

9-12 Math Standards

An overview of changes from 2011 - 2026

Purpose:

This overview is intended to highlight major conceptual shifts in content focus. It **is not** a comprehensive comparison of every standard. It is a tool to support understanding of priorities, coherence, and instructional implications within the 2026 Montana Mathematics Content Standards. For a full analysis, please review the files and historical documents provided on the [Math Revisions Website](#).

Definition of Terms Used Within This Document:

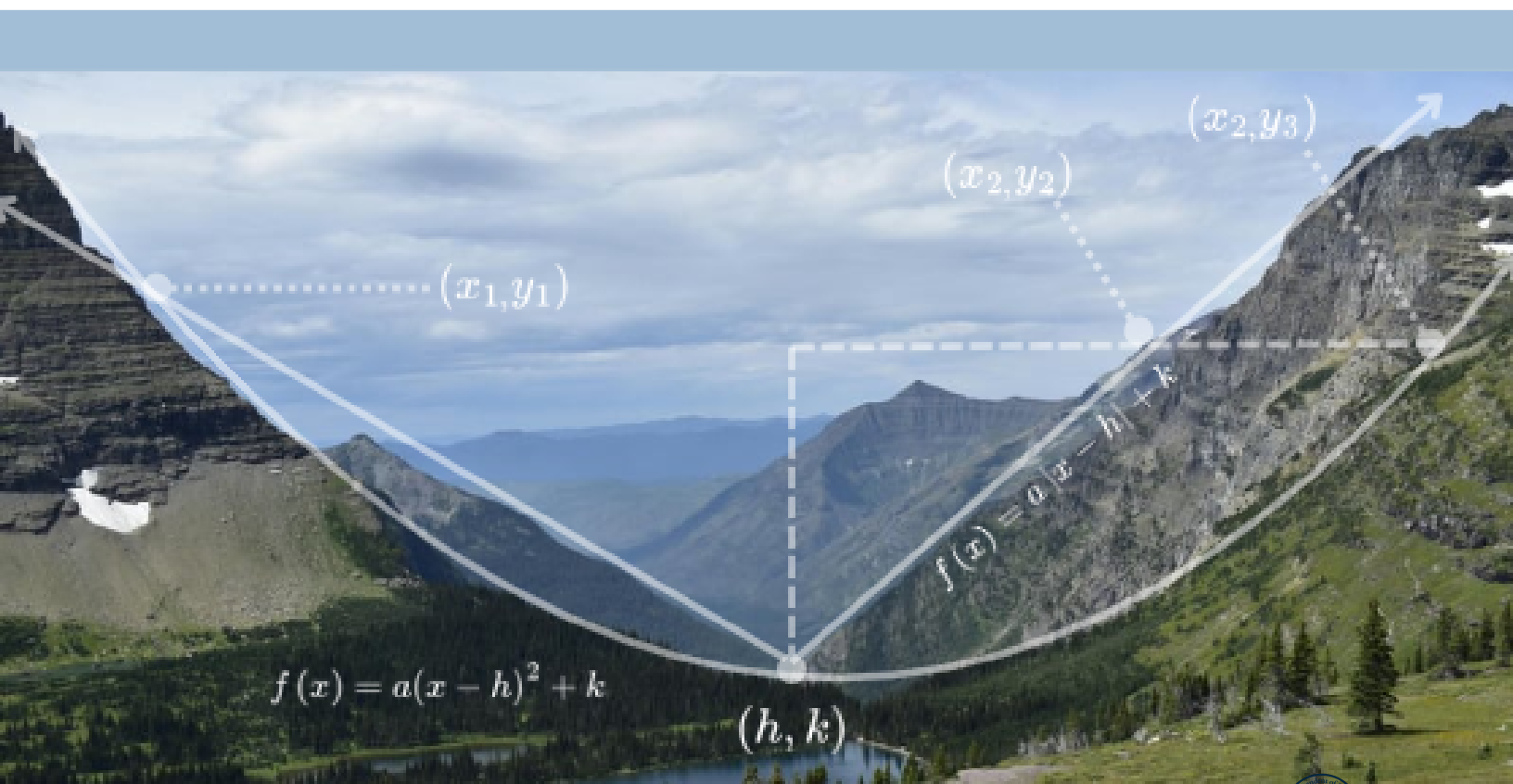
Concept: A broad mathematical idea, such as “systems of equations”, which many standards may address with specificity.

