U46

ACADEMIC SUCCESS FOR ALL

School District U-46

High School Mathematics Resource Adoption for 2025-2026

Board of Education Presentation

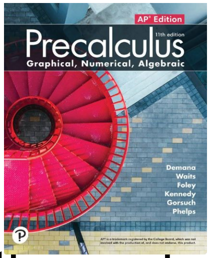
Amy Ingente, Math Coordinator

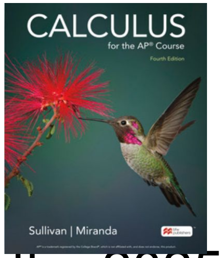
February 24, 2025

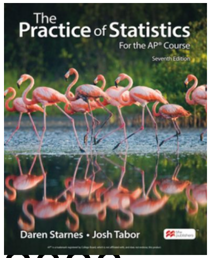
Purpose

Propose the adoption of curricular resources to support instruction in:

- Algebra 1
- Geometry
- Algebra 2
- Precalculus
- AP Calculus
- AP Statistics







Twilight the Finite Math course at the end of the 2025-2026 school year.

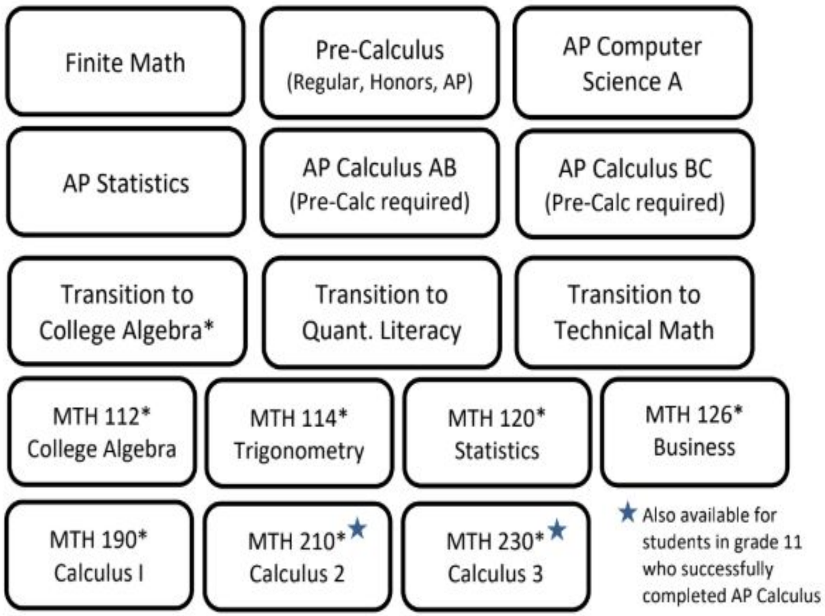
Alignment to Strategic Plan

Rationale: Twilight Finite Math

Finite math is only running at two high schools.

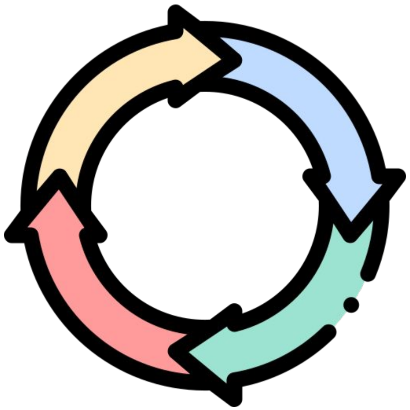
Increased number of course offerings after completing Algebra 2.

Recommendation:
Twilight Finite Math at the end of the 2025-2026 school year.



We will continue to examine our current course offerings.

Rationale: Resource Adoption



Previous resource adoption was in 2018.

Reached the end of the curriculum and contract cycle.

Evaluation of our current resources, as well as additional instructional materials to determine the best resource to adopt moving forward.

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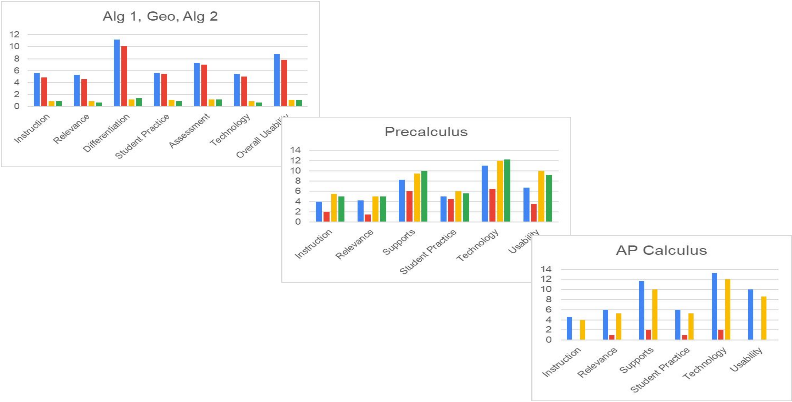
Process

Potential standards-aligned resources were provided to all high schools at the start of the 2024 school year.

