ALEKS* provides students the added advantage of a personalized learning pathway continuously adapting to them and provides teachers with an infinite number of question options.



The Perfect Pairing for Personalized Math Learning

- *ALEKS* can be used effectively for all students, targeting the exact topics each is most ready to learn. This approach minimizes frustration, accelerates learning momentum, and builds confidence.
- Teachers can create *ALEKS* assignments directly connected to *Georgia Reveal Math*, so students work on lesson-level content with prerequisite topic support.
- For students who need more challenge, *ALEKS* provides additional extension opportunities and allows students to progress at their own pace.
- *ALEKS* course content spans from Grade 3 to Precalculus for infinite options for course content support.
- An automatic cycle of assessment in *ALEKS* ensures each student's learning pathway is continually refreshed.
- *ALEKS* reports provide visibility at a granular level to measure progress by student, topic, or Georgia Mathematics Standards.

Target Common Misconceptions

Math Probes, written by Cheryl Tobey, are designed to uncover students' misconceptions within every module. These probes, placed at the point-of-use, allow teachers to make sound instructional choices targeting specific mathematics concepts.

Short, Formative Assessment

Cheryl Tobey Math Probe
Modeling with Linear Equations

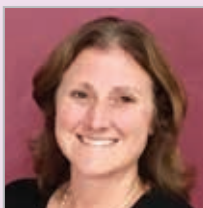
The graph shows data collected by a group of students. They drew a best-fit line and found the equation of the line to be $y = \frac{7}{3}x + 70$. When the same data were entered into a graphing calculator and a regression model found, the equation was $y = 3.41x + 22.85$.

Four students share their explanations of why the best-fit equation is so different from the regression model. With whom do you agree, and why?

Circle agree or disagree.	Explain your choice.
Student 1: The best-fit equation is different from the regression model because they did not draw an accurate best-fit line. agree disagree	
Student 2: The best-fit equation is different because of the intervals. agree disagree	
Student 3: The line drawn and equation written for the best-fit line are accurate, so the graphing calculator must be wrong. agree disagree	
Student 4: The calculator always gives a different, but more accurate, equation. agree disagree	

Each Math Probe features three to four items that are split into two parts:

1. **Part One** assesses students' understanding of concepts.
2. **Part Two** asks students to share their thinking about the concepts.



Written by
Contributing Author,
Cheryl Tobey

Take Action

The teacher support materials that accompany the Math Probes are designed around a three-part ACT cycle:

- **Analyze** the Probe
- **Collect** and Assess Student Work
- **Take Action.** Provided remedies help teachers correct misconceptions quickly and efficiently.

A
Analyze the Probe
Review the probe prior to assigning it to your students.
In this probe, students determine why the equation for their best-fit line differs from the equation generated by their graphing calculator and explain their choices.
Targeted Concepts: Understand how scale is used to determine and analyze the line of best fit.
Targeted Misconceptions:

- Students may not realize that the equation of a line of best fit is not exact.
- Students may not understand when the x-value is equal to zero, the equation of the line of best fit is not accurate.
- Students may rely on what a graph "looks like" as the line of best fit, generate an equation, and use the equation to predict values.

Use the Probe after Lesson 5-3.

C
Collect and Assess Student Answers

the student selects these responses...	the student likely...
Student 1: yes Student 2: no Student 3: yes	<ul style="list-style-type: none"> does not recognize that the p-intercept is not the same as the x-intercept. does not realize that this scale is interpreted. does not recognize that both p-intercepts.
Student 4: yes	has generalized that the calculator estimated best-fit line is inaccurate.

T
Take Action
After the Probe: Design a plan to address any possible misconceptions. You may wish to assign the following resources.

- ALEKS: Scatter Plots and Lines of Best Fit
- Lesson 5-3, Lesson, Example 2

Revisit the Probe at the end of the module to be sure that your students no longer carry these misconceptions.

Efficiently Plan for Instruction

See All Lesson Resources at Once

Teachers can view all the lesson resources and plan from organized lesson landing pages within the **Digital Teacher Center** that align with their print Teacher Edition layout. Lessons can be added to the calendar and easily accessed from the **Teacher Dashboard** on the day of learning.



