K-12 Mathematics Standards
Standards to Students

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North Carolina Department of PUBLIC INSTRUCTION

Desired Outcomes

See how **standards** translate into coherent instruction and **student experience**.

Recognize current **partnerships** and **momentum in mathematics**.

Understand where North Carolina is in the **math standards revision process**.

ACHIEVING EDUCATIONAL
EXCELLENCE

Prepare Each Student for Their Next Phase in Life

PILLAR 1

> "The future of mathematics in North Carolina is shaped by the standards we design, and how they come to life for students in classrooms across the state."

Focus Area 2 | Elevate Teaching and Learning

ACTION 3

Design a **Pre-K–12 Teaching and Learning Framework** with PSUs to set shared expectations for standards-aligned instruction, integrated supports and access **high-quality learning** for all students.

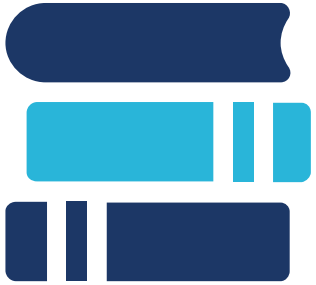
Focus Area 1 | Ignite Early Learning

ACTION 2

Build on the implementation of North Carolina's Science of Reading initiative by continuing to expand high-impact literacy practices and **launch a parallel focus on foundational mathematics** to support early learning.

Standards

K-12 Mathematics
Standard Course
of Study



Curriculum

Texts
Lessons
Activities & Tasks
Classroom Assessments

A Clear Direction for Mathematics in North Carolina

Aligning Standards, Instruction, and Student Experience

OUR WHY

Standards → Students

TRANSFORMING EXPECTATIONS INTO EXPERIENCES

- Mathematical Reasoning
- High Expectations for All
- Alignment to Workforce
- Meaningful Math Experiences
- Applied Learning & Problem Solving
- Data Literacy

