

Course Overview	In this course, students will think logically about shapes, space, and how things fit together in the world around them. Students will explore ideas through hands-on activities, explain their reasoning, and build confidence in justifying their thinking. Along the way, students will develop problem-solving and proof skills that are essential for higher-level math and real-world decision-making. This matters because it strengthens critical thinking and prepares students for future courses and careers that require analytical thinking.
Course Standards	Geometry Texas Essential Knowledge and Skills (TEKS) ; Lead4Ward Snapshot Post Final Exam Extension topics: AP Statistics Course and Exam Description (2020)
Instructional Materials	Mathematics Curriculum Redesign

Scope & Sequence

Units/Modules & Instructional Days	Assessments & Scanning Deadlines	Standards
Unit 1 <i>Reasoning in Geometry</i> 11 days	Unit 1 Exam TX_MAT_Geometry_F26_UE1 <u>Scanning Deadline:</u> September 17, 2026	G.4C: verify that a conjecture is false using a counterexample; G.4B: identify and determine the validity of the converse, inverse, and contrapositive of a conditional statement and recognize the connection between a biconditional statement and a true conditional statement with a true converse; G.5A: investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools.
Unit 2 <i>Building Blocks of Geometry</i> 11 days	Unit 2 Exam TX_MAT_Geometry_F26_UE2 <u>Scanning Deadline:</u> October 1, 2026	G.2A: determine the coordinates of a point that is a given fractional distance less than one from one end of a line segment to the other in one- and two-dimensional coordinate systems, including finding the midpoint; G.2B: derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines; G.2C: determine an equation of a line parallel or perpendicular to a given line that passes through a given point; G.4A: distinguish between undefined terms, definitions, postulates, conjectures, and theorems; G.4D: compare geometric relationships between Euclidean and spherical geometries, including parallel lines and sum of the angles in a triangle; G.5A: investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools; G.6A: verify theorems about angles formed by the intersection of lines and line segments, including vertical angles, and angles formed by parallel lines cut by a transversal and prove equidistance between the endpoints of a segment and points on its perpendicular bisector and apply these relationships to solve problems;

<p>Unit 3 <i>Congruence Transformations</i></p> <p>12 days</p>	<p>Unit 3 Exam <i>TX_MAT_Geometry_F26_UE3</i></p> <p><u>Scanning Deadline:</u> October 22, 2026</p>	<p>G.3B: determine the image or pre-image of a given two-dimensional figure under a composition of rigid transformations, a composition of non-rigid transformations, and a composition of both, including dilations where the center can be any point in the plane;</p> <p>G.3A: describe and perform transformations of figures in a plane using coordinate notation;</p> <p>G.3C: identify the sequence of transformations that will carry a given pre-image onto an image on and off the coordinate plane;</p> <p>G.3D: identify and distinguish between reflectional and rotational symmetry in a plane figure;</p> <p>G.6C: apply the definition of congruence, in terms of rigid transformations, to identify congruent figures and their corresponding sides and angles.</p>
<p>Unit 4 <i>Triangles and Proof</i></p> <p>18 days</p>	<p>Unit 4 Exam <i>TX_MAT_Geometry_F26_UE4</i></p> <p><u>Scanning Deadline:</u> November 12, 2026</p>	<p>G.2B: derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines;</p> <p>G.4D: compare geometric relationships between Euclidean and spherical geometries, including parallel lines and sum of the angles in a triangle;</p> <p>G.5A: investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools;</p> <p>G.6B: prove two triangles are congruent by applying the Side-Angle-Side, Angle-Side-Angle, Side-Side-Side, Angle-Angle-Side, and Hypotenuse-Leg congruence conditions;</p> <p>G.6D: verify theorems about the relationships in triangles, including proof of the Pythagorean Theorem, the sum of interior angles, base angles of isosceles triangles, midsegments, and medians, and apply these relationships to solve problems;</p> <p>G.8B: identify and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle, including geometric mean, to solve problems.</p>
<p>Unit 5 <i>Quadrilaterals and Other Polygons</i></p> <p>13 days</p>	<p>Unit 5 Exam <i>TX_MAT_Geometry_F26_UE5</i></p> <p><u>Scanning Deadline:</u> December 10, 2026</p>	<p>G.2B: derive and use the distance, slope, and midpoint formulas to verify geometric relationships, including congruence of segments and parallelism or perpendicularity of pairs of lines;</p> <p>G.5A: investigate patterns to make conjectures about geometric relationships, including angles formed by parallel lines cut by a transversal, criteria required for triangle congruence, special segments of triangles, diagonals of quadrilaterals, interior and exterior angles of polygons, and special segments and angles of circles choosing from a variety of tools;</p> <p>G.6E: prove a quadrilateral is a parallelogram, rectangle, square, or rhombus using opposite sides, opposite angles, or diagonals and apply these relationships to solve problems;</p> <p>G.11B: determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure.</p>