Plan to Facilitate Productive Learning

Each research-based routine of NCTM's **Effective Teaching Practices** can be found in the structure of the *Georgia Reveal Math* Teacher Edition and Teacher Digital Center.

These eight practices include:

- **ESTABLISH** mathematical goals to focus learning.
- **IMPLEMENT** tasks that promote reasoning and problem-solving.
- **USE AND CONNECT** mathematical representations.
- **FACILITATE** meaningful mathematical discourse.
- **POSE** purposeful questions.
- **BUILD** procedural fluency from conceptual understanding.
- **SUPPORT** productive struggle in learning mathematics.
- **ELICIT AND USE** evidence of student thinking.

Access and Customize Lesson Presentations

Interactive Lesson Presentation

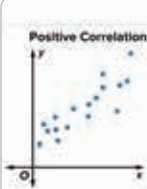
Teachers have a ready-made Interactive Lesson Presentation with embedded eTools, videos, and animations. This presentation is easily customizable: hide resources or upload teacher files, links, and slides.

Scatter Plots

Bivariate data consists of pairs of values. A scatter plot is a graph of bivariate data that consists of ordered pairs on a coordinate plane. Using a scatter plot can help you see the trend, or general pattern, in the data. Trends can represent linear or nonlinear associations in the data. In this lesson, we will examine linear associations. Trends can be described as positive or negative correlations.

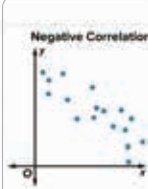
Tap on each card to learn about correlation.

Positive Correlation



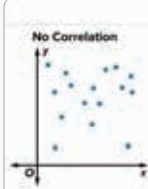
Tap Forward 1

Negative Correlation




Tap Forward 2

No Correlation



Tap Forward 3

Notice that in the graphics for positive and negative correlations, many of the points form **clusters** of points that slope upward or downward. Points outside of clusters are **outliers**.

 Study Tip

Access Content Through Multiple Learning Management Systems

The McGraw Hill Open Learning Platform currently integrates with the following Federated Standards: SAML 2.0 IDP, LTI 1.0, and Clever. Integration is possible with most learning management systems that support these standards, including but not limited to:

- Canvas
- Schoology
- Google Classroom
- Blackboard



Instructional Design Informed by Experts

McGraw Hill Learning Scientists teamed up with expert authors to create a program guided by validated academic research and classroom best practices.

Authors/Advisors

Cathy Seeley, Ed.D.

- Past President of NCTM, 2004–2006
- Thought leader and facilitator of high-quality mathematics education for every student.

Walter Secada, Ph.D.

- Professor of Teaching and Learning at the University of Miami
- Advocate for improving education for English Language Learners and equity in mathematics education.

Raj Shah, Ph.D.

- Founder, The Math Plus Academy and The Global Math Project
- Expert in strong mathematics instruction.

Cheryl Tobey, M.Ed.

- Co-Author of 12 books on formative assessment
- Facilitator of strategies that drive informed instructional decisions.

Dinah Zike, M.Ed.

- Founder, Dinah Zike Academy, an accredited K12 professional development center
- Creator of learning tools that make connections through visual-kinesthetic techniques.