Physical copies of the teacher and student materials, as well as access to the online platforms.

All high school teachers were invited to evaluate the materials regarding:

- Instructional Accessibility
- Cultural Relevance
- Differentiation
- Assessment
- Technology
- Alignment to U-46 Rising



Curriculum Frameworks

Curriculum Frameworks were revised, including Stage 3, to support the resource implementation.

Course: Algebra 1	
Unit Title: Solving Equations and Inequalities	Length of Unit: 18 days
Unit Summary: Topic 1 focuses on extending students' understanding of writing and solving equations and inequalities to include equations and inequalities that require multiple steps to solve, as well as those that have variables on both sides of the equation or inequality.	

Stage 1- Desired Results

STANDARDS - HSN.Q.A.1. - HSN.Q.A.2 - HSN.Q.A.3 - HSN.RN.B.3 - HSA.REI.A.1 - HSA.REI.B.3 - HSA.CED.A.4 - HSA.CED.A.1. - HSA.CED.A.3 WIDA STANDARDS ELS-MA.9-12 Explain Interpretive Explain Expressive Argue Interpretive Argue Expressive	**Transfer Goal**	
	Students will be able to independently use their learning to: - Solve real-world problems by creating and manipulating equations and inequalities - Justify their problem-solving steps using mathematical reasoning - Apply appropriate units and levels of accuracy in their solutions	
	Meaning	
	ENDURING UNDERSTANDINGS Students will understand that: - Equations and inequalities can be used to represent and solve real-world situations - The properties of equality and inequality allow for systematic problem-solving - Units and accuracy are crucial in interpreting and reporting solutions	ESSENTIAL QUESTIONS - How can we use equations and inequalities to model real-world scenarios? - Why is it important to justify each step when solving an equation or inequality? - How do units and levels of accuracy affect our interpretation of solutions?
	Acquisition	
	Students will know: - The properties of equality and inequality - The difference between rational and irrational numbers - Strategies for solving linear equations and inequalities - How to rearrange formulas to isolate specific variables	*Students will be skilled at...* - Create equations and inequalities to represent real-world problems - Solve linear equations and inequalities in one variable - Rearrange formulas to highlight quantities of interest - Choose appropriate units and levels of accuracy for problem-solving

Learning Targets

We are learning to...
- Explain why the sum or product of two rational numbers is rational. (N.RN.3)
- Explain why the sum of a rational number and an irrational number is irrational (N.RN.3)
- Explain why the product of a nonzero rational number and an irrational number is irrational. (N.RN.3)
- Explain and justify each step for solving multi-step linear equations (REI.1)
- Construct a viable argument to justify the solution method (REI.1)
- Solve linear equations in one variable, including those with coefficients represented by letters (REI.3)
- Solve linear inequalities in one variable, including those with coefficients represented by letters (REI.3)
- Create equations and inequalities that can be used to solve contextual problems. (CED.1)

Success Criteria

I can...
- Classify real numbers as rational or irrational N.RN.3
- Find the sum of 2 rational numbers and the sum of a rational and irrational number N.RN.3
- Find the product of 2 rational numbers and the product of a rational and irrational number N.RN.3
- Explain why sums and products are rational or irrational N.RN.3
- Explain and justify solution methods A.REI.1
- Solve complex linear equations (combine, distribute, variable on both sides, rational) A.REI.3
- Solve complex linear equations with variables as coefficients A.REI.3

Example Language Target

****Language targets should be developed based on your class language profile and aligned to the learning targets being taught.**** Language Targets Support

Example Learning Target & Success Criteria	Example Language Target & Success Criteria
Explain and justify each step for solving multi-step linear equations (REI.1) ☐ I can explain the steps to solving an equation ☐ I can justify why the solution steps work	I can write an explanation for each step in solving an equation, using mathematical language such as: "distribute, reciprocal, multiply, divide, add, subtract, etc." with the support of sentence frames and graphic organizers. ☐ I can use mathematical language to write the steps I used to solve an equation. ☐ I can use mathematical language to write an explanation of why the steps work