OUR APPROACH

Guiding Principles

FOR MATHEMATICS IN NORTH CAROLINA

01. Conceptual understanding, procedural fluency, and application

02. Vertical coherence across grade levels

03. Rigor with access to advanced coursework

04. Relevance to students' futures

05. High expectations that build student confidence in mathematics

Building on Momentum in Mathematics

National and State Partnerships

National Perspective

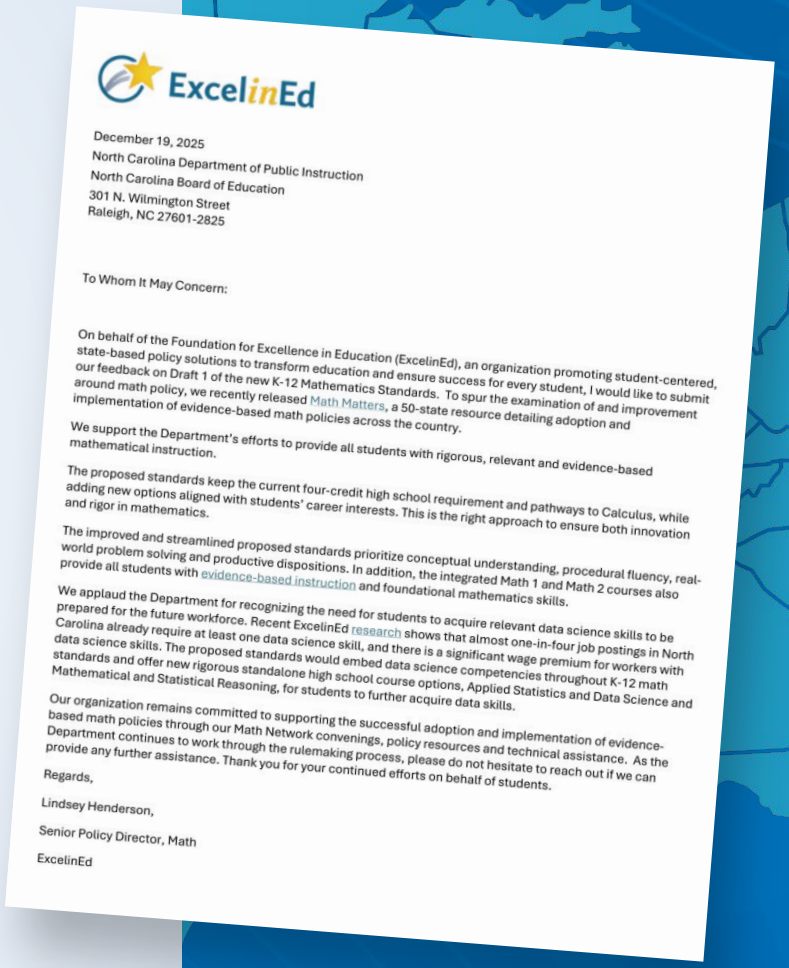
Reinforcing Our Direction

What We Heard from ExcelinEd

- Affirmation of the **overall direction and structure** of North Carolina's draft math standards
- Reinforcement of key design principles:
  - Clear expectations for instruction
  - Evidence-based mathematics practices
  - Usability and clarity for educators

Why This Matters

- Confirms **North Carolina's approach reflects national best practices**
- Reinforces that the state is building on momentum, not starting over



ExcelinEd

December 19, 2025
North Carolina Department of Public Instruction
North Carolina Board of Education
301 N. Wilmington Street
Raleigh, NC 27601-2825

To Whom It May Concern:

On behalf of the Foundation for Excellence in Education (ExcelinEd), an organization promoting student-centered, state-based policy solutions to transform education and ensure success for every student, I would like to submit our feedback on Draft 1 of the new K-12 Mathematics Standards. To spur the examination of and improvement around math policy, we recently released Math Matters, a 50-state resource detailing adoption and implementation of evidence-based math policies across the country.

We support the Department's efforts to provide all students with rigorous, relevant and evidence-based mathematical instruction.

The proposed standards keep the current four-credit high school requirement and pathways to Calculus, while adding new options aligned with students' career interests. This is the right approach to ensure both innovation and rigor in mathematics.

The improved and streamlined proposed standards prioritize conceptual understanding, procedural fluency, real-world problem solving and productive dispositions. In addition, the integrated Math 1 and Math 2 courses also provide all students with evidence-based instruction and foundational mathematics skills.

We applaud the Department for recognizing the need for students to acquire relevant data science skills to be prepared for the future workforce. Recent ExcelinEd research shows that almost one-in-four job postings in North Carolina already require at least one data science skill, and there is a significant wage premium for workers with data science skills. The proposed standards would embed data science competencies throughout K-12 math standards and offer new rigorous standalone high school course options, Applied Statistics and Data Science and Mathematical and Statistical Reasoning, for students to further acquire data skills.

Our organization remains committed to supporting the successful adoption and implementation of evidence-based math policies through our Math Network convenings, policy resources and technical assistance. As the Department continues to work through the rulemaking process, please do not hesitate to reach out if we can provide any further assistance. Thank you for your continued efforts on behalf of students.

Regards,

Lindsey Henderson,

Senior Policy Director, Math

ExcelinEd

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Statewide Perspective

Reinforcing Our Direction

What We Heard at the Best NC Convening

- Broad agreement on the importance of **high-quality mathematics instruction**
- Shared focus on:
  - Rigor alongside access
  - Preparing students for college, career, and life
  - Strengthening instructional quality as access expands

Why This Matters

- Reflects alignment across education, business, and policy leaders in North Carolina
- Signals that the math direction is **shared and supported statewide**

Statewide Perspective

Reinforcing Our Direction

Launch Years Initiative

- Joint task force with NCDPI, NC Community College System, and UNC System
- Shared focus on:
  - Math pathways aligned to student post secondary interests
  - Improving professional development for teachers
  - Improving math outcomes for all students

Why This Matters

- Alignment and clear connections between K-12 instruction, workforce development, and post secondary options
- Signals that the math direction is **shared and supported statewide**

THE UNIVERSITY OF NORTH CAROLINA SYSTEM

North Carolina Department of PUBLIC INSTRUCTION

NC COMMUNITY COLLEGES
CREATING SUCCESS

Statewide Perspective

Reinforcing Our Direction

Additional collaborations

- North Carolina Collaborative for Mathematics Learning (NC^2ML)
- Friday Institute at N.C. State
- North Carolina Council of Teachers of Mathematics
- NC Center for the Advancement of Teaching