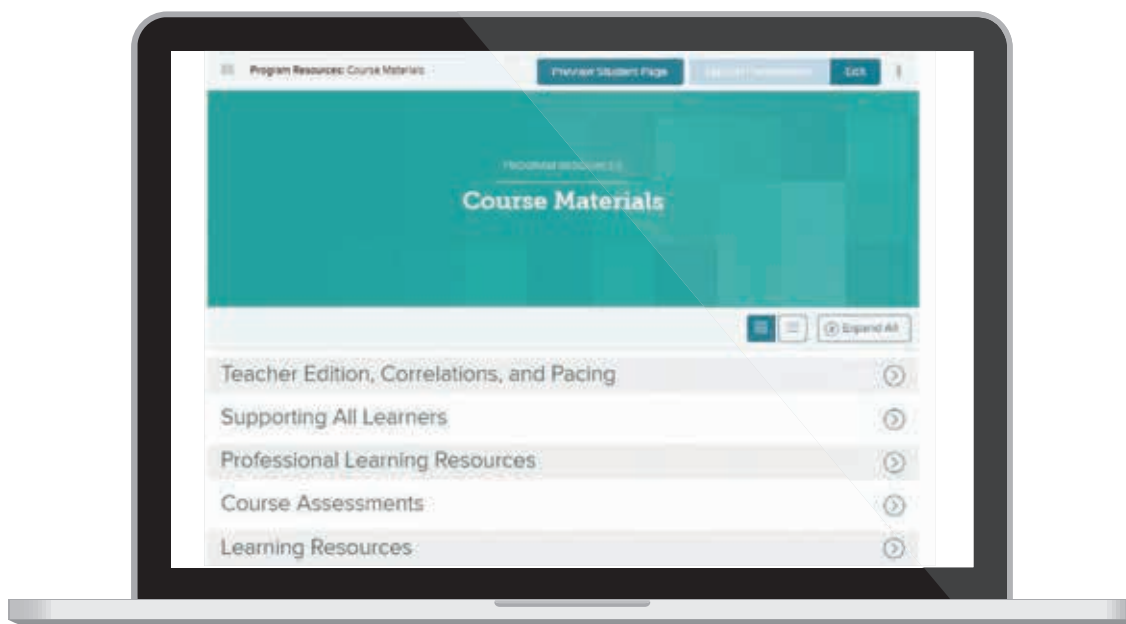
Professional Learning Advisor

Nevels Nevels, Ph.D.

- Expertise in the development of mathematics knowledge for teachers.

Expert-Led Professional Learning

Teachers and administrators have access to a comprehensive set of self-paced digital resources available within the Digital Teacher Center for each grade.



Quick Start

Teachers can get up to speed quickly with the *Georgia Reveal Math* resources and curriculum overview.

Digital Walkthrough

Digital platform guidance from a teacher view and a student view.

Instructional Videos

Georgia Reveal Math authors and experts present guidance and tips on the program.

Cathy Seeley:

- Productive Struggle and Discourse
- Fostering a Positive Math Mindset

Raj Shah:

- Ignite! Activities

Cheryl Tobey:

