

**SAVVAS**

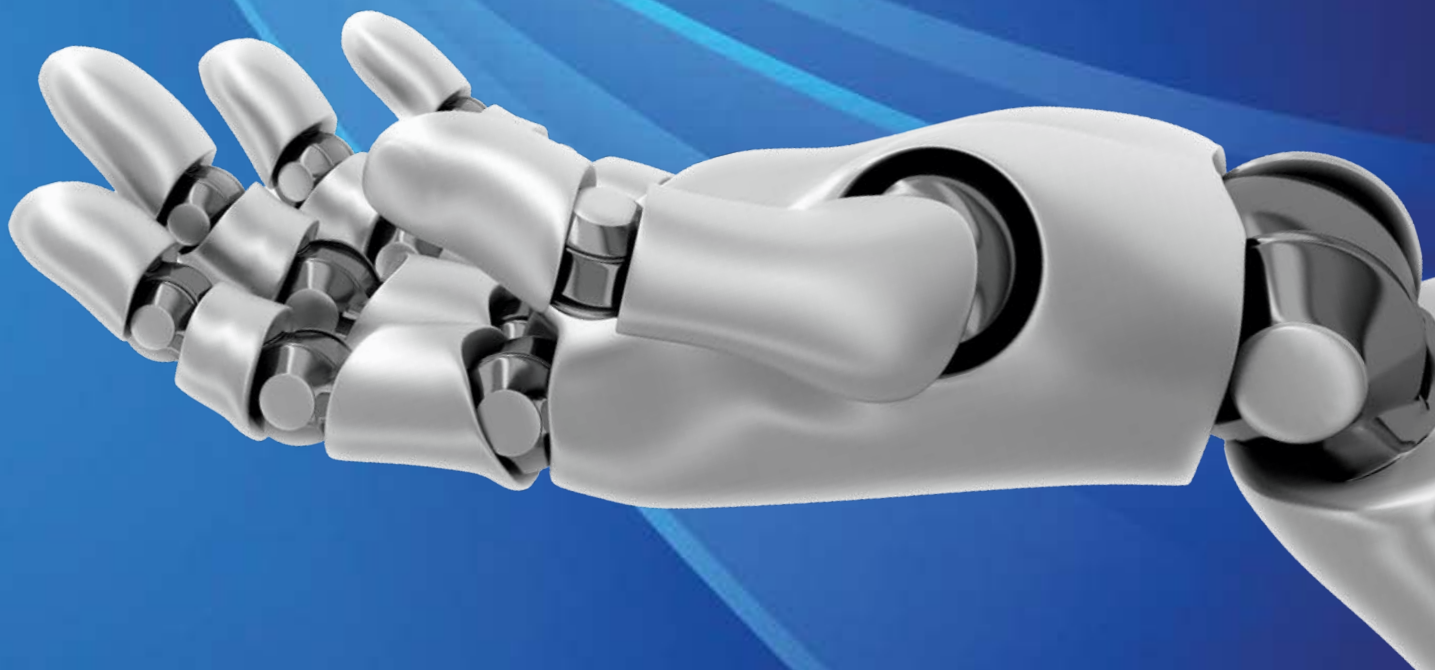
**Program Overview**

Algebra 1, Geometry,  
& Algebra 2



**enVision<sup>®</sup>** A|G|A

Kids See the Math. Teachers See Results.

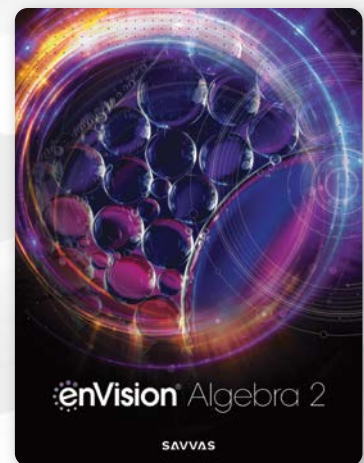
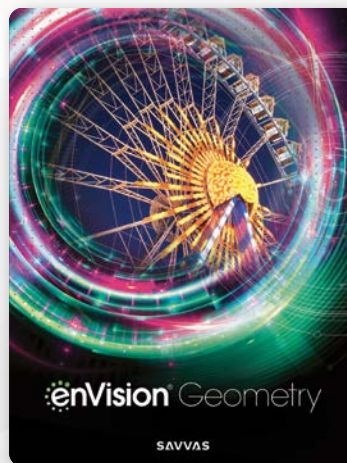
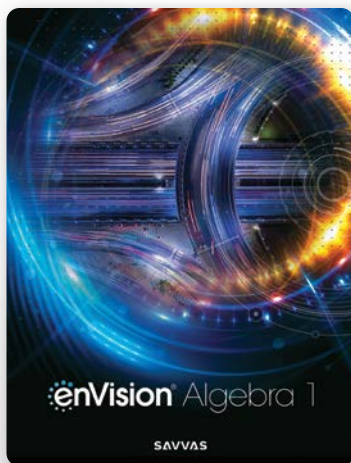


# enVision<sup>®</sup> A|G|A

Developed just for you, the new *enVision*<sup>®</sup> A|G|A © 2024 helps you teach with confidence and engage your students.

## Kids See the Math. Teachers See Results.

Made for Blended, Print, or Digital Delivery



### **Student Centered**

ALL students are invited to engage in meaningful mathematics.



### **Intentionally Designed**

The pedagogical approach and flexible resources necessary to support in-person and digital learning.



### **Informed Instruction**

Identify, adapt, and share with built-in program teacher support.

# Encourage Personal Connections

Foster an environment to promote learning and growing together with the kind of meaningful topics that activate today's students.

## enVision® STEM Projects

enVision STEM projects encourage all students to apply mathematics to real-world contexts and make cross-discipline connections. The projects fuel discussions, group work, and inclusive STEM practices for all learners.

- Value diverse ideas and solutions
- Address real-life settings
- Promote STEM for all



**EXAMPLE 4** Write a Polynomial Function

Hachi makes Seminole Indian dolls to sell at the local street market.

As Hachi produces a greater number of dolls, she can lower the price per unit. The function  $v(x) = 49 - 2x$  relates the price  $v$  to the number produced  $x$ . The cost  $c$  of making  $x$  dolls can be represented with the function  $c(x) = 12x + 64$ .

How many Seminole Indian dolls should Hachi sell each week to maximize her profit  $P$ ?

## Varied Contexts

Opportunities to reflect students' lives and experiences are embedded throughout problem-based learning, examples, and exercises. Students encounter problems involving real-world scenarios as they are invited to share their own unique experiences.

**Have a Growth Mindset:** Take on Challenges with Positivity

When you struggle with a challenge, you build connections in your brain. Ask: What can you tell yourself so you keep a positive attitude and don't give up when you struggle? What can you do when something seems hard?

## Cultivate a Community of Growth Mindset Learners

Engaging prompts in the Teacher's Edition support students' learning together and having a growth mindset.

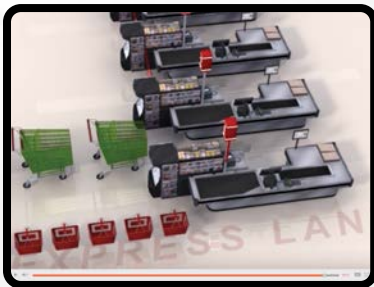
# See What They Can Do

Mathematical thinking and reasoning is an integral part developing conceptual understanding. Mathematical Modeling in 3 Acts builds students' confidence to think mathematically and solve problems on their own.

## Mathematical Modeling in 3 Acts

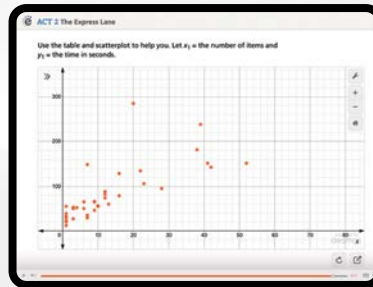
Students are encouraged to be problem posers and problem solvers. Engaging videos are available on SavvasRealize.com.

### ACT 1: THE HOOK



*A video or photo hooks students with the task and provokes questions.*

### ACT 2: THE MODEL



*Students develop mathematical models to arrive at a solution that makes sense to them.*

### ACT 3: THE RESOLUTION



*Visuals help students explain differences between their own conjectures and a possible solution.*

MATHEMATICAL MODELING IN 3 ACTS

**The Express Lane**

Some supermarkets have self-checkout lanes. Customers scan their items themselves and then pay with either cash or credit when they have finished scanning all of the items. Some customers think these lanes are faster than the checkout lanes with cashiers, but others don't like having to bag all of their purchases themselves.

What's your strategy for picking a checkout lane at the grocery store? Think about this during the Mathematical Modeling in 3 Acts lesson.

MATHEMATICAL MODELING IN 3 ACTS

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What's your strategy for picking a checkout lane at the grocery store? Think about this during the Mathematical Modeling in 3 Acts lesson.