Why This Matters

- Reflects alignment across educational institutions and organizations to support students in mathematics
- Signals that the math direction is **shared and supported statewide**

Shared Priorities

Shaping the Direction of Mathematics in North Carolina

- Strengthening **evidence-based** ***mathematics instruction***
- Supporting the use of **high-quality** ***instructional materials***
- Investing in **professional learning** to ***support teachers***
- Rigorous ***math pathways*** aligned to student post secondary interests
- Preparing for ***implementation*** through phased, transparent approaches
- Ensuring thoughtful ***screening and assessment*** practices

From Mathematics Standards to Students

Designing Strong Instruction and Implementation

Why Revisions?
Why Now?

- Need for clearer, more concise standards
- Stronger vertical alignment
- Aligning to workforce needs
- More explicit connections to real-world application

Data Review Committee Recommendations for Draft 1

- Implement high school **math pathways** to connect student postsecondary aspirations to their math courses
- **Narrow the scope of standards** to distinguish essential knowledge all graduates need from additional concepts connected to postsecondary interest
- Maintain **4 credit requirement** with NC Math 1 and NC Math 2
- Increase the role of **statistics and data science**
- Adopt **AP Precalculus framework** to replace current NC Precalculus standards and significantly revise NC Math 3 and NC Math 4
- Ensure parity between **procedural fluency, conceptual understanding and application** across all grades and courses

Data Review Committee Recommendations for Draft 2

- Emphasis on **clear** and **concise** standards
- Ensure **consistent** use of **language** and **terminology**
- Refine **vertical progression** and **alignment**, especially between 5th-6th and 8th-Math 1
- Maintain a key role for the **Standards for Mathematical Practices**
- Refine the **coherence** and **alignment** of standards within and across **high school** courses
- Clarify the **depth** of **expectations** for **elementary** standards