- Math Probes

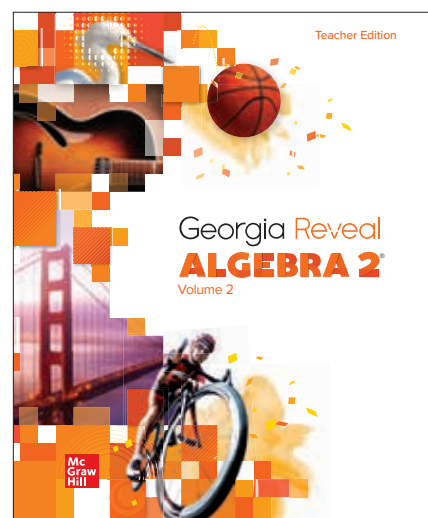
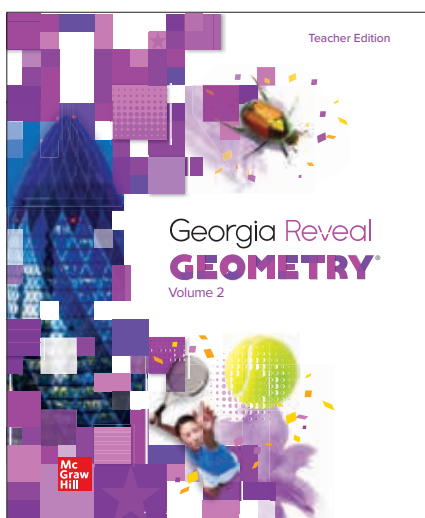
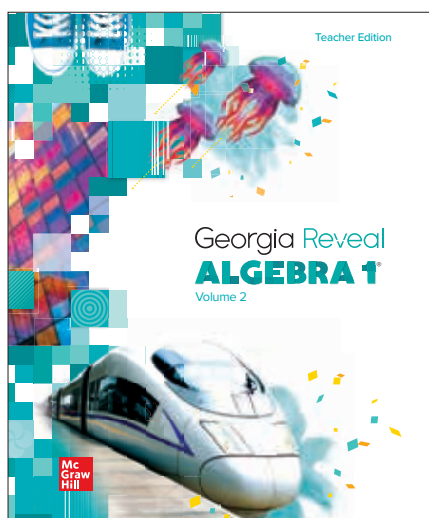
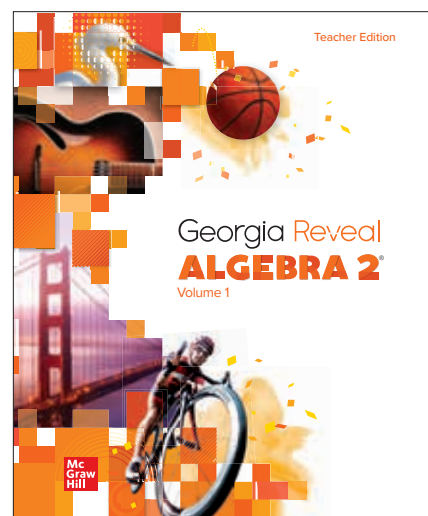
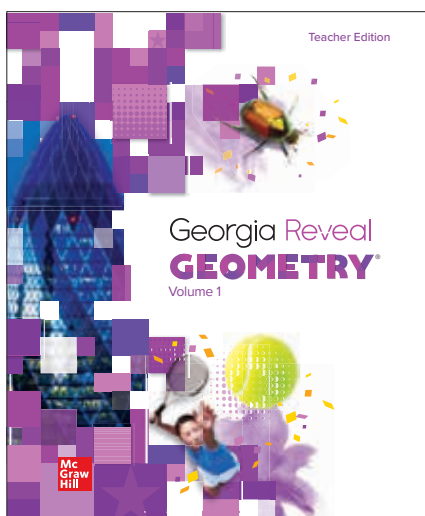
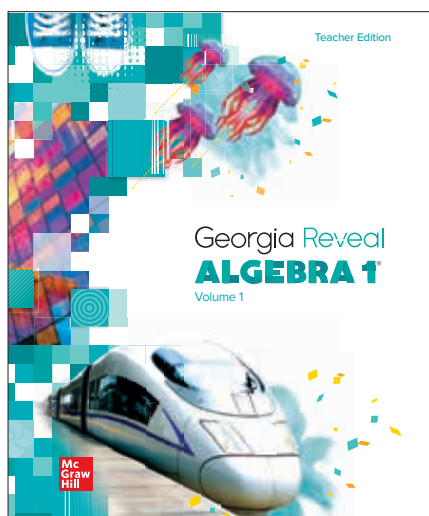


Teacher Resources

Print Resources

Teacher's Edition, 2-Volume

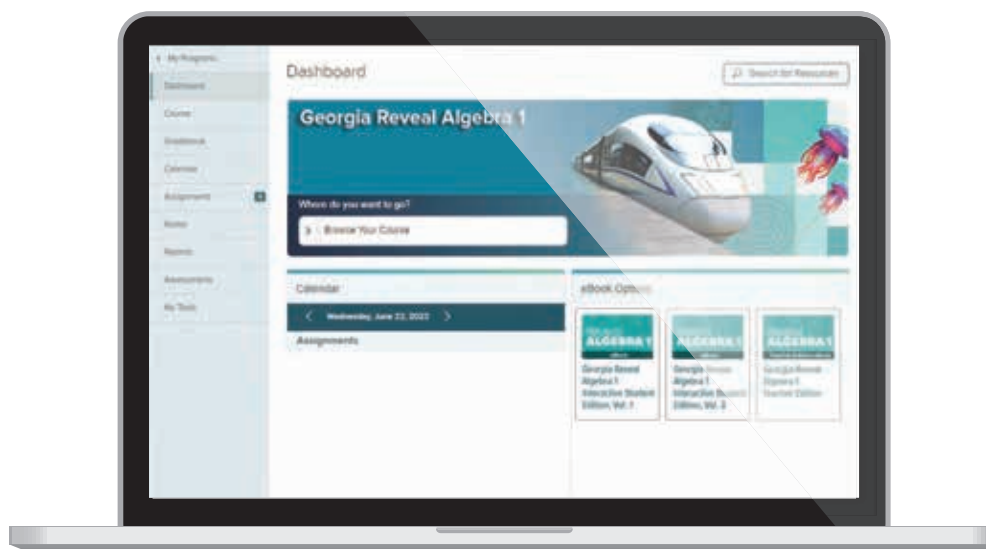
These spiral-bound Teacher Editions provide the essentials to plan and implement classroom instruction focused on Georgia Mathematics Standards. Inside, you will find teacher instructional supports, embedded NCTM's Effective Teaching practices, guidance on going online for additional teaching tips, incorporation of digital resources, and differentiation recommendations.