**ACT 1 Identify the Problem**

1. What is the first question that comes to mind after watching the video?
2. Write down the main question you will answer about what you saw in the video.
3. Make an initial conjecture that answers this main question.
4. Explain how you arrived at your conjecture.
5. What information will be useful to know to answer the main question? How can you get it? How will you use that information?

## Focus on Mathematical Modeling

- **Mathematical Modeling in 3 Acts Preview** poses mathematical questions and generates interest.
- **Mathematical Modeling in 3 Acts Student Pages** organize students' thinking to actively develop a model.

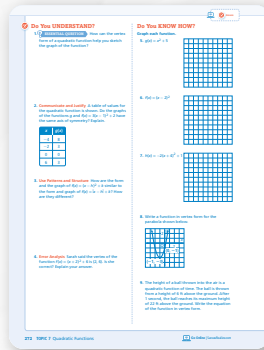
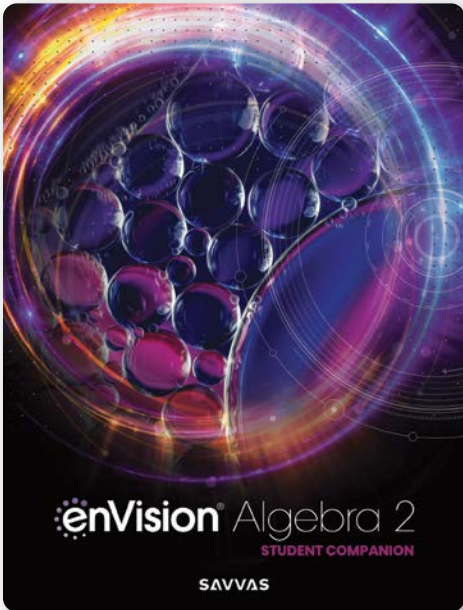


Launch Mathematical Modeling in 3 Acts videos from the student page with embedded QR codes.

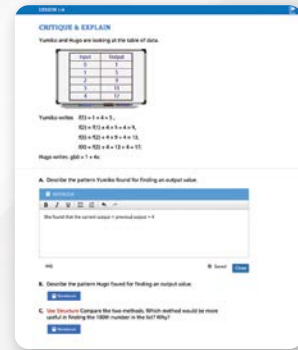
# Prepare Students for Success

Flexible student learning materials ensure that no matter the delivery, *enVision A/G/A* will meet each student's needs. Students will build success and college preparedness with engaging and meaningful math.

## Student Companion



A write-in Student Companion actively engages students during class and at home.



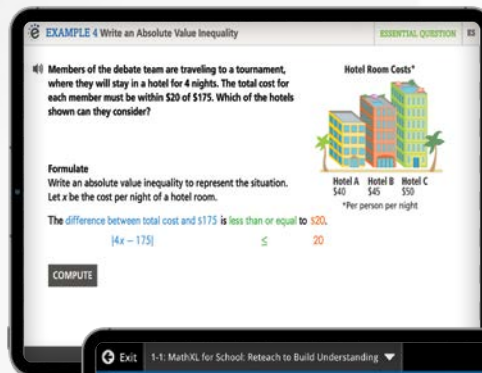
The Realize™ Reader Interactive Student Edition includes dynamic instructional content available for offline or online use.

## Individualized Learning Pathways

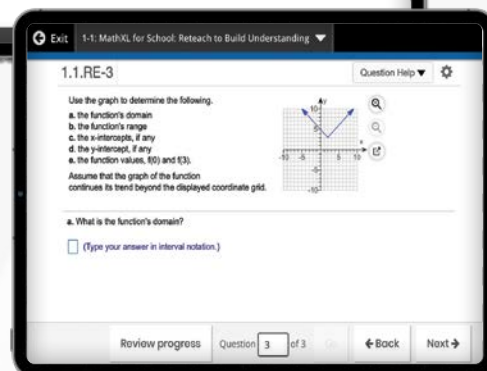
Based on results from the Topic Readiness Assessment, individual study plans are automatically created to fill in gaps on prerequisite knowledge and help students focus on specific areas to experience success.

## Individual Study Plans

- Available for every Topic
- Automatically prescribed digital intervention instruction and practice help students master prerequisite skills.
- Interactive instruction with explicit examples
- Powerful learning aids in multiple modalities



*Interactive digital intervention instruction*

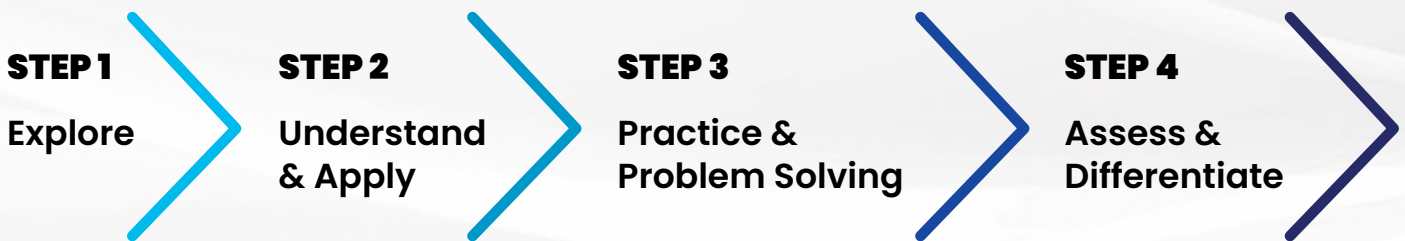


*Interactive digital intervention practice*

# I Can See Clearly Now!

Starting on a firm foundation of conceptual understanding, students can connect and apply math ideas in amazing ways.

## A simple lesson design provides a clear, intentional pathway.



### STEP 1: EXPLORE

Lesson-opening explorations foster the development of conceptual understanding through a problem-solving experience.

#### Explore & Reason

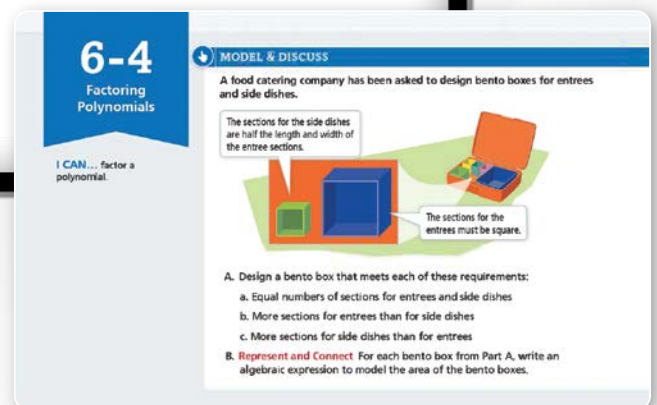
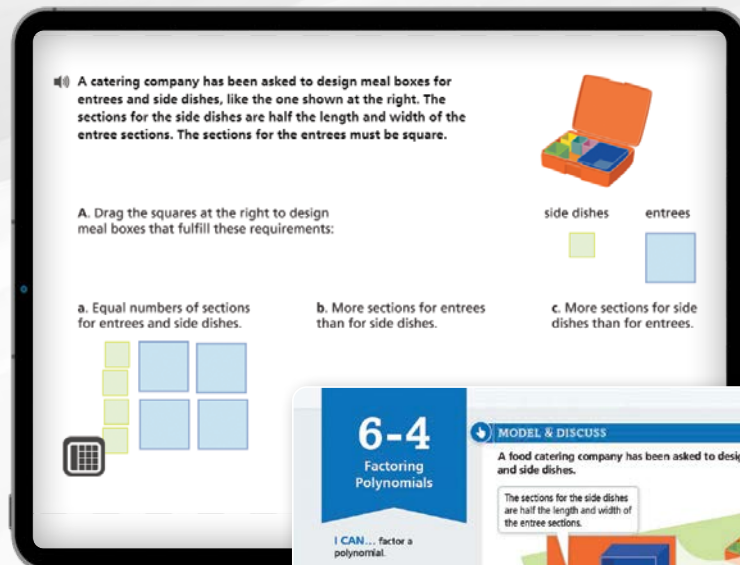
Students explore a mathematical concept and use reasoning to draw conclusions.

#### Model & Discuss

Students develop proficiency with the full modeling cycle by focusing deeply on aspects of the modeling cycle.

#### Critique & Explain

Students are required to construct mathematical arguments. They may also be asked to evaluate examples of mathematical reasoning and correct the reasoning if necessary.



## STEP 2: UNDERSTAND & APPLY

*enVision A/G/A* helps you teach mathematics through problem solving. Multiple examples support a balanced pedagogy: Conceptual Understanding, Proof, Skill, and Application.



Embedded digital interactives powered by the Desmos™ Calculator help students make graphical, numerical, and algebraic connections.

The concept summary provides multiple representations to consolidate student understanding.