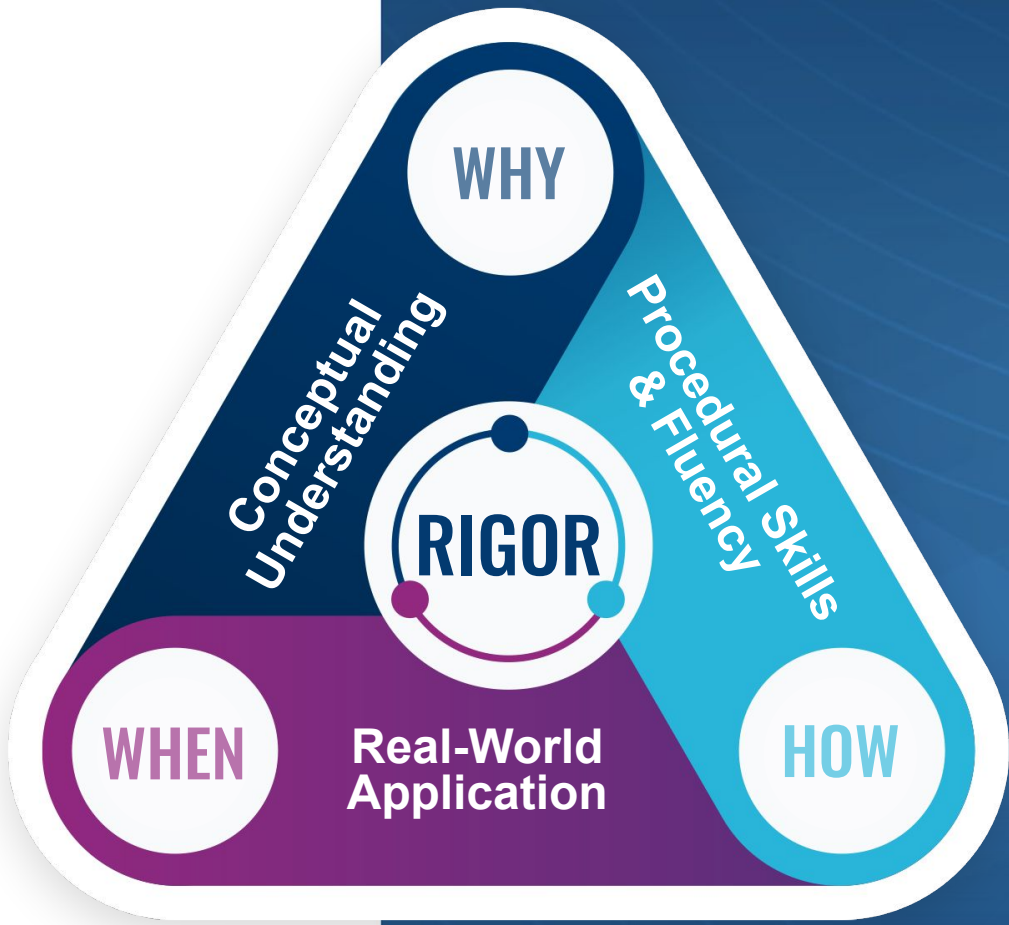
How the Draft Standards Respond

- Streamlined language and clearer expectations
- Improved progression across grade levels
- Balanced emphasis on:

Conceptual Understanding

Procedural Fluency

Real-World Application



Student Experience

High School Math Pathways and Access

- **Emphasize applied learning with multiple pathways** aligned to future-ready student goals
- Transition to **AP Precalculus** framework
- Creation of two **new high school courses**
- Maintain the **4 credit requirement**

Current NC Student Experience

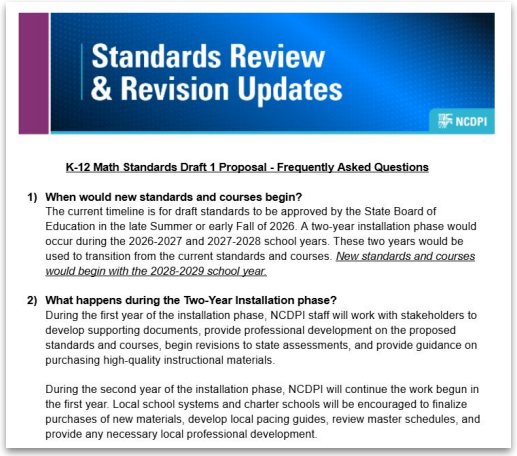
Focus	Future Ready/UNC System Institution Minimum Admission Requirements	Admission into a Community College or Entering the Workforce Directly after Graduation
Required for all students*	NC Math 1	NC Math 1
	NC Math 2	NC Math 2
	NC Math 3	NC Math 3
Options Available For 4th Math credit	• NC Math 4 • Precalculus/AP Precalculus • AP Calculus • AP Statistics • Discrete Mathematics for Computer Science • Approved IB courses • Approved dual enrollment course	• AP/IB Computer Science • NCDPI - CTE course or course pairing
Example Careers	All post-secondary careers and majors requiring university level admission	• Credentials and certifications for trades, vocations • Immediate workforce entry • Community college

Course Options

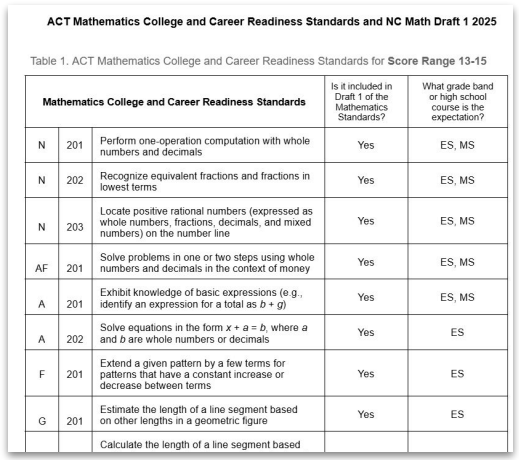
- Consistent Graduation Expectations
- Essential Skills for Graduates
- Future-Ready Math Pathways

