TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
Introduction to Logic and Euclidean Geometry		
	Euclidean Geometry	
		Identify and name undefined terms of point, line, plane, and distance along a line.
		Analyze descriptions and diagrams that illustrate basic postulates about points, lines, and planes.
	Defining Terms	
		Use undefined terms to precisely define parallel lines, perpendicular lines, ray, angle, arc, circle, and line segment.
		Identify and name a pair of parallel lines, a pair of perpendicular lines, a ray, an angle, an arc, a circle, and a line segment.
	Conditional Statements and Equivalence	
		Identify the converse, inverse, and contrapositive of a given conditional statement.
		Translate between verbal and symbolic form of statements.
		Determine the truth value of a conditional statement.
	Compound Statements	
		Translate between verbal and symbolic form of compound statements.
		Determine the truth value of a compound statement.
	Measuring Length and Angles	
		Identify a midpoint or bisector of a line segment or angles.
		Apply the ruler postulate and segment addition postulate to calculate the lengths of line segments.
		Apply the protractor postulate and angle addition postulate to calculate angle measures.
	Introduction to Proof	
		Complete the steps to prove algebraic and geometric statements.
		Identify proof formats, the essential parts of a proof, and the assumptions that can be made from a given drawing.

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Linear Pairs and Vertical Angles	
		Calculate angle measures by using definitions and theorems about linear pairs and vertical angles.
		Identify linear pairs and vertical angles from given diagrams.
		Complete the steps to prove statements using linear pairs and vertical angles.
	Complementary and Supplementary Angles	
		Identify complementary angles and supplementary angles from given diagrams.
		Solve problems involving measures of complementary and supplementary angles.
		Complete the steps to prove statements using complementary angles and supplementary angles.
	Performance Task: Constructions	
	Unit Test	
Coordinate Geometry and Transformations		
	Reflections	
		Develop the definition of a reflection using constructions.
		Describe the properties of and write rules for reflections.
		Determine the image or pre-image of a figure after a given reflection.
	Translations	
		Develop the definition of a translation using constructions.
		Write the rule that describes a given translation.
		Determine the image or pre-image of a figure after a given translation.
	Rotations	
		Develop the definition of a rotation using constructions.
		Describe the properties of and write rules for rotations.

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Determine the image or pre-image of a figure after a given rotation.
	Compositions	
		Determine the rule that describes a given composition of transformations.
		Determine the image of a figure after a given composition of transformations.
	Symmetry	
		Identify reflectional symmetry in geometric figures and the number of lines of symmetry.
		Identify rotational symmetry and its order in geometric figures.
	Unit Test	
Relationships of Lines and Transversals		
	Parallel and Perpendicular Lines	
		Construct parallel and perpendicular lines.
		Identify parallel, perpendicular, and skew lines from three-dimensional figures.
		Solve problems involving the distance from a point on the perpendicular bisector to both endpoints of the line segment.
	Lines Cut by a Transversal	
		Solve for angle measures when parallel lines are cut by a transversal.
		Complete the steps to prove angle relationships given parallel lines cut by a transversal.
	Proving Lines Parallel	
		Apply theorems to determine if lines are parallel.
		Prove lines are parallel given angle relationships.
	Slope of a Line	
		Identify if the slope of a linear relationship is zero, positive, negative, or undefined.
		Determine the slope of a line from a graph, table of values, or ordered pairs.

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Interpret slope in the context of real-world scenarios.
	Slopes of Parallel and Perpendicular Lines	
		Complete the steps to prove the slope criteria for parallel and perpendicular lines using coordinate geometry.
		Determine if two lines are parallel or perpendicular.
		Use slope criteria to find additional points on a line parallel or perpendicular to a given line.
		Prove the slope criteria for perpendicular lines.
	Applications of Slope and the Distance Formula	
		Use the distance formula to compute perimeters and areas of polygons in the coordinate plane.
		Apply the distance and slope formulas to identify geometric figures and points that lie on those figures, in the coordinate plane.
	Writing Linear Equations	
		Write the equation of a line parallel to a given line that goes through a particular point.
		Write the equation of a line perpendicular to a given line or segment that goes through a particular point.
	Partitioning a Line Segment	
		Use the midpoint formula to calculate the midpoint or an endpoint of a line segment in the coordinate plane.
		Use the formula for partitioning a directed line segment to find a point that partitions a segment in a given ratio, or to find an endpoint of a segment.
	Directed Line Segments and Modeling	
		Find the coordinates of a point on a directed line segment that partitions the segment into a given ratio.
		Model and solve real-world problems involving directed line segments.
	Unit Test	
Relationships of Triangles: Congruence		