## Increasing Coherence Using Plus(+) Standards

All Plus(+) Standards are addressed in *enVision A/G/A*. These advanced concepts are embedded in lessons throughout the program where appropriate.

**EXPLORE & REASON**

Draw a copy of  $ABCD$  on the grid in a different location with the same orientation, and label it  $QRST$ .

A. On a sheet of paper, write instructions that describe how to move  $ABCD$  to the location of  $QRST$ .

B. Exchange instructions with a partner. Follow your partner's instructions to draw a third shape  $EFGH$ . Compare your drawings. Do your drawings look the same? Explain.

Enter your answer

---

**CONCEPT SUMMARY** The Absolute Value Function

**WORDS** The graph of the absolute value function has a vertex, which represents the minimum value of the function. The axis of symmetry intersects the graph and divides the graph into two sections that are images of each other by a reflection. The absolute value function changes from decreasing to increasing at the vertex.

**ALGEBRA**  $f(x) = |x|$

**GRAPH**

The vertex is at  $(0, 0)$ .

The domain is  $\{x \mid x \text{ is a real number}\}$ .  
The range is  $\{y \mid y \geq 0\}$ .

**COHERENCE**

Previously in this course, students:

- Create, graph, and transformed polynomial function.
- Identified the key features of the graph of a polynomial function.

In this lesson, students:

- Graph and transform the reciprocal function.
- Identify how the values of  $a$ ,  $h$ , and  $k$  affect the key features of a transformation of the reciprocal function.

Later in this topic, students will:

- Extend their understanding of the reciprocal function and its transformations to create, graph, and transform rational functions.

### Conceptual Understanding

examples are designed to help students focus deeply on mathematical understanding of lesson content.

### Proof

examples require students to build, justify, and analyze formal and informal proofs in *enVision Geometry*.

### Skill

examples help students build fluency with the lesson content.

### Application

examples show students how the lesson's mathematical content can be applied to solve real-world problems.

**LESSON 4-1**  
Inverse Variation and the Reciprocal Function

**Lesson Overview**

**Objective**

Students will be able to:

- Create a table, write and graph the reciprocal function.
- Identify the effect of transformations on the graph of the reciprocal function and relate the effects of  $a$  and  $k$  on the function  $f(x) = \frac{a}{k-x} + h$ .

**Essential Understanding**

The reciprocal function is used to model inverse variation, which is a proportional relationship between two variables such that when one variable increases, the other decreases.

**Previously in this course, students:**

- Create, graph, and transformed polynomial function.
- Identified the key features of the graph of a polynomial function.

**In this lesson, students:**

- Graph and transform the reciprocal function.
- Identify how the values of  $a$ ,  $h$ , and  $k$  affect the key features of a transformation of the reciprocal function.

**Later in this topic, students will:**

- Extend their understanding of the reciprocal function and its transformations to create, graph, and transform rational functions.

**This lesson emphasizes a blend of conceptual understanding and procedural skill and fluency.**

- Students understand that the reciprocal function models inverse variation.
- Students graph transformations of the reciprocal function, identify asymptotes, and use them to show the end behavior of a function.

**Mathematics Overview**

Students write and graph the reciprocal function and understand that it represents inverse variation. They also identify the  $a$  and  $h$  parameters and the end behavior of each function. Students determine how the graph changes when the reciprocal function is transformed using the function  $f(x) = \frac{a}{k-x} + h$ . They recognize that the value of  $k$  translates the graph horizontally and the value of  $h$  shifts the graph vertically.

**Vocabulary Builder**

**REVIEW VOCABULARY** English | Spanish

- multiplicative inverse | inverse
- reciprocal | inverse

**NEW VOCABULARY**

- asymptote | asymptotes
- constant of variation | constant in proportional
- inverse variation | reciprocal variation
- reciprocal function | function-reciprocal

**VOCABULARY ACTIVITY**

Prepare students for the concept vocabulary by ensuring that they understand the terms inverse, multiplicative inverse, and reciprocal. Use the understanding to explore the terms inverse variation and reciprocal function.

The reciprocal of  $k$  is  $\frac{1}{k}$ .

The multiplicative inverse of  $k$  is  $\frac{1}{k}$ .

The function  $f(x) = \frac{1}{k-x} + h$  is the \_\_\_\_\_ (reciprocal function).

**Student Companion**

Students can do their own work for the lesson or group it with their Student Companion at the same time.

**Applying Math Practices**

**Make Sense of Problems and Persevere in Solving Them**

Students work for some points in a problem when they see what they know about inverse variation to mentally compute an appropriate answer to a problem that uses an inverse variation model to find the frequency of a guitar string.

# Practice with a Purpose

Personalized and adaptive learning encourages students to build their mathematical understanding and demonstrate proficiency.

## Step 3: Practice & Problem Solving

enVision A/G/A features a uniquely balanced exercise set. Meet the rigor of standards with assessment practice in every lesson.

### Understand

Develops conceptual understanding of lesson content by having students explain their reasoning, construct arguments, and analyze errors.

### Apply

Requires students to apply math to solve real-world problems.

### PRACTICE & PROBLEM SOLVING

#### UNDERSTAND

- Generalize** How does changing the sign of the constant  $a$  from positive to negative affect the domain and range of  $f(x) = a|x|$ ?
- Communicate and Justify** Compare and contrast the graph of  $f(x) = |x|$  and the graph of  $f(x) = x$ . How are they alike? How do they differ?
- Error Analysis** Describe and correct the error a student made in determining the relationship between the domain and range of  $f(x) = 10|x|$  and  $f(x) = |x|$ .

The domain of  $f(x) = 10|x|$  is the same as the domain of  $f(x) = |x|$ .  
The range of  $f(x) = 10|x|$  is 10 times the range of  $f(x) = |x|$ . **X**

- Higher Order Thinking** For which values of  $a$  would the graph of  $f(x) = a|x|$  form a right

#### PRACTICE

Tell whether each point is on the graph of  $f(x) = |x|$ . If it is, give the coordinates of another point with the same  $y$  value. SEE EXAMPLE 1

- (11, 11)
- (-2.3, -2.3)
- (0, 1)
- (15, -15)

Describe the key features of each absolute value function. Identify the vertex, axis of symmetry, and the domain and range. SEE EXAMPLES 1 AND 2

$x$	$g(x)$	$x$	$h(x)$
-2	-6	0	1
-1	-3	1	0
0	0	2	1
1	-3	3	2
2	-6	4	3

Graph each function. What is the domain and range of each function? Describe the intervals over which each function is positive and over which it is negative. SEE EXAMPLE 2

- $g(x) = -\frac{1}{2}|x|$
- $h(x) = 3.5|x|$



### Practice

Builds procedural fluency with lesson content.

### PRACTICE & PROBLEM SOLVING

#### APPLY

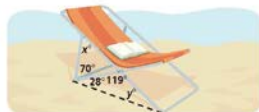
- Model With Mathematics** Pilar is making a replacement set of sails for a sailboat.



- What equation can Pilar use that relates the values of  $w$  and  $x$ ?
  - What equation can Pilar use that relates the values of  $y$  and  $z$ ?
- Reason** An artist painting from a photo begins with a geometric sketch to match angle measures. What is the value of  $z$ ?



- Look for Relationships** Use the drawing of a beach chair.



- What is the value of  $x$ ?
- What is the value of  $z$ ?

### ASSESSMENT PRACTICE

- What are the values of  $x$ ,  $y$ , and  $z$ ?



- SAT/ACT** What is the value of  $x$ ?



- 98
- 106
- 102
- 176

- Performance Task** A tablet case is supported at the back. The measure of the slant angle of the tablet,  $m\angle 1$ , can be changed, but  $m\angle 2 = m\angle 3$  for any slant that is chosen.



**Part A** A user adjusts the case so that  $m\angle 2 = 42$ . What are the measures of the other angles?

**Part B** Is it possible to slant the tablet case so that  $m\angle 1 = m\angle 5$ ? If so, explain how. If not, explain why it is not possible.