	Future Ready/UNC System Institution Minimum Admission Requirements			
Student Career Interests	Biological & Physical Sciences Engineering Mathematics Scientist Financial Management	Database Administrator Business Marketing Cybersecurity Social Sciences	Social Sciences Fine Arts Humanities Performing Arts Criminal Justice	**Admission to Community College or Entering the Workforce Directly After Graduation**
Required for All Students	NC Math 1	NC Math 1	NC Math 1	NC Math 1
	NC Math 2	NC Math 2	NC Math 2	NC Math 2
Students Must Earn TWO Credits from These Courses	Mathematical & Statistical Modeling Applied Statistics & Data Science Applied Logic and Reasoning (*Formerly Discrete Math*)	AP Precalculus AP Statistics AP Calculus* Approved IB/Dual Enrollment course*		**Students Must Earn ONE Credit from These Courses** Mathematical & Statistical Modeling Applied Statistics & Data Science Applied Logic and Reasoning *AP/IB Computer Science*** **AND** ONE CTE Course or Course Pairing
Example Pairings	AP Precalculus AP Calculus* **OR** Mathematical & Statistical Modeling AP Precalculus	Applied Statistics & Data Science AP Statistics **OR** Mathematical & Statistical Modeling Applied Logic and Reasoning	Mathematical & Statistical Modeling Applied Logic and Reasoning **OR** Applied Statistics & Data Science Applied Logic and Reasoning	