Digital Teacher Center Resources

Through the Open Learning Platform, teachers have an easy-to-use portal for planning, teaching, and validation of learning. The teacher experience includes:

- Teacher Edition eBook
- Language Development Handbook, Teacher Edition Pages
- Interactive Lesson Presentations
- Program Quick Start Course
- Expert Insight Videos
- Auto-Scored, Customizable Online Assessment
- Differentiated Resources
- Dynamic Digital Practice
- Auto-scored, Customizable Interactive Practice
- Spiral Review
- Web Sketchpad®
- eToolkit (Virtual Manipulative Suite)
- Personal Tutor Lesson Support
- Practice and Assessment Word documents
- ALEKS® *
- Teacher and Administrator Reporting



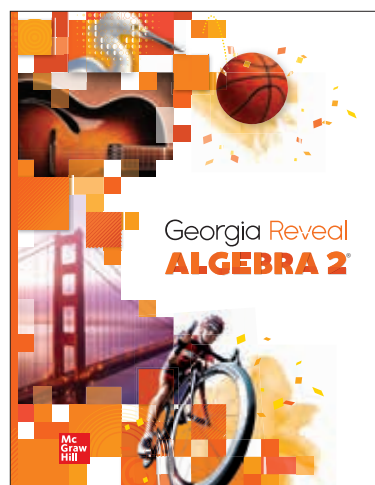
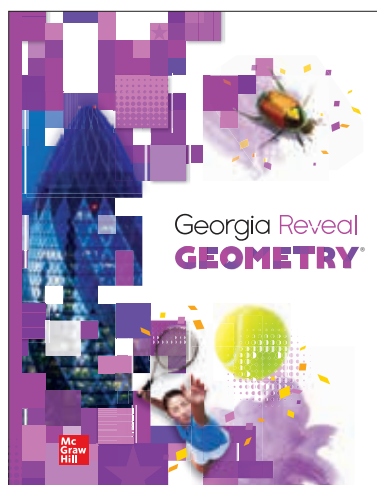
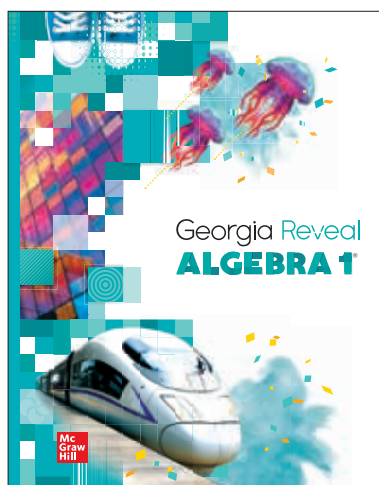
**with Georgia Reveal Math and ALEKS bundle*