**Part C** A user wants to slant the tablet case so that  $m\angle 1 = 2(m\angle 5)$ . What should the measure

arity walk. The graph is from the water. How many miles did answer. SEE EXAMPLE 3



rate of change over



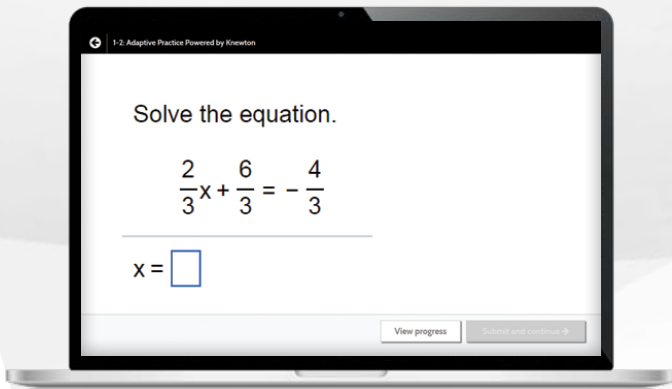
$7 \leq t \leq 10$

### Assessment Practice

Every lesson includes:

- Assessment Practice
- ACT®/SAT® Practice
- Performance Task





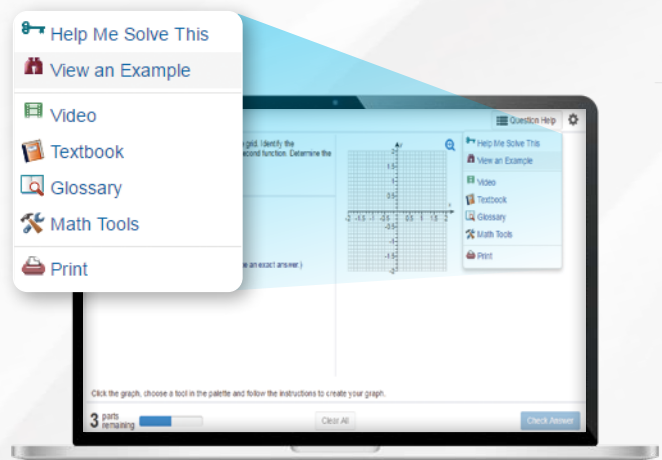
## Robust Practice Powered by MathXL® for School

Embedded MathXL® for School in Savvas Realize™ provides a seamless experience for students and teachers with instant feedback, powerful interactive learning aids, and auto-graded assignments on ONE platform.

- Daily Homework and Practice
- Mixed Review
- Differentiated Learning for remediation, additional practice, and enrichment

### Savvy Adaptive Practice

- Personalized practice in real time focuses on key concepts for each lesson.
- A brand new, transparent engine informs students when and why they are receiving specific practice items or instructional support resources.
- Students dial back into prerequisite concepts or accelerate forward as they practice.

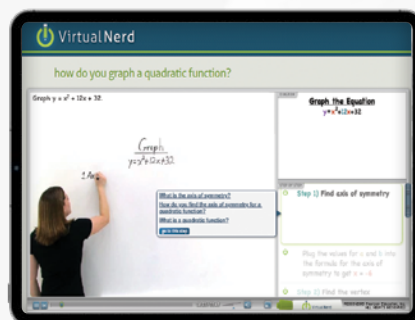
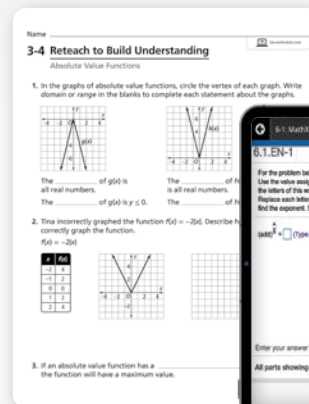


### Step 4: Assess & Differentiate

Ensure content mastery through multiple daily formative assessments. The differentiation library has print and digital resources to meet the needs of a wide range of learners.

### Virtual Nerd® Tutorial Videos

- Tutorial videos are provided for **every** lesson in the program.
- Three different viewing windows let students review math concepts in the visual way that best helps them learn.
- Students can easily drill down to another video to review prerequisite content.
- Available with Spanish closed captioning!



Launch Virtual Nerd videos from the student page with embedded QR codes.



# Focus on Each Learner

Differentiation options for each lesson and every standard encourage and challenge students of all learning levels.



*enVision A/G/A* provides both a fully adaptive system for Response to Intervention and a library of resources to support a wide range of students.

## Give all students what they need for success. Each lesson includes:



### Reteach to Build Understanding:

Guided reteaching offers a fresh approach. Stepped-out, scaffolded support solidifies understanding.  


### Enrichment:

Higher-order thinking activities help students develop deeper understandings.  

### Additional Practice:

More practice for each lesson.  

### Mathematical Literacy & Vocabulary:

Scaffolded support helps students build vocabulary. 

### Virtual Nerd Videos:

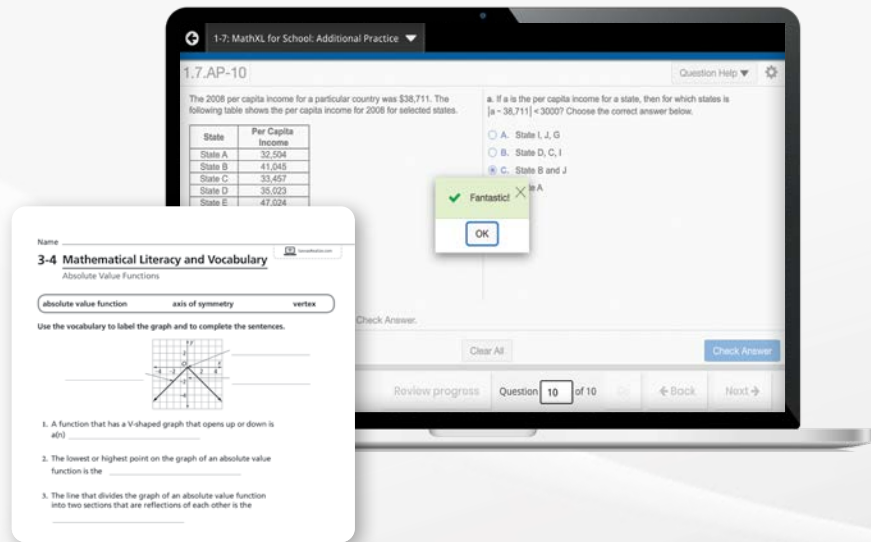
Tutorials are available for every lesson.



Available as an editable worksheet.



Available as a MathXL® for School digital assignment.



A25

Name \_\_\_\_\_

### Solving Systems by Graphing

**EXAMPLE** Solve by graphing.  $y = 3x - 9$   
 $x + y = -1$

**STEP 1** Graph each equation on the same coordinate plane.

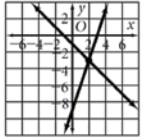
You can use what you know about slope-intercept form.

$y = 3x - 9$      $m =$      $b =$

You can also make a table of values.

$x + y = -1$

<b>x</b>	0	-1
<b>y</b>	-1	0



**STEP 2** Determine the point of intersection of the two lines.

The point of intersection lies on both lines, so it is a solution of both equations.

The lines intersect at the point (  ,  ).

## Skills Review & Practice

Scaffolded instruction can be used for intervention, practice, and/or review of critical prerequisite concepts and skills.

### Additional Examples

- Additional explicit instruction assists teachers in meeting their classroom needs.
- The “Try Another” feature, which algorithmically generates new problem statements, allows for endless classroom instruction and practice opportunities.

### Enrichment Examples

Extend the learning to enhance Algebra 2 students’ understanding and application of lesson concepts.




A Complete Library of Resources for English Language Learner Support

## English Language Learner Support

A complete library of resources supports English language learners:

- ELL instruction aligned to WIDA specifications in every lesson
- Spanish closed captioning for video tutorials
- Spanish text and audio for Algebra I problem statements
- English/Spanish Glossary
- Multilingual Handbook

### Visual Glossary

English	Spanish
<p><b>A</b> <b>Acute angle</b> An acute angle is an angle whose measure is between <math>0^\circ</math> and <math>90^\circ</math>.</p> <p>Example </p>	<p><b>Ángulo agudo</b> Un ángulo agudo es un ángulo que mide entre <math>0</math> y <math>90</math> grados.</p>
<p><b>Acute triangle</b> An acute triangle has three acute angles.</p> <p>Example </p>	<p><b>Triángulo acutángulo</b> Un triángulo acutángulo tiene los tres ángulos agudos.</p>
<p><b>Adjacent angles</b> Adjacent angles are two coplanar angles that have a common side and a common vertex but no common interior points.</p> <p>Example </p>	<p><b>Ángulos adyacentes</b> Los ángulos adyacentes son dos ángulos coplanarios que tienen un lado común y el mismo vértice, pero no tienen puntos interiores comunes.</p>

Español S

**Solución de un sistema de ecuaciones lineales**

Todo par ordenado de un sistema que hace verdaderas todas las ecuaciones de ese sistema.

### ELL English Language Learners (Use with EXAMPLE 4)

**LISTENING BEGINNING** Read Part A of the example aloud to students. Repeat the last sentence.

**Q:** What do you think of when you hear the word *assume*?  
[To think or state that something is true before you have evidence of it.]

**Q:** What do you think of when you hear the word *contradict*?  
[To go against something.]

**SPEAKING DEVELOPING** Make sure students understand the everyday use of words in math. Have students talk with a partner about the word *cases*.