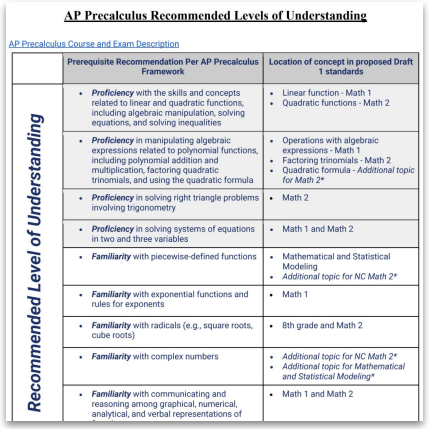
Draft 1 Resources



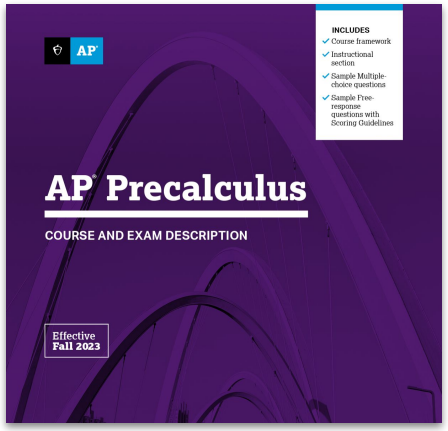
K-12 Math Standards FAQ



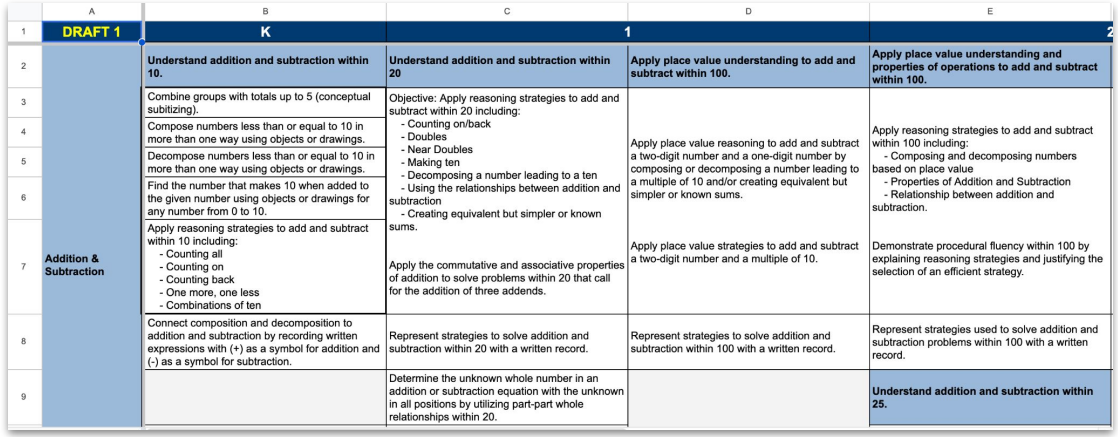
ACT Standards Crosswalk



AP Precalculus Expected Levels of Understanding



AP Precalculus Course and Exam Description



	A	B	C	D	E
1	DRAFT 1	K	1		2
2	Addition & Subtraction	Understand addition and subtraction within 10.	Understand addition and subtraction within 20	Apply place value understanding to add and subtract within 100.	Apply place value understanding and properties of operations to add and subtract within 100.
3		Combine groups with totals up to 5 (conceptual subitizing).	Objective: Apply reasoning strategies to add and subtract within 20 including: - Counting on/back - Doubles - Near Doubles - Making ten - Decomposing a number leading to a ten - Using the relationships between addition and subtraction - Creating equivalent but simpler or known sums. Apply the commutative and associative properties of addition to solve problems within 20 that call for the addition of three addends.	Apply place value reasoning to add and subtract a two-digit number and a one-digit number by composing or decomposing a number leading to a multiple of 10 and/or creating equivalent but simpler or known sums. Apply place value strategies to add and subtract a two-digit number and a multiple of 10.	Apply reasoning strategies to add and subtract within 100 including: - Composing and decomposing numbers based on place value - Properties of Addition and Subtraction - Relationship between addition and subtraction. Demonstrate procedural fluency within 100 by explaining reasoning strategies and justifying the selection of an efficient strategy.
4		Compose numbers less than or equal to 10 in more than one way using objects or drawings.			
5		Decompose numbers less than or equal to 10 in more than one way using objects or drawings.			
6		Find the number that makes 10 when added to the given number using objects or drawings for any number from 0 to 10.			
7		Apply reasoning strategies to add and subtract within 10 including: - Counting all - Counting on - Counting back - One more, one less - Combinations of ten			
8		Connect composition and decomposition to addition and subtraction by recording written expressions with (+) as a symbol for addition and (-) as a symbol for subtraction.	Represent strategies to solve addition and subtraction within 20 with a written record.	Represent strategies to solve addition and subtraction within 100 with a written record.	Represent strategies used to solve addition and subtraction problems within 100 with a written record.
9			Determine the unknown whole number in an addition or subtraction equation with the unknown in all positions by utilizing part-part whole relationships within 20.		Understand addition and subtraction within 25.

Vertical Progressions for K-5, 6-8, and Math 1 and Math 2

Draft 2

Preparations

Stakeholder Review Process

- **Meeting with all 8 regions** by mid-April
- Anticipate **release date of April 15th, 2026** with a 30 day window to provide feedback
- **Standard-by-standard feedback for PSUs** and option for standard-by-standard or general feedback for public

New Resources with Draft 2

- **Linking** Draft 1 Feedback to Draft 2 changes
- **Vertical Progressions** from NC Math 2 to upper level courses
- **Indicators** to help model intended outcomes for certain standards

Math Standards Revision Timeline

2026-27 + 2027-28
School Years *(Tentative)*

Installation Phase

Communication
- PSU leadership
- Educators
- Parents
- Other Stakeholders

Professional Learning
- Regional PD
- Virtual

Support Documents
- Unpacking
- Glossary
- Crosswalk
- Parent Guides

Data Collection
- Needs assessment
- Quality Assurance Roundtable

2028-29
School Year *(Tentative)*

Implementation Phase

Communication
- PSU leadership
- Educators
- Parents
- Other Stakeholders

Professional Learning
- Regional PD
- Virtual

Support Documents
- Based on data from the field

Data Collection
- Needs assessment
- Quality Assurance Roundtable

State assessments aligned to the new standards

Summary

Consistent Graduation Expectations

Maintains **the 4 high school math credit requirement for graduation.**

- Continue requiring NC Math 1 and NC Math 2 for all students
- Continue requiring two additional math courses aligned to student post-secondary interests

Essential Skills for Graduates

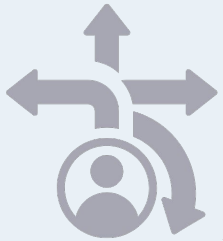
Addresses the *skills and concepts* all graduates need by revising NC Math 1 and NC Math 2