Academic Vocabulary

Critical Terms:

Element of a set *Real numbers* *Set* *Subset* *Identity* *Formula* *Literal equation* *Compound inequality*	*Elemento de un conjunto* *Números reales* *Conjunto* *Subconjunto* *Identidad* *Fórmula* *Ecuación literal* *Desigualdad compuesta*

Stage 3- Learning Plan

Learning Progressions **Anchor Text:** *enVision Algebra 1*	

Lesson	Days
1-1 Operations on Real Numbers	2
1-2 Solving Linear Equations	2
1-3 Solving Equations with Variables on Both Sides	2
1-4 Literal Equations and Formulas	2
1-5 Solving Inequalities in One Variable	2
Tasks: Collecting Cans	2
1-6 Compound Inequalities	2
1-7 Absolute Value Equations and Inequalities	2

	For Multilingual (ML) classrooms: At the end of the unit, students will participate in a bridge to Spanish if the course target language is English and to English if the course target language is Spanish facilitated by the teacher.
Suggested Teaming Tasks	enVision 3 Act Task: Collecting Cans Additional Collaborative Strategies
Scaffolding	Various resources are available in the enVision anchor text for every lesson, including: • Reteach to Build Understanding • Mathematical Literacy & Vocabulary • Additional Practice • Virtual Nerd video tutorials Prioritized focus lessons for students include 1-1 through 1-3 and 1-5
EL Support	Essential factors that positively support English Learners during mathematical instruction are: 1. structured quality interactions with peers as a vehicle for learning, thought, and development, 2. abundant opportunities to connect new ideas with their own experiences, and 3. engagement in sustained talk that develops mathematical ideas.

Recommended Resources

Algebra 1, Geometry, Algebra 2
Academy Integrated Math

enVision®
by Savvas

English and Spanish Resource

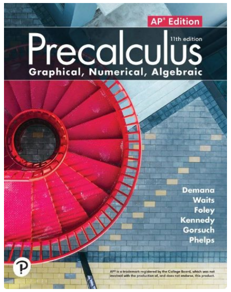
Teacher Edition

Student Hardbound
(classroom sets +)

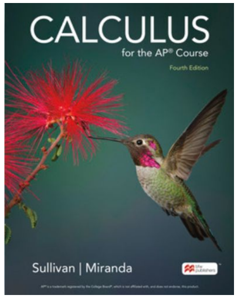
Student Companion
Consumable Workbook
(one per student)

Online Platform
(textbook available offline)

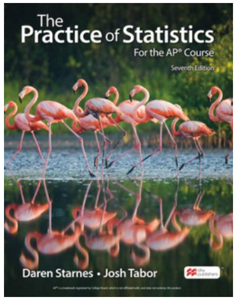
Recommended Resources



Precalculus: Graphical, Numerical, Algebraic, 11th edition, AP Edition from Pearson.



Calculus for the AP Course, 4th edition, from BFW Publishers



The Practice of Statistics for the AP Course, 7th edition, from BFW Publishers.

Recommendations for Implementation

Adoption of resources for the 2025-2026 school year.

Professional learning beginning in Spring 2025:

- Expected implementation of frameworks, resources, and common assessments;
- Initial resource review;
- Administrator leadership training;
- Implementation essentials; and,
- Virtual sessions during the school year supporting problem solving and mathematical discussions within each course.

enVision - 15 PL days in Year 1, 5 PL days in Years 2 - 6

Math Electives - program support as needed

Cost

Item	Total Cost
Savvas: *enVision AGA* and *Integrated*	$2,304,505.80
Pearson: *Precalculus: Graphical, Numerical, Algebraic, AP Edition*	$313,068.75
BFW: *Calculus for the AP Course*	$78,336.31
BFW: *The Practice of Statistics for the AP Course*	$47,977.13
Professional Learning with enVision	$129,500.00
TOTAL	**$2,873,387.99**

The estimated textbook cost per pupil, per year, is $34.00.

Evaluation of Change

Data will be reviewed from various indicators, including:

- Platform usage
- District Common Assessments
- PSAT and ACT
- i-Ready's universal screener

Through the implementation of the updated resources, curriculum frameworks, and assessments, we will standardize our expectations for student instruction across the system, provide all students with rigorous learning experiences, and improve outcomes for all students.

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