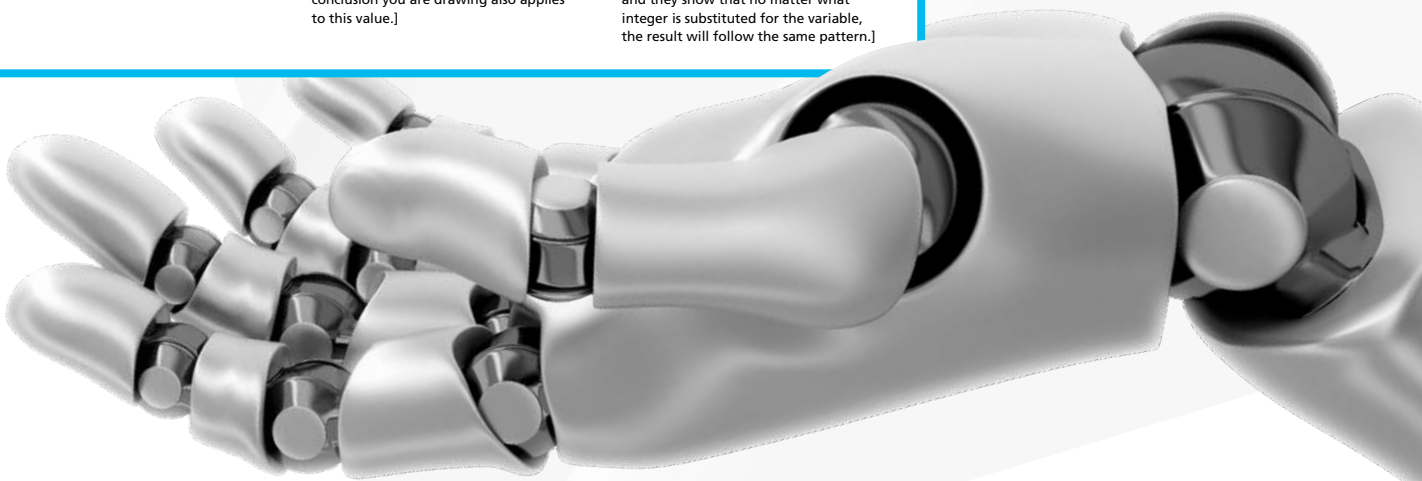
**Q:** What is a case?  
[Answers may vary. Sample: something that you carry or store things in; different situations]

**Q:** What does it mean to *address the case where  $a = 0$*  in this example?  
[To find out what happens with a specific value of  $a$  to see if the conclusion you are drawing also applies to this value.]

**WRITING EXPANDING** Talk about the difference between specific cases and general cases. Have students answer the following questions in their math journals.

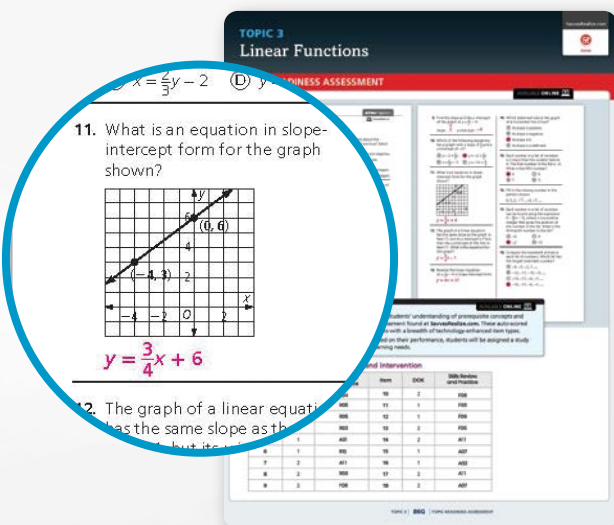
**Q:** Why can't you make a conclusion after testing a few specific cases?  
[There could be a case you do not think of that disproves your conclusion.]

**Q:** How does the use of variables show the general case and help to establish a solid conclusion?  
[The variables are defined as integers and they show that no matter what integer is substituted for the variable, the result will follow the same pattern.]



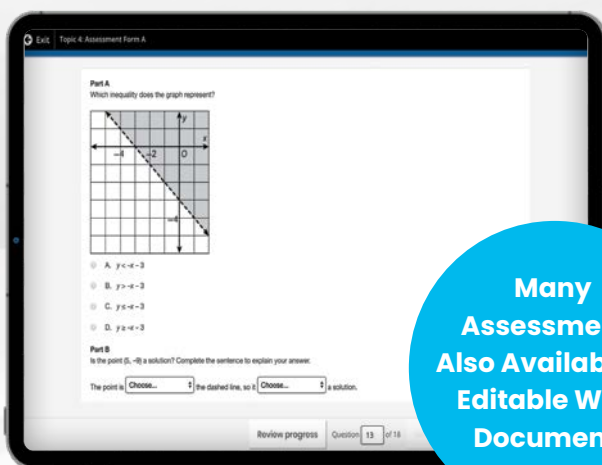
# Assess to Differentiate

The *enVision A/G/A* Assessment Suite offers options to move students toward content mastery while driving instructional differentiation.



## Diagnostic Assessment

- Course Readiness Assessment (Print/Online)
- Topic Readiness Assessments (Print/Online)



Many  
Assessments  
Also Available as  
Editable Word  
Documents

## Do You KNOW HOW?

Find the domain and range of each function.

5.  $g(x) = 5|x|$                       6.  $h(x) = -2|x|$

Graph each function.

7.  $g(x) = 1.5|x|$                       8.  $h(x) = -0.8|x|$

9. What is the rate of change over the interval  $15 \leq x \leq 18$ ?

## Do You UNDERSTAND?

1. **ESSENTIAL QUESTION** What are the key features of the graph of the absolute value function?
2. **Communicate and Justify** How do the domain and range of  $g(x) = a|x|$  compare to the domain and range of  $f(x) = |x|$  when  $0 < a < 1$ ? Explain.
3. **Analyze and Persevere** The graph of the

## Summative Assessment

- Topic Assessments (Print/Online)
- Topic Performance Assessments (Print/Online)
- ExamView® Test Bank
- Cumulative Assessments (Print/Online)
- End-of-Course Practice Tests (Print/Online)
- Build Your Own Custom Assessment (Online)

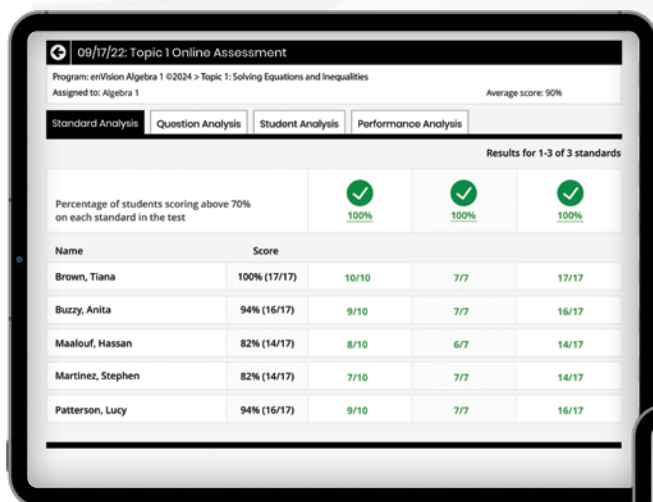
## Formative Assessment

- Common Errors (Print/Online)
- Thinking and Reasoning Questions (Print/Online)
- Try Its! (Print/Online)
- Do You Understand? (Print/Online)
- Do You Know How? (Print/Online)
- Lesson Quiz (Print/Online)

# Gain Meaningful Insight

A variety of auto-generated reports show standards mastery on assessments, overall progress, and usage data. It's all on SavvasRealize.com.

## Data reports help drive differentiation.



### Data Overview

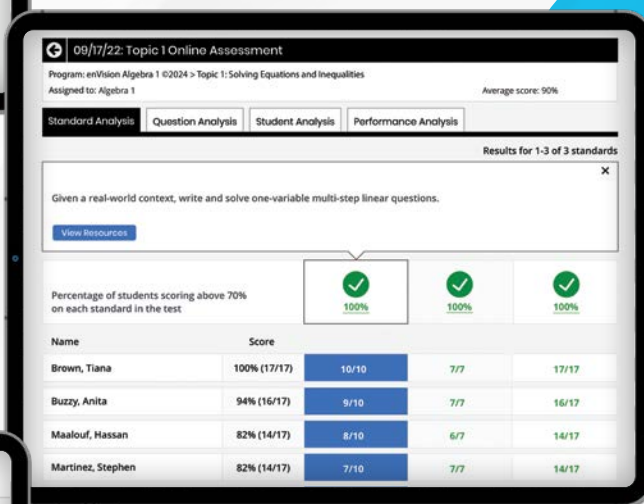
Reports including scores, progress, and usage are provided in an easy-to-view format.

### Standard Analysis

In-depth information is provided about standards coverage and mastery for an assignment.