Student Resources

Print Resources

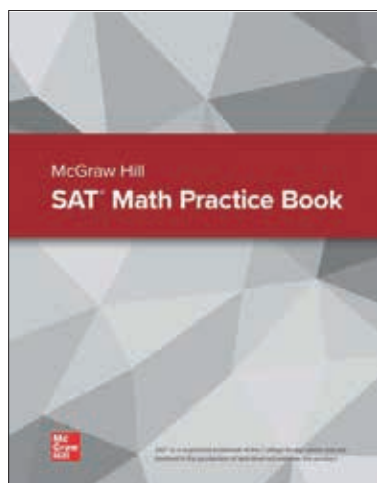
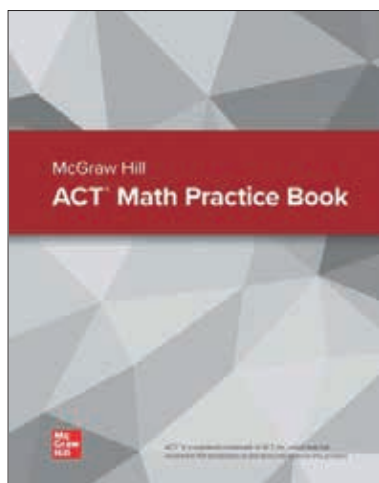
Student Edition

Available in print and interactive formats, the hardbound Student Edition engages students in learning through the use of problem-solving, discourse, and reflection.



McGraw Hill ACT® Math Practice Book and McGraw Hill SAT® Math Practice Book

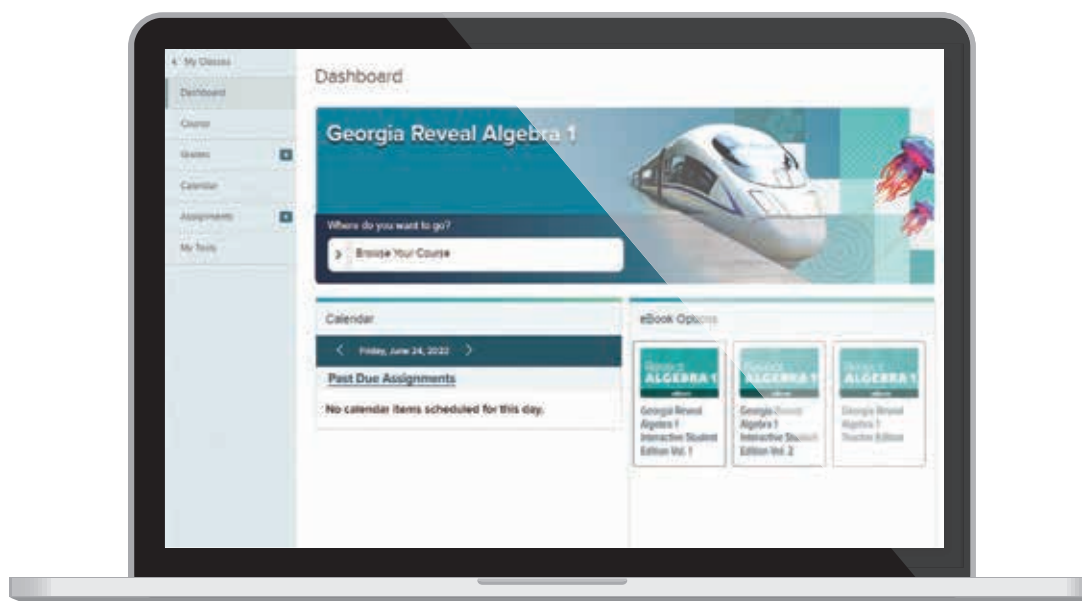
Constructed to provide students practice leading up to either the ACT® or the SAT® tests, these practice books cover the concepts and question types found on each test.



Digital Student Center Resources

Students have access to a robust set of engaging digital tools and interactive learning aids, including:

- Interactive Student Edition eBook
- Language Development Handbook, Student Edition Pages
- Student Edition eBook
- Dynamic Digital Practice
- Interactive Digital Practice
- Web Sketchpad®
- eToolkit (Virtual Manipulative Suite)
- eGlossary
- Multilingual eGlossary
- Personal Tutor Video Lesson Support
- ALEKS® *



**with Georgia Reveal Math and ALEKS bundle*



Reveal the Full Potential in Every Student

Learn more at
mheonline.com/georgia