Standard: An expectation of learning for all students upon the completion of a K-12 mathematics program, designed to enable students to meet college and career readiness expectations no later than the end of High School (Administrative Rules of Montana 10.53.101)

Required Concepts: Topics **included** in the 2026 Montana Core/Plus Standards and expected within all Montana mathematics programs.

Elective Concepts: Topics **not included** in the 2026 standards that are recommended as enrichment or elective content within a student’s 9-12 mathematics experience.

★**New/Expanded:** Indicates a **new or expanded concept** in the 2026 Montana Standards.



What These Shifts Mean for Educators

1

Depth Over Breadth

Teachers can focus on essential concepts, increasing the likelihood that students develop deep understanding and sustained mathematical proficiency.

2

Streamlined Expectations for Clarity

This provides clearer targets for instruction and ensures all students build a mathematical foundation that is necessary for graduation and beyond.

3

Expanded Extension & Career Alignment Opportunities

Conceptual shifts and flexible pathways enable teachers and schools to design relevant and rigorous experiences that align to students' life goals.

4

Supporting All Strands of Mathematical Proficiency

Standards are designed to support conceptual understanding, procedural fluency, strategic competence, adaptive reasoning, & productive disposition.

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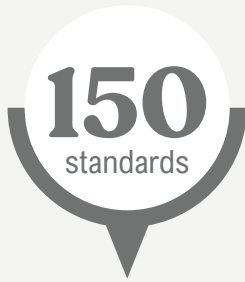
Integrated Mathematical Practices & Applications

Greater emphasis is placed on practices and conceptual areas like data literacy to prepare students to utilize math strategically in a rapidly evolving world.

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Conceptual Shifts: An Overview By the Numbers



Total number of math standards (150) expected of **all students** under the 2011 Montana Standards for graduation.



Number of core standards (50) **all students** are expected to meet to satisfy Montana's minimum graduation requirement in 2026 (Montana Core).



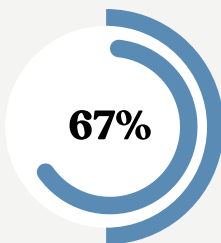
Number of standards (81) that **support college and career readiness** in 2026, including both core and extended expectations (Montana Core & Core Plus).



Four new data literacy standards (approximately 5%) reflect the growing importance of analyzing and interpreting data to prepare students as informed, career-ready, global citizens.



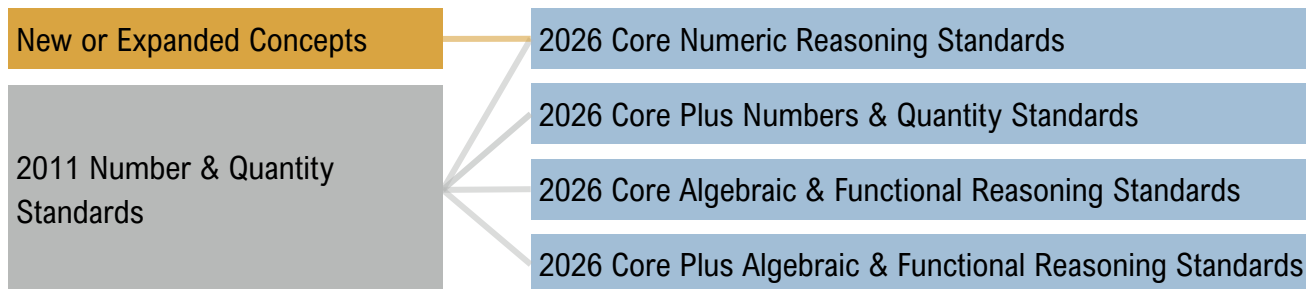
Of the concepts included in the 2026 standards, most (approximately 80%) were adapted from the 2011 standards, leading to prioritized continuity in what students learn.



The number of standards required for minimum graduation has been reduced (approximately 67%) by **clarifying and prioritizing essential learning** so students can develop deeper understanding of key concepts.

