



**Georgia's K-12
Mathematics Standards
Curriculum Map**

2026 – 2027

PRECALCULUS

FCS PRECALCULUS CURRICULUM MAP

Georgia's Precalculus Mathematics Standards

Semester 1			Semester 2			
Unit 1	Unit 2	Unit 3	Unit 4	Unit 5	Unit 6	Unit 7
Modeling with Rational and Piecewise-Defined Functions	Modeling with Trigonometric Expressions and Functions	Applying Trigonometric Identities and Equations	Modeling with Conic Sections and Polar Equations	Modeling with Vector Quantities	Modeling with Sequences and Series	Culminating Capstone Unit
23 Days	30 Days	30 Days	28 Days	29 Days	20 Days	10 Days
<u>Unit Dates</u> 8/5/2026 – 9/4/2026	<u>Unit Dates</u> 9/8/2026 – 10/27/2026	<u>Unit Dates</u> 10/28/2026 - 12/16/2026	<u>Unit Dates</u> 1/5/2027 – 2/12/2027	<u>Unit Dates</u> 2/22/2027 - 4/2/2027	<u>Unit Dates</u> 4/12/2027 - 5/7/2027	<u>Unit Dates</u> 5/10/2027 - 5/21/2027
Learning Expectations PC.FGR.2.1 PC.FGR.2.2 PC.FGR.2.3 PC.FGR.2.4 PC.FGR.2.5 PC.FGR.2.6 PC.FGR.2.7 PC.FGR.2.8 PC.FGR.2.9	Learning Expectations PC.FGR.3.1 PC.FGR.3.2 PC.FGR.3.3 PC.FGR.3.4 PC.FGR.3.5 PC.FGR.3.6 PC.FGR.3.7 PC.FGR.3.8	Learning Expectations PC.AGR.4.1 PC.AGR.4.2 PC.AGR.4.3 PC.AGR.4.4 PC.AGR.4.5	Learning Expectations PC.GSR.5.1 PC.GSR.5.2 PC.GSR.5.3 PC.GSR.5.4 PC.GSR.5.5	Learning Expectations PC.AGR.6.1 PC.AGR.6.2 PC.AGR.6.3 PC.AGR.6.4 PC.AGR.6.5 PC.AGR.6.6	Learning Expectations PC.PAR.7.1 PC.PAR.7.2 PC.PAR.7.3 PC.PAR.7.4 PC.PAR.7.5 PC.PAR.7.6 PC.PAR.7.7	Learning Expectations All Standards
PC.MM.1-4 PC.MP.1-8	PC.MM.1-4 PC.MP.1-8	PC.MM.1-4 PC.MP.1-8	PC.MM.1-4 PC.MP.1-8	PC.MM.1-4 PC.MP.1-8	PC.MM.1-4 PC.MP.1-8	PC.MM.1-4 PC.MP.1-8

The [Framework for Statistical Reasoning](#), [Mathematical Modeling Framework](#), and the [K-12 Mathematical Practices](#) should be taught throughout the units.

Unit 1: Modeling with Rational and Piecewise-Defined Functions

23 Days

Unit Dates: 8/5/2026 - 9/4/2026

PC.FGR.2: Analyze the behaviors of rational and piecewise functions to model contextual mathematical problems.

PC.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

PC.FGR.2.1: Graph piecewise-defined functions, including step functions and absolute value functions.

PC.FGR.2.2: Describe characteristics by interpreting the algebraic form and graph of a piecewise-defined function.

PC.FGR.2.3: Represent the limit of a function using both the informal definition and the graphical interpretation in the context of piecewise-defined functions; interpret limits expressed in analytic notation.

PC.FGR.2.4: Divide polynomials using various methods.

PC.FGR.2.5: Graph rational functions and identify key characteristics.

PC.FGR.2.6: Represent the behavior of a rational function using limit notation for vertical and horizontal asymptotes and end behavior.

PC.FGR.2.7: Represent the limit of a function using both the informal definition and the graphical interpretation in the context of rational functions; interpret limits expressed in analytic notation.

PC.FGR.2.8: Solve simple rational equations in one variable and give examples showing how extraneous solutions may arise.

PC.FGR.2.9: Perform partial fraction decomposition of rational functions using non-repeated linear factors.

Unit 2: Modeling with Trigonometric Expressions and Functions

30 Days

Unit Dates: 9/8/2026 - 10/27/2026

PC.FGR.3: Utilize trigonometric expressions to solve problems and model periodic phenomena with trigonometric functions.

PC.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

PC.FGR.3.1: Use the concept of a radian as the ratio of the arc length to the radius of a circle to establish the existence of 2π radians in one revolution.