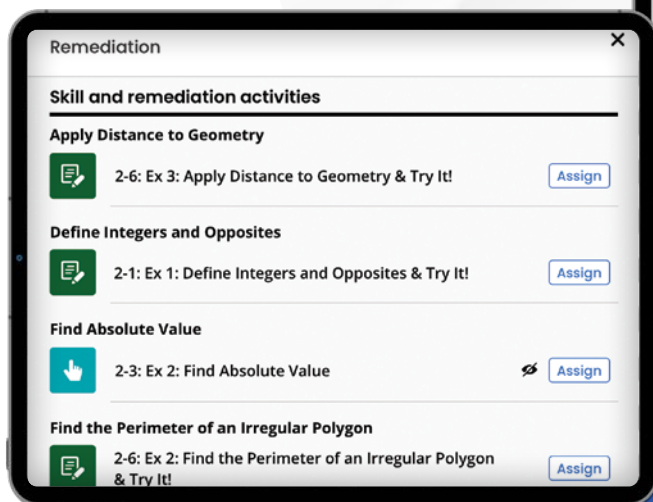
### Standards-Aligned Resources

Individual student's mastery or classwide mastery for each standard are linked to resources that can be immediately assigned.



### Auto-Assign Differentiation

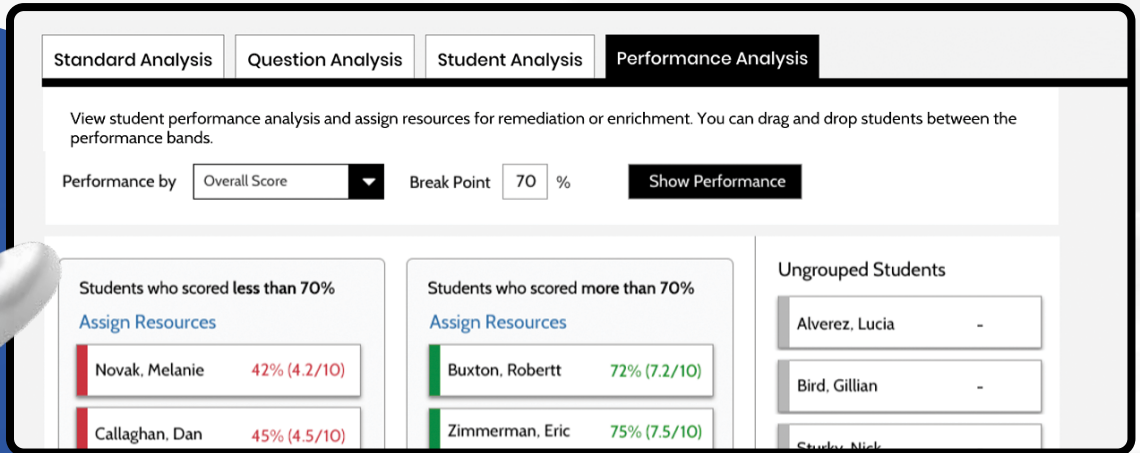
Differentiation is based on results of the online Lesson Quiz, Topic Readiness Assessment, Topic Assessment, and Cumulative/Benchmark Assessment.



# INTENTIONALLY DESIGNED

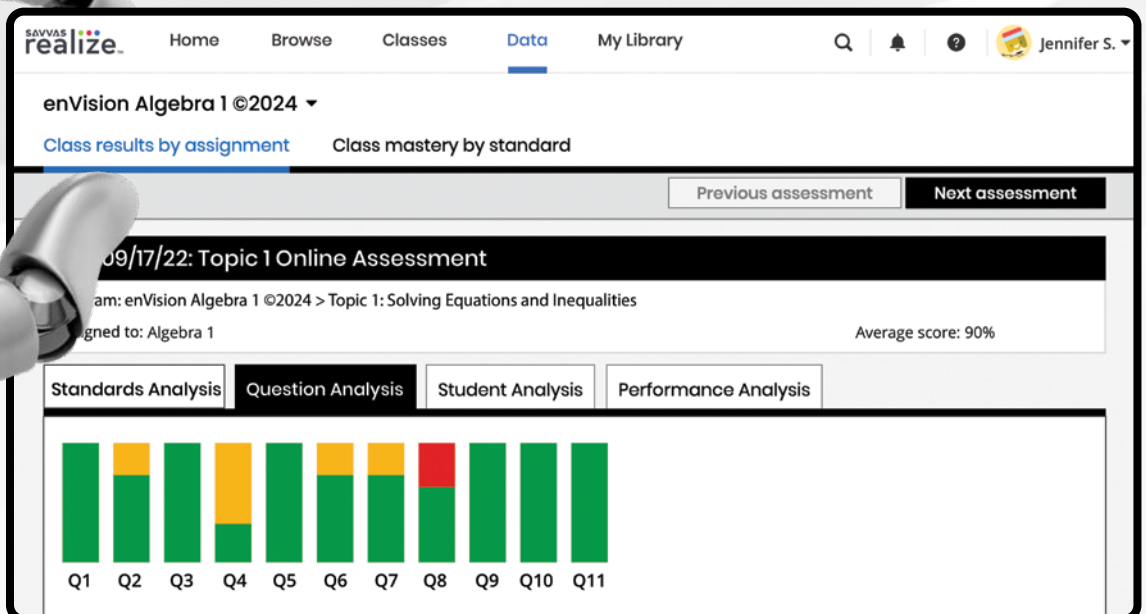
## Real-Time Data Reports

Address individual learning needs quickly with real-time data reports. **Savvy Adaptive Practice** drives daily instructional decisions with a student summary including skills identified as proficient, those needing review, prerequisite skills that were revisited, and those that were not practiced.



## Performance Analysis

Easily group students based on their performance on an assessment and assign targeted resources.



## Question Analysis

View individual test items across the class to gauge difficulty and make informed decisions.

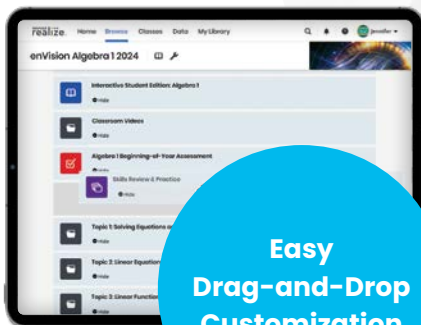
# See the Big Picture

Gain a new perspective on your teaching with embedded strategies, methods, and a wide range of professional learning opportunities.

## Every math teacher is a master teacher.

**Make every lesson perfect for you.** Access all digital content, assessments, and management tools at SavvasRealize.com.

- Search by keyword or standard
- Add Open Educational Resources
- Create lesson playlists
- Customize lessons
- Reorder lessons and Topics
- Align to your district framework
- Assign to Google Classroom™
- Upload your own content
- Use online discussion boards
- Integrate with Canvas® and Schoology®
- Integrate Microsoft® OneDrive®



Easy  
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Customization

**TOPIC 3**  
**Linear Functions**

**MATH BACKGROUND FOCUS**

Topic 3 focuses on extending students' understanding of linear equations to linear functions. Students learn methods to write, graph, and transform linear functions. They also apply analytic methods to tabular and graphic data sets that have linear relationships.

**Understanding Linear Functions**  
Addressing and Functions: A relation is an association between sets of ordered pairs; the domain consists of the set of all inputs, and the range consists of the set of all outputs. Students are able to identify functions and relations when each input element in the domain has exactly one corresponding element in the range. In Lesson 3-1, students learn to identify functions and their components in a variety of forms, such as graphs, tables, and equations.

**Applications of Linear Functions**  
Addressing Sequences: Arithmetic sequences are lists of numbers that follow a function rule. Students know that the common difference between terms in an arithmetic sequence indicates a linear function. In Lesson 3-4, students write recursive and explicit formulas for arithmetic sequences and use these formulas to solve real-world problems.

**Writing and Graphing Linear Functions**  
Function notation provides a tool for describing the value in the range for each value in the domain. Students learn that in linear function notation, the relationship between the value in the domain and range falls on a straight line. In Lesson 3-2, students write and graph linear functions. Students also use linear functions to solve real-world problems.

**Graphing Linear Functions**  
In Lesson 3-3, students learn how writing a common line a function causes the graph of the function to be constant. Students also learn how to graph a function by a constant slope or by a constant rate.

**Graphing Linear Functions**  
In Lesson 3-4, students learn that the slope of a line is directly related to the slope and y-intercept of the line. They also learn how to use the slope to solve for unknown and interpret information from data.

**TOPIC 3**  
**Linear Functions**

**MATH BACKGROUND COHERENCE**

Students learn how when concepts are connected through the curriculum. This coherence is achieved within topics, across topics, across domains, and across grade levels.

**MAKING MATHEMATICAL CONNECTIONS Looking Back**  
How is content connected within Topic 3?  
Students learn how when concepts are connected through the curriculum. This coherence is achieved within topics, across topics, across domains, and across grade levels.