Conceptual Profile: Numbers & Quantity

CONCEPT MAP



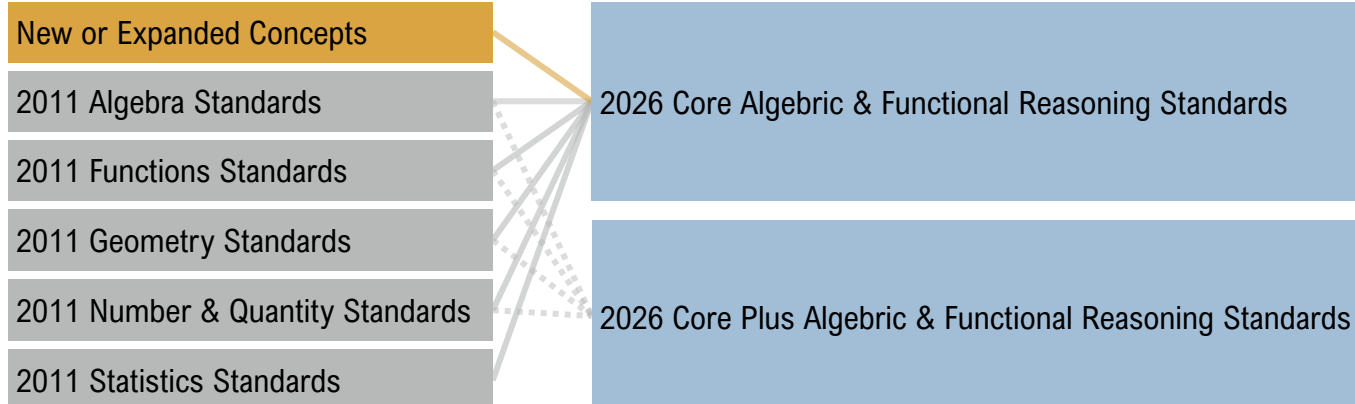
CONCEPTUAL BREAKDOWN

	Required Concepts	Elective Concepts
Numbers & Quantity	Required: Real Numbers <ul style="list-style-type: none"> Rational Exponents & Properties Number Systems ★ New/Expanded: Scientific Notation 	
	Required: Quantities <ul style="list-style-type: none"> Measurement Modeling 	
	Required: Complex Numbers <ul style="list-style-type: none"> Basic Operations & Solutions 	Elective: Complex Numbers <ul style="list-style-type: none"> Advanced Representations & Theory
		Elective: Matrices
		Elective: Vectors



Conceptual Profile: Algebra & Functions

CONCEPT MAP



CONCEPTUAL BREAKDOWN

Algebra & Functions

Required Concepts	Elective Concepts
<p>Required: Expressions</p> <ul style="list-style-type: none"> • Interpretation • Structure • Rewriting 	<p>Elective: Expressions</p> <ul style="list-style-type: none"> • Geometric series
<p>Required: Polynomials & Rationals</p> <ul style="list-style-type: none"> • Factored Form • Zeros • Graphing 	<p>Elective: Polynomials & Rationals</p> <ul style="list-style-type: none"> • Operations & Theorems
<p>Required: Equations</p> <ul style="list-style-type: none"> • Creating Equations and Inequalities • Applications to context • Systems of equations • Rearranging • ★ New/Expanded: Trigonometric Equations 	

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Algebra & Functions

Required Concepts

Required: Equations & Systems

- Quadratics
- Systems
- Graph Interpretation

Required: Interpreting Functions

- Linear, Quadratic, Polynomials, Trigonometric, Exponential & Logarithmic
- Interpretations
- Features
- Representations
- ★ New/Expanded: Multiple Representations
- ★ New/Expanded: Form Relationships

Required: Building Functions

- Writing
- Inverses
- Modeling
- Transformations

Required: Modeling

- Linear, Quadratic, Polynomials, Trigonometric, Exponential & Logarithmic

Required: Trig Functions

- Unit Circle
- Special Triangles

Elective Concepts

Elective: Equations & Systems

- Inequalities
- Advanced Methods (Matrices & Vectors)

Elective: Interpreting Functions

- Sequences
- Piecewise
- Rational Functions

Elective: Building Functions

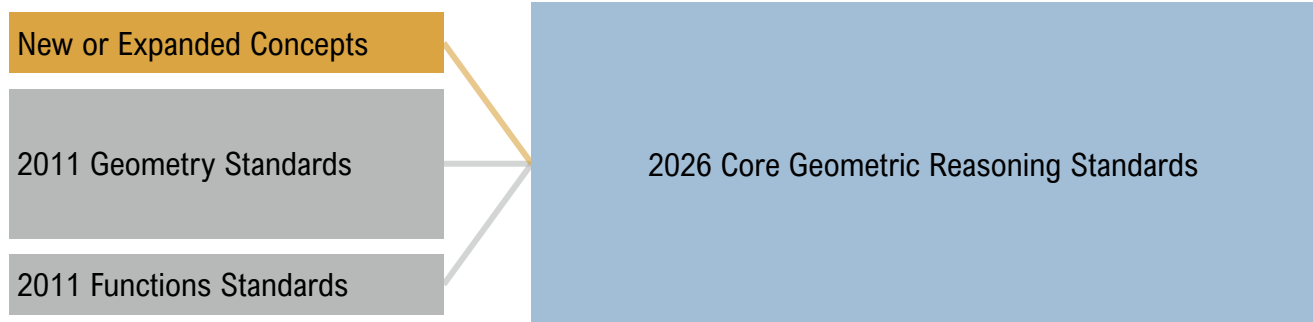
- Sequences
- Recursive Processes
- Compositions