Future-Ready Math Pathways

Addresses the *increasing need for Statistics and Data Science* standards and provides high level math *courses aligned to student post-secondary interests* by:

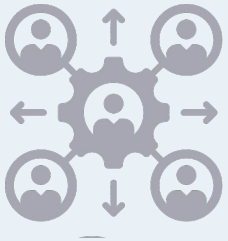
- Implementing high school math pathways
- Restructuring NC Math 3 and NC Math 4
- Revising Discrete Mathematics for Computer Science

North Carolina Mathematics Standards Revisions



Choice

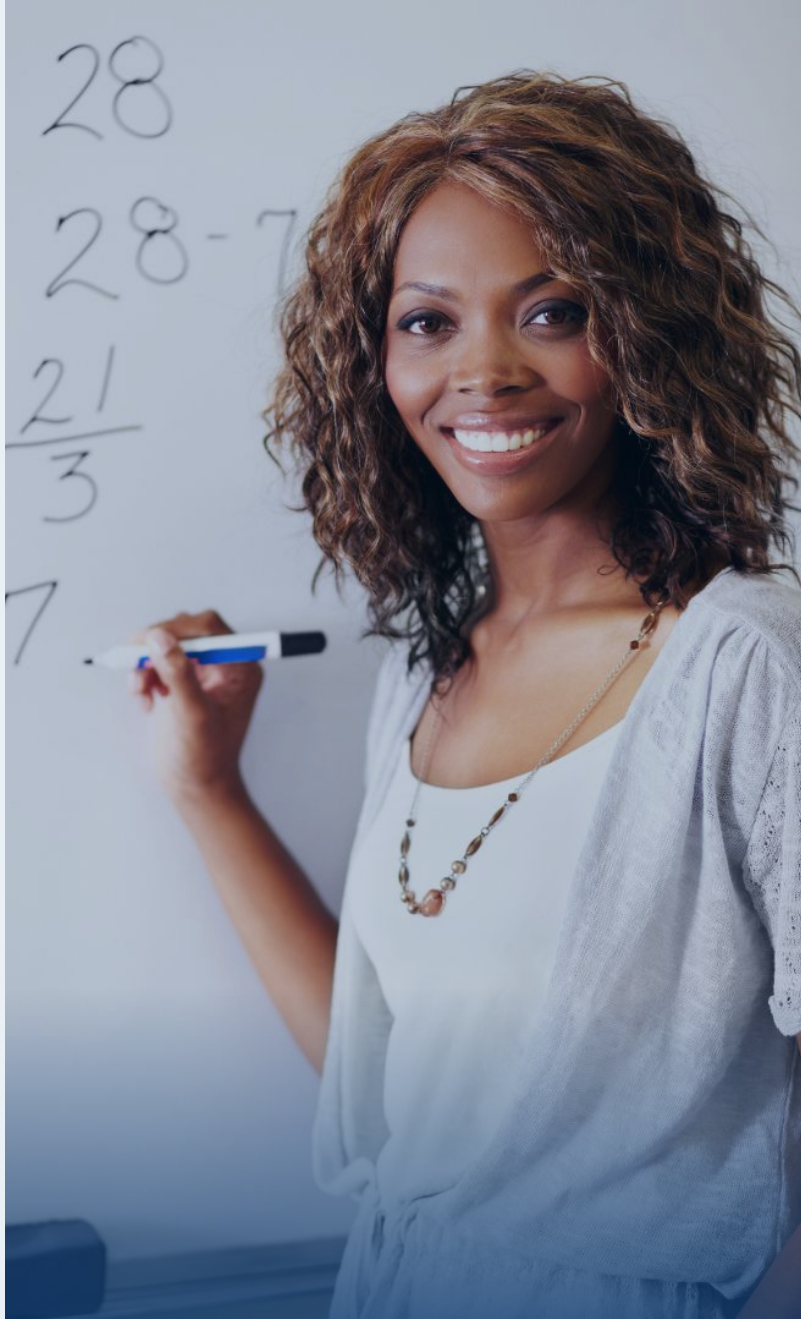
Coherence



Alignment

Clarity

Relevance



Questions?

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