Semester Exam Window: December 7-18, 2026 | Scanning Deadline: January 8, 2027

<p>Unit 6 <i>Similarity</i></p> <p>10 days</p>	<p>Unit 6 Exam <i>TX_MAT_Geometry_S27_UE6</i></p> <p><u>Scanning Deadline:</u> January 28, 2027</p>	<p>G.7A: apply the definition of similarity in terms of a dilation to identify similar figures and their proportional sides and the congruent corresponding angles;</p> <p>G.7B: apply the angle-angle criterion to verify similar triangles and apply the proportionality of the corresponding sides to solve problems;</p> <p>G.8A: prove theorems about similar triangles, including the Triangle Proportionality Theorem, and apply these theorems to solve problems;</p> <p>G.10B: determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and non-proportional dimensional change.</p>
<p>Unit 7 <i>Special Right Triangles and Trigonometry</i></p> <p>10 days</p>	<p>Unit 7 Exam <i>TX_MAT_Geometry_S27_UE7</i></p> <p><u>Scanning Deadline:</u> February 11, 2027</p>	<p>G.9A: determine the lengths of sides and measures of angles in a right triangle by applying the trigonometric ratios sine, cosine, and tangent to solve problems;</p> <p>G.9B: apply the relationships in special right triangles 30°-60°-90° and 45°-45°-90° and the Pythagorean Theorem, including Pythagorean triples, to solve problems.</p>
<p>Unit 8 <i>Circles</i></p> <p>14 days</p>	<p>Unit 8 Exam <i>TX_MAT_Geometry_S27_UE8</i></p> <p><u>Scanning Deadline:</u> March 4, 2027</p>	<p>G.11B: determine the area of composite two-dimensional figures comprised of a combination of triangles, parallelograms, trapezoids, kites, regular polygons, or sectors of circles to solve problems using appropriate units of measure;</p> <p>G.12A: apply theorems about circles, including relationships among angles, radii, chords, tangents, and secants, to solve non-contextual problems;</p> <p>G.12B: apply the proportional relationship between the measure of an arc length of a circle and the circumference of the circle to solve problems;</p> <p>G.12C: apply the proportional relationship between the measure of the area of a sector of a circle and the area of the circle to solve problems;</p> <p>G.12D: describe radian measure of an angle as the ratio of the length of an arc intercepted by a central angle and the radius of the circle;</p> <p>G.12E: show that the equation of a circle with center at the origin and radius is $x^2 + y^2 = r^2$ and determine the equation for a graph of a circle with radius r and center (h, k), $(x - h)^2 + (y - k)^2 = r^2$.</p>
<p>Unit 9 <i>Surface Area and Volume</i></p> <p>16 days</p>	<p>Unit 9 Exam <i>TX_MAT_Geometry_S27_UE9</i></p> <p><u>Scanning Deadline:</u> April 8, 2027</p>	<p>G.10A: identify the shapes of two-dimensional cross-sections of prisms, pyramids, cylinders, cones, and spheres and identify three-dimensional objects generated by rotations of two-dimensional shapes;</p> <p>G.10B: determine and describe how changes in the linear dimensions of a shape affect its perimeter, area, surface area, or volume, including proportional and nonproportional dimensional change;</p> <p>G.11C: apply the formulas for the total and lateral surface area of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure;</p> <p>G.11D: apply the formulas for the volume of three-dimensional figures, including prisms, pyramids, cones, cylinders, spheres, and composite figures, to solve problems using appropriate units of measure.</p>

Unit 10 <i>Probability</i> 16 days	Unit 10 Exam <i>TX_MAT_Geometry_S27_UE10</i> <u>Scanning Deadline:</u> April 29, 2027	G.13A: develop strategies to use permutations and combinations to solve contextual problems G.13B: determine probabilities based on area to solve contextual problems G.13C: identify whether two events are independent and compute the probability of the two events occurring together with or without replacement G.13D: apply conditional probability in contextual problems G.13E: apply independence in contextual problems
EP & HOU Final Exam Window: May 3-14, 2027 Scanning Deadline: May 14, 2027 SA Final Exam Window: May 5-18, 2027 Scanning Deadline: May 18, 2027 AUS, PB, RGV, & TACO Final Exam Window: May 17-21, 2027 Scanning Deadline: May 21, 2027		
Unit 11 <i>Statistics and Probability</i> 13 days		UNC-1.A represent categorical data using frequency or relative frequency tables UNC-1.B describe categorical data represented in frequency or relative frequency tables UNC-1.I calculate measures of center and position for quantitative data UNC-1.J calculate measures of variability for quantitative data UNC-1.S represent bivariate quantitative data using scatterplots. DAT-1.D calculate a predicted response value using a linear regression model DAT-1.E represent differences between measured and predicted responses using residual plots. DAT-2.A identify the type of study. DAT-2.B identify appropriate generalizations and determinations based on observational studies. UNC-4.D calculate an appropriate confidence interval for a population proportion UNC-4.H identify the relationships between sample size, width of a confidence interval, confidence level, and margin of error for a population proportion VAR-4.A calculate probabilities for events and their complements VAR-4.C explain why two events are (or are not) mutually exclusive VAR-4.D calculate conditional probabilities VAR-4.E calculate the probabilities for independent events and for the union of two events

TEKS Alignment

Instruction in this course is aligned to the Texas Essential Knowledge and Skills (TEKS) as adopted by the State Board of Education and implemented in accordance with Texas Education Code Chapter 28.

Instructional Materials

Primary Texts (if applicable)

Supplemental instructional materials may be used to support instruction. Supplemental materials do not replace board-approved core instructional materials.

Additional information regarding instructional programs, assessments, and parent access to instructional materials is available on the district website.

Instructional Expectations

Instruction is delivered using board-approved instructional materials and aligned to the scope and sequence outlined above. Teachers are expected to ensure all required standards are taught within the course timeframe.

Assessment Overview

Student learning is monitored through formative and summative assessments aligned to course standards. Assessment results are used to inform instruction and student supports. Students participate in required state assessments when applicable.