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Triangle Angle Theorems	
		Complete the steps to prove that the sum of the measures of the interior angles of a triangle is 180 degrees.
		Identify and relate the interior and exterior angles of a triangle.
		Calculate the measures of interior and exterior angles of a triangle.
	Triangles and Their Side Lengths	
		Construct or justify the construction of isosceles and equilateral triangles.
		Analyze the relationships between the angles of acute, right, and obtuse triangles.
		Determine if three given segments will satisfy the triangle inequality.
		Determine the length or parameters for a third side of a triangle given the other two sides.
	Isosceles Triangles	
		Complete the steps to prove the isosceles triangle theorem and its converse.
		Identify characteristics of an isosceles triangle.
		Solve for unknown measures of isosceles triangles.
	Centroid and Orthocenter	
		Complete the steps to prove that the medians of a triangle meet at a point.
		Identify the characteristics of the centroid or orthocenter of a triangle.
		Solve for unknown measures created by medians in a triangle.
	Incenter and Circumcenter	
		Construct inscribed and circumscribed circles of a triangle.
		Identify the characteristics of the incenter or circumcenter of a triangle.
		Solve for unknown measures created by perpendicular or angle bisectors in a triangle.
	Congruent Figures	

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Write congruency statements for transformed figures.
		Determine if figures are congruent and, if so, identify their corresponding parts.
		Determine unknown measures of congruent figures.
	Triangle Congruence: SAS	
		Determine the isometric transformations that would map one triangle onto another triangle given that two corresponding sides and the included angle are congruent.
		Identify the sides and angle that can be used to prove triangle congruency using SAS.
		Complete the steps to prove triangles are congruent using SAS.
	Triangle Congruence: ASA and AAS	
		Identify the side and angles that can be used to prove triangle congruency using ASA or AAS.
		Complete the steps to prove triangles are congruent using ASA or AAS.
		Determine the isometric transformations that would map one triangle onto another triangle given that two pairs of corresponding angles and one pair of corresponding sides are congruent.
	Triangle Congruence: SSS and HL	
		Identify the parts that can be used to prove triangle congruency using SSS or HL.
		Complete the steps to prove triangles are congruent using SSS or HL.
		Determine the isometric transformations that would map one triangle onto another triangle given that three corresponding sides are congruent.
	Using Triangle Congruence Theorems	
		Identify the triangle congruency theorem that can be used to prove two triangles congruent.
		Complete the steps to prove angles, segments, and triangles are congruent using triangle congruence theorems and CPCTC.
	Unit Test	

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
Relationships of Triangles: Similarity		
	Dilations	
		Verify experimentally the properties of dilations given a center and a scale factor.
		Calculate and interpret the scale factor for dilations of figures.
		Determine the unknown measures of an image or pre-image of a dilated figure given the scale factor.
	Similar Figures	
		Verify the properties of dilations, including the scale factor and slopes of corresponding line segments.
		Determine if two polygons are similar using dilations.
		Find the coordinates of the vertices of an image or pre-image of a dilated polygon given the scale factor.
	Triangle Similarity: AA	
		Identify the composition of similarity transformations in a mapping of two triangles.
		Complete the steps to prove triangles are similar using the AA similarity theorem.
	Triangle Similarity: SSS and SAS	
		Identify the sides and angle that can be used to prove triangle similarity using SSS similarity theorem and SAS similarity theorem.
		Complete the steps to prove triangles are similar using SAS similarity theorem.
		Complete the steps to prove triangles are similar using SSS similarity theorem.
	Using Triangle Similarity Theorems	
		Complete the steps to prove theorems involving similar triangles.
		Solve for unknown measures of similar triangles using the side-splitter theorem and its converse.
		Solve for unknown measures of similar triangles using the triangle midsegment theorem.
	Unit Test	

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
Cumulative Exam		
	Cumulative Exam Review	
	Cumulative Exam	
Relationships of Right Triangles: Trigonometry		
	Right Triangle Similarity	
		Complete the steps to prove the Pythagorean theorem using similar triangles.
		Identify similar right triangles formed by an altitude and write a similarity statement.
		Apply theorems to solve problems involving geometric means.
		Apply the Pythagorean theorem to find side lengths of a right triangle.
	Triangle Classification Theorems	
		Classify a triangle using the converse of the Pythagorean theorem and triangle inequality theorems.
		Apply the converse of the Pythagorean theorem and triangle inequality theorems to solve problems.
		Determine an unknown side length or range of side lengths of a triangle given its classification.
	Special Right Triangles	
		Complete the steps to prove special right triangle theorems.
		Determine unknown measures of 45°-45°-90° triangles.
		Determine unknown measures of 30°-60°-90° triangles.
		Solve real-world problems involving special right triangles.
	Trigonometric Ratios	
		Given an acute angle of a right triangle, label the hypotenuse, opposite, and adjacent sides.
		Given an acute angle of a right triangle, write ratios for sine, cosine, and tangent.
		Relate trigonometric ratios of similar triangles and the acute angles of a right triangle.