**MAKING MATHEMATICAL CONNECTIONS Looking Ahead**  
How does Topic 3 connect to what students will learn later?  
Students learn how when concepts are connected through the curriculum. This coherence is achieved within topics, across topics, across domains, and across grade levels.

**APPLYING LINEAR FUNCTIONS**  
In Lesson 3-1, students learn to write an equation in slope-intercept form for a line given a point and a slope. In Lesson 3-2, students learn to write an equation in slope-intercept form for a line given a point and a slope. In Lesson 3-3, students learn to write an equation in slope-intercept form for a line given a point and a slope. In Lesson 3-4, students learn to write an equation in slope-intercept form for a line given a point and a slope.

**TOPIC 3**  
**Linear Functions**

**MATH PRACTICES & PROCESSES**

**Math Practices Within Topic 3 Lessons**  
The math practices describe the behaviors and habits of mind that mathematically proficient students demonstrate when actively engaged in mathematics work. Opportunities to develop expertise with these important mathematical and thinking habits exist throughout the topic and program. Here we focus on using tools and attending to precision.

**Highlighted Math Practices Within Topic 3 Lessons**

Use Appropriate Tools Strategically (MPS)	Attend to Precision (MPS)
<p>Mathematically proficient students:</p> <ul style="list-style-type: none"><li>• Use a calculator to understand the direction and strength of a linear relationship.</li><li>• Make a scatter plot of data that has a break in the x-axis to visualize the trend line over the entire domain.</li><li>• Combine entering data into a graphing calculator and use linear regression as a method to calculate the line of best fit.</li><li>• Use mathematical models for reasoning and analyzing information when they create a graph to solve problems.</li></ul>	<p>Mathematically proficient students:</p> <ul style="list-style-type: none"><li>• Understand the meanings of the symbols used in function notation and use the advantage of choosing letters that relate to the problem, such as choosing <math>t</math> to represent time in a function of time.</li><li>• Communicate precisely by using definitions and formulas to compare and contrast a recursive and an explicit formula for an arithmetic sequence.</li><li>• Use precision when assigning each element of the domain to one element of the range.</li><li>• Communicate precisely when making the quantities used in linear functions to the real-world situations that represent.</li></ul>

**Ideas, Inspiration, and Teaching Methods**  
Math background for every Topic and lesson serves as an easy-to-access math methods course.

**Classroom Videos**  
show a classroom in action. Interviews with the teacher cover planning and reflection.

# INFORMED INSTRUCTION

## Implement Tasks that Promote Reasoning and Problem Solving **127**

**Q:** How would you describe this design?

[Answers may vary. Sample: The design is an arrangement of seven circles in a pattern like a hexagon.]

**Q:** Does it matter how large you make the circles? Can you match the diagram exactly?

[The problem doesn't say to match exactly, but you could open the compass to exactly the size in the diagram.]

**STEP 1 Explore**

**EXPLORE & REASON**

**Explore and Reason** is powered by **Discover**.

**INSTRUCTIONAL FOCUS:** Students experiment with reproducing seven circles of equal size and spacing using a compass and straightedge to prepare them for learning basic constructions.

**STUDENT GOALS:** Students can complete the Explore & Reason activity in their Student Companion.

**Before**

**Implement Tasks that Promote Reasoning and Problem Solving**

**After**

**Facilitate Meaningful Mathematical Discourse**

**TRIGGER AND REASONING**

**Reasoning and Connect:** What mathematical terms or concepts can you use to describe your design? [Answers may vary. Sample: You can use terms such as point of intersection, symmetrical, and hexagon.]

**Professional Learning Videos on SavvasRealize.com** give important perspectives on math concepts and show the program in action.

**MySavvasTraining.com** features many online tutorials and quick-start guides for *enVision A|G|A*. Available 24/7!

## Research-Based Practices

The *enVision A|G|A* Teacher's Edition features embedded professional learning. Effective Teaching Practices (ETP) are based on NCTM's Principles to Action.

Exit Topic 1: Professional Development Video

### Foundations of Geometry

**TOPIC ESSENTIAL QUESTION**

What are some of the fundamentals of geometry?

00:11 02:30

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**Teacher Edition**

You can access the Teacher Edition and other digital resources of this program on Pearson Realize.

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**RECENT TUTORIALS**

Realize: Item Analysis Report

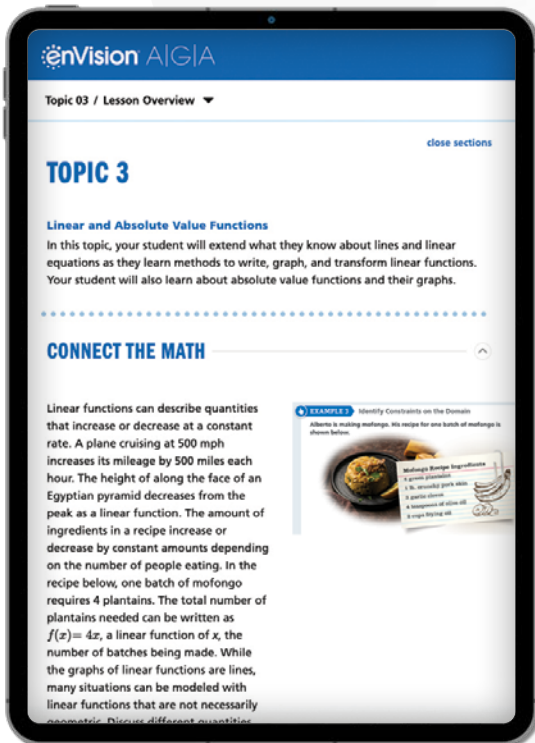
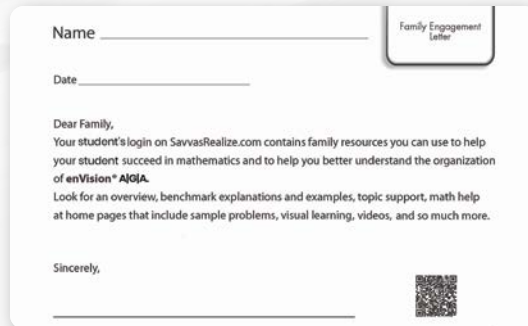


# It Takes a Village

Students only grow stronger with an empowered collaborative community to support their learning. Family Engagement materials provide teachers with easy-to-share tools that inform students' support networks.

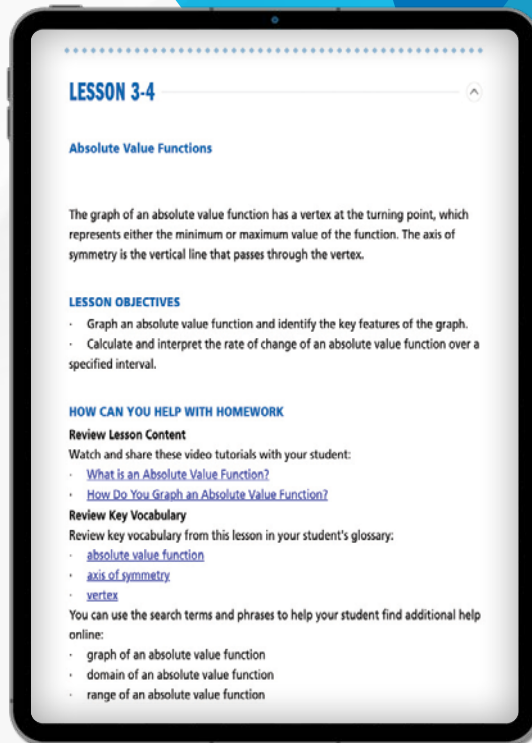
## Family Engagement Letter

Families are provided with an overview of the Family Engagement resources available on SavvasRealize.com.



## Topic Support

The Topic Overview gives families a preview of upcoming content with visuals to support understanding.

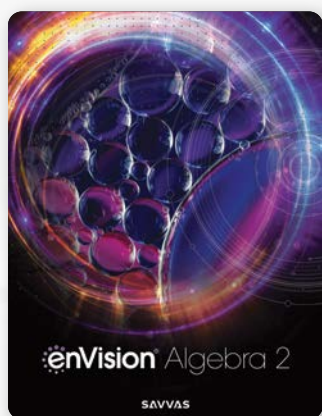


## Lesson-Level Support

Families are provided with video tutorials and vocabulary review that support math skills and content standards.

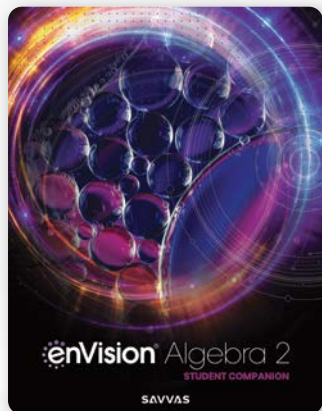
# Comprehensive Resources

Teach using multiple modalities and tiers. All components offer comprehensive support and prepare students for success. You don't have to look anywhere else!