Elective: Trig Functions

- Identities
- Inverses
- Advanced Relationships

Conceptual Profile: Geometric Reasoning

CONCEPT MAP



CONCEPTUAL BREAKDOWN

Geometric Reasoning

Required Concepts	Elective Concepts
Required: Congruence <ul style="list-style-type: none">• Transformations• Proofs• Constructions	Elective: Congruence <ul style="list-style-type: none">• Precise Definitions• Development of Definitions• Inscribed Constructions
Required: Similarity, Right Triangles, & Trig <ul style="list-style-type: none">• Proportional Reasoning• Right Triangles• Theorems & Proofs	Elective: Similarity, Right Triangles, & Trig <ul style="list-style-type: none">• Dilations• Specialized Trig Relationships
Required: Circles <ul style="list-style-type: none">• Angle Relationships & Proportionality• Measurement• Arcs & Sectors	Elective: Circles <ul style="list-style-type: none">• Constructions• Advanced Theorems

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Geometric Reasoning

Required Concepts

Required: Geometric Properties

- Proofs
- Coordinate Geometry
- Circles
- Algebraic Proof
- Lines and Measurement

Required: Geometric Measurement & Dimension

- Volume
- Problem Solving

Required: Geometric Modeling

- Shapes & Design
- ★ New/Expanded: Scale Factor Relationships

Elective Concepts

Elective: Geometric Properties

- Conics
- Advanced Coordinate Proofs

Elective: Geometric Measurement & Dimension

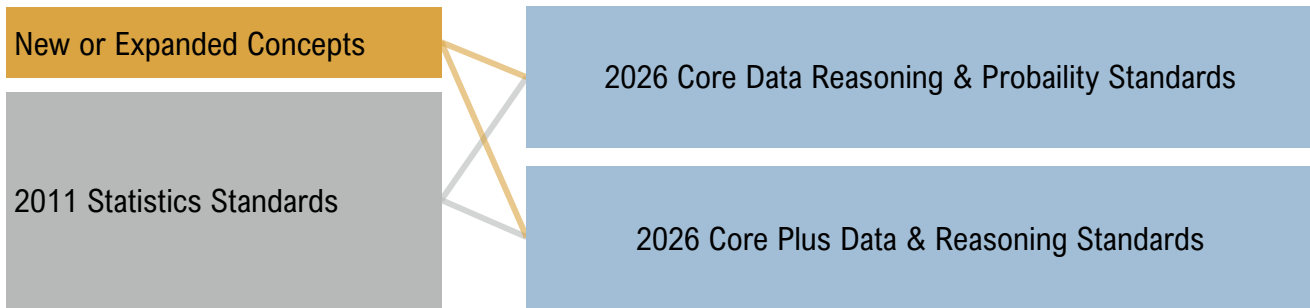
- Formula Derivation
- Cross Sections
- Cavalieri's Principle

Elective: Geometric Modeling

- Density Applications

Conceptual Profile: Data Reasoning & Probability

CONCEPT MAP



CONCEPTUAL BREAKDOWN

Data Reasoning & Probability

Required Concepts	Elective Concepts
<p>Required: Data Analysis</p> <ul style="list-style-type: none"> • Representation • Computation • Interpretation • Modeling • ★ New/Expanded: Use of Technology 	<p>Elective: Data Analysis</p> <ul style="list-style-type: none"> • Residual Fit Analysis
<p>Required: Statistical Inference</p> <ul style="list-style-type: none"> • ★ New/Expanded: Sampling <ul style="list-style-type: none"> ◦ ★ Sampling vs. Assignment ◦ ★ Distributions ◦ ★ Variability • Experiments • Conclusions • ★ New/Expanded: Group Mean Comparison 	
<p>Required: Probability</p> <ul style="list-style-type: none"> • Events & Sample Spaces • Conditional Reasoning • Independence 	<p>Elective: Probability</p> <ul style="list-style-type: none"> • Compound Event Rules • Combinatorics • Expected Value • Advanced Decision Modeling