PC.FGR.3.2: Utilize right triangle on the unit circle to determine the values of the six trigonometric ratios for $\frac{\pi}{6}, \frac{\pi}{4}, \frac{\pi}{3}$. Use reflections of the triangles as reference angles to establish known values in all four quadrants of the coordinate plane.

PC.FGR.3.3: Define the six trigonometric ratios in terms of x, y, and r using the unit circle centered at the origin of the coordinate plane. Interpret radian measures of angles as a rotation both counterclockwise and clockwise around the unit circle.

PC.FGR.3.4: Derive the fundamental trigonometric identities.

PC.FGR.3.5: Determine the value(s) of trigonometric functions for a set of given conditions.

PC.FGR.3.6: Graph and write equations of trigonometric functions using period, phase shift, and amplitude in modeling contexts.

PC.FGR.3.7: Classify the six trigonometric functions as even or odd and describe the symmetry.

PC.FGR.3.8: Restrict the domain of a trigonometric function to create an invertible function and graph the inverse function. Evaluate inverse trigonometric expressions.

Unit 3: Applying Trigonometric Identities and Equations

30 Days

Unit Dates: 10/28/2026 - 12/16/2026

PC.AGR.4: Manipulate, prove, and apply trigonometric identities and equations to solve contextual mathematical problems.

PC.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

PC.AGR.4.1: Apply the fundamental trigonometric identities to simplify expressions and verify other identities.

PC.AGR.4.2: Use sum, difference, double-angle, and half-angle formulas for sine, cosine, and tangent to establish other identities and apply them to solve problems.

PC.AGR.4.3: Solve trigonometric equations arising in modeling contexts.

PC.AGR.4.4: Prove and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles.

PC.AGR.4.5: Determine the area of an oblique triangle.

Unit 4: Modeling with Conic Sections and Polar Equations

28 Days

Unit Dates: 1/5/2027 - 2/12/2027

PC.GSR.5: Analyze the behaviors of conic sections and polar equations to model contextual mathematical problems.

PC.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

PC.GSR.5.1: Identify and graph different conic sections given the equations in standard form.

PC.GSR.5.2: Identify different conic sections in general form and complete the square to convert the equation of a conic section into standard form.

PC.GSR.5.3: Define polar coordinates and relate polar coordinates to Cartesian coordinates.

PC.GSR.5.4: Classify special polar equations and apply to contextual situations.

PC.GSR.5.5: Graph equations in the polar coordinate plane with and without the use of technology.

Unit 5: Modeling with Vector Quantities

29 Days

Unit Dates: 2/22/2027 - 4/2/2027

PC.AGR.6: Represent and model vector quantities to solve problems in contextual situations problems.

PC.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

PC.AGR.6.1: Represent vector quantities as directed line segments; represent magnitude and direction of vectors in component form using appropriate mathematical notation.

PC.AGR.6.2: Add and subtract vectors and multiply vectors by a scalar to find the resultant vector.

PC.AGR.6.3: Add and subtract vectors on a coordinate plane using different methods.

PC.AGR.6.4: Solve contextual vector problems, such as those involving velocity, force, and other quantities.

PC.AGR.6.5: Sketch the graph of a curve represented parametrically, indicating the direction of motion.

PC.AGR.6.6: Apply parametric equations to contextual problems.

Unit 6: Modeling with Sequences and Series

20 Days

Unit Dates: 4/12/2027 - 5/7/2027

PC.PAR.7: Demonstrate how sequences and series apply to mathematical models in real-life situations.

PC.MM.1: Apply mathematics to real-life situations; model real-life phenomena using mathematics.

PC.PAR.7.1: Demonstrate that sequences are functions whose domain is the set of natural numbers.

PC.PAR.7.2: Represent sequences graphically, numerically, and symbolically.

PC.PAR.7.3: Determine the limit of a sequence if it exists.

PC.PAR.7.4: Demonstrate that a series is the sum of the sequence and represent series graphically, numerically, and symbolically.

PC.PAR.7.5: Describe the behavior of a series in terms of the limit of its partial sums.

PC.PAR.7.6: Derive and use the sum formula of a finite geometric series to solve contextual problems to model real-life situations.

PC.PAR.7.7: Derive and use the sum formula of an infinite geometric series to solve contextual problems to model real-life situations.

Unit 7: Culminating Capstone Unit

10 Days

Unit Dates: 5/10/2027 - 5/21/2027

ALL Standards Addressed in this Unit

The capstone unit applies content that has already been learned in previous interdisciplinary PBLs and units throughout the school year. The capstone unit is an interdisciplinary unit that allows students to create a presentation, report, or demonstration that could include their models used to answer an overarching driving question. (e.g., Students can present their solution(s), findings, project, or answer to the driving question to a larger audience during the culminating capstone unit.)