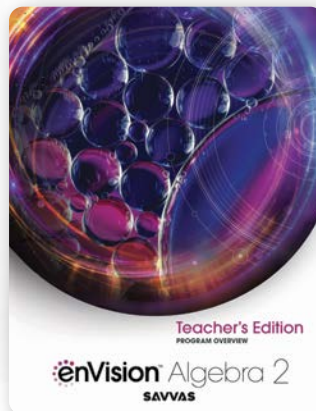
## Student Edition

includes all instructional content. Available digitally with the Student Companion at point of use through the Interactive Student Edition: Realize Reader.



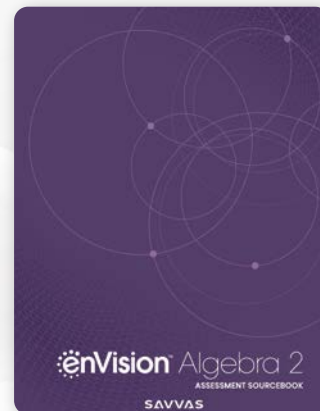
## Student Companion

two-color, consumable student worktext increases in-class engagement as students explain their thinking, solve problems, and make it their own.



## Teacher's Edition Program Overview

is a user guide and professional learning resource in one! Explore pacing, lessons, differentiated instruction, components, and program implementation guidance.

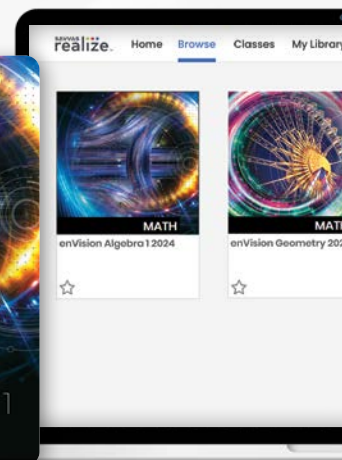
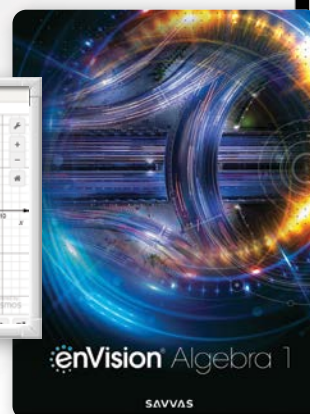
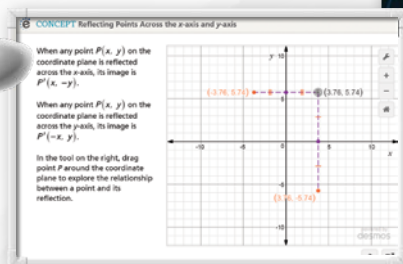
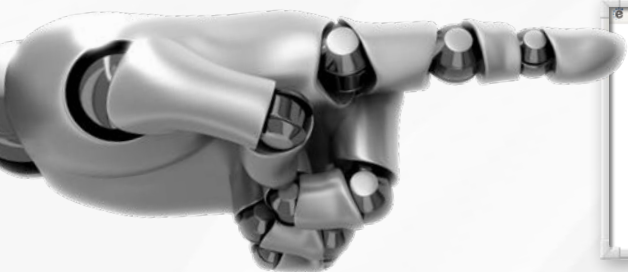


## Assessment Sourcebook

includes an Assessment Guide, Readiness Test Masters, Topic Assessment Masters, Topic Performance Task Masters, Lesson Quizzes, Cumulative Assessment Masters, and Progress-Monitoring Assessment Masters.

## Teacher's Edition

Topics and lessons include all support for teaching the program in print or digitally.



**Savvas Realize™ Learning Management System** offers a full suite of personalized teaching and learning tools to help students master content skills and standards.

**Robust Math Tools Powered by Desmos™ Calculator** include a graphing calculator, scientific calculator, and geometry tools available online and offline.

**Author Professional Development Videos** provide practical tips on implementing the program in a high school math classroom.

**Classroom Videos** show a classroom in action. Interviews with the teacher cover planning and reflection.

**Skills Review & Practice** Skills-based scaffolded instruction can be used as intervention, practice, and/or review of critical prerequisite concepts and skills. Over 300+ new assets!

**Mathematical Modeling in 3 Acts** videos accompany Mathematical Modeling in 3 Acts lessons.

**enVision® STEM Projects** include videos and blackline masters.

**Interactive Digital Lessons** are easily projected to bring concepts to life, available online and offline.

**Additional Examples** help students in need of more instruction.

**Enrichment Examples** extend the learning and enhance student understanding in Algebra 2.

**Family Engagement** Easily-accessible resources provide families with Topic and lesson support, including video tutorials and key vocabulary review.

**Ready-to-Go, Easily Customizable and Auto-Scored MathXL® for School Assignments** support daily practice, mixed review, remediation, additional practice, and enrichment.

**Ready-Made Editable Presentation Slides** for every lesson make presenting in class quick and easy.

**Savvy Adaptive Practice**

- Personalized practice in real-time, focusing on key concepts in each lesson.
- A brand new, transparent engine, informing students when and why they are receiving specific practice items or instructional support resources.
- Students dial back into prerequisite concepts or accelerate forward as they practice.
- Automatically adjusts to student performance and intervenes with instructional support as needed.

**Virtual Nerd® Tutorial Videos** act as a 24/7 personal tutor with closed captioning in Spanish.

**Editable Teacher Resource Masters** for vocabulary support, remediation, additional practice, enrichment, graphing calculator activities, assessments, and more!

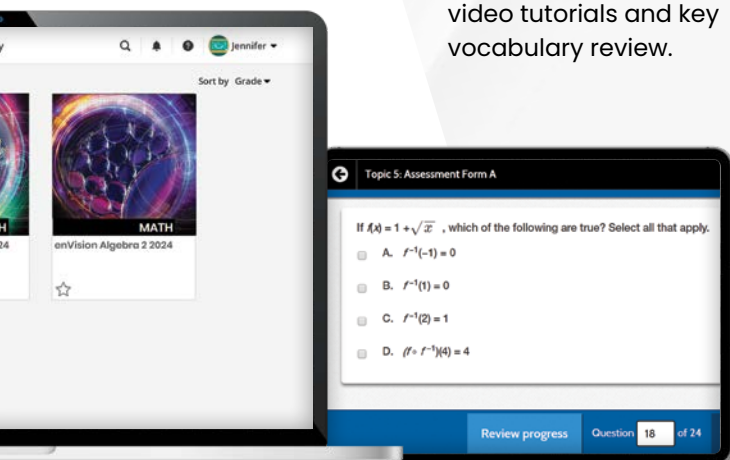
**Ready-Made, Auto-Scored Assessments** provide auto-assigned remediation.

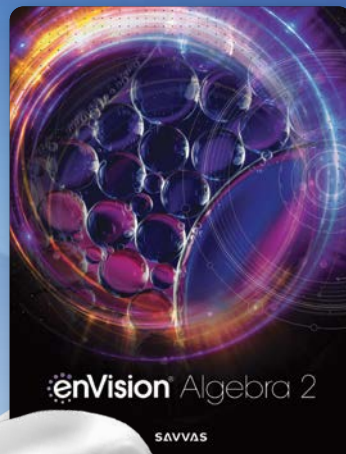
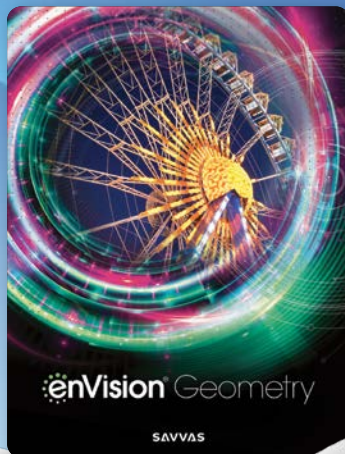
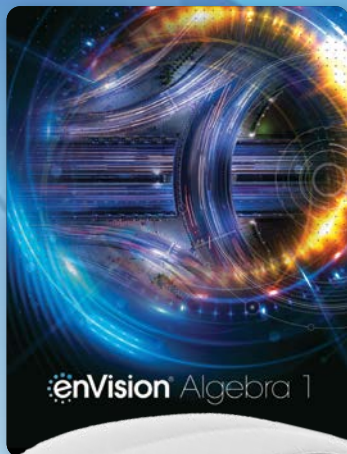
**Technology-Enhanced Items** throughout the program prepare students for standardized testing.

**Wealth of Reporting Options** include Scores, Progress, and Usage.

**Answers and Solutions** software application provides answers and solutions to textbook problems.

**ExamView®** test generator includes test banks with thousands of additional questions.





# enVision<sup>®</sup> Mathematics

Kids See the Math. Teachers See Results.

**Take an Interactive Tour!**

[Savvas.com/enVisionMathematics](https://Savvas.com/enVisionMathematics)

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