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Solving for Side Lengths of Right Triangles	
		Write equations using trigonometric ratios that can be used to solve for unknown side lengths of right triangles.
		Solve for unknown side lengths of right triangles using trigonometric ratios.
		Apply trigonometric ratios to solve real-world problems.
	Solving for Angle Measures of Right Triangles	
		Write equations that can be used to solve for unknown angles in right triangles.
		Solve for unknown angles of right triangles using inverse trigonometric functions.
		Apply inverse trigonometric functions to solve real-world problems.
	Unit Test	
Relationships of Circles		
	Introduction to Circles	
		Complete the steps to prove that all circles are similar.
		Identify and describe terms related to circles.
		Calculate the degree measure of an arc using the arc addition postulate.
	Central Angles	
		Identify congruent central angles, chords, and arcs.
		Determine the measures of central angles, chords, and arcs using theorems about angle, chord, and arc congruency.
		Solve problems using the radius tangent theorem and its converse.
	Inscribed Angles	
		Complete the steps to prove theorems involving inscribed angles and their intercepted arcs.
		Apply theorems about inscribed angles and angles formed by a tangent and a chord.

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Secants, Tangents, and Angles	
		Solve problems involving angles formed by two intersecting chords.
		Solve problems involving angles formed by two secants that intersect outside a circle.
		Solve problems involving angles formed by two intersecting tangents.
		Solve problems involving angles formed by a secant and a tangent that intersect outside a circle.
	Special Segments	
		Solve problems involving segments formed by two intersecting chords.
		Solve problems involving segments formed by two secants which intersect outside a circle.
		Solve problems involving segments formed by two intersecting tangents.
		Solve problems involving segments formed by a secant and a tangent which intersect outside a circle.
	Circumference and Arc Length	
		Solve problems involving circumference of a circle.
		Determine the radian measure of a central angle.
		Solve problems involving arc length with central angles measured in degrees.
		Solve problems involving arc length with central angles measured in radians.
	Area of a Circle and a Sector	
		Solve problems involving area of a circle.
		Solve problems involving area of a sector with central angles measured in radians.
		Solve problems involving area of a sector with central angles measured in degrees.
	Angle Relationships	
		Determine segment lengths, angle measures, and arc measures using definitions and theorems relating to circles.
	Performance Task: Circle Constructions	

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Equation of a Circle	
		Identify the center and radius from the equation of a circle, including equations given in general form.
		Determine the equation of a circle.
		Determine if a given point lies on a circle.
	Unit Test	
Relationships and Measurement of Two-Dimensional Figures		
	Parallelograms	
		Complete the steps to prove theorems about properties of parallelograms.
		Apply properties of parallelograms to solve problems.
	Proving a Quadrilateral Is a Parallelogram	
		Complete the steps to prove that a quadrilateral is a parallelogram.
		Apply properties of parallelograms to solve for unknown values.
		Analyze a figure to determine if it is a parallelogram.
	Special Parallelograms	
		Complete the steps to prove theorems about properties of parallelograms.
		Apply properties of rhombi to solve mathematical and real-world problems.
		Apply properties of rectangles to solve mathematical and real-world problems.
		Apply properties of squares to solve mathematical and real-world problems.
	Trapezoids and Kites	
		Complete proofs involving properties of trapezoids and kites.
		Apply properties of trapezoids to solve mathematical and real-world problems.
		Apply properties of kites to solve mathematical and real-world problems.

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
	Figures in the Coordinate Plane	
		Apply coordinate algebra proofs to triangles and quadrilaterals.
		Calculate the perimeter of a triangle or quadrilateral given the coordinates of the vertices.
	Angle Measures of Polygons	
		Identify and describe polygons.
		Apply the polygon interior angle sum theorem to solve problems.
		Apply the polygon exterior angle sum theorem to solve problems.
	Area of Regular Polygons	
		Calculate the length of the apothem of a regular polygon.
		Calculate the area of a regular polygon.
		Solve real-world problems involving the area of regular polygons.
	Area of Composite Figures	
		Decompose composite 2-D figures.
		Write an expression that represents the area of a composite 2-D figure.
		Calculate the area of composite 2-D figures, including real-world applications.
	Unit Test	
Relationships and Measurement of Three-Dimensional Figures		
	Three-Dimensional Figures and Cross Sections	
		Classify a 3-D figure and identify the characteristics (base, edge, etc.).
		Determine the horizontal and vertical cross-sections of 3-D figures.
		Determine the 3-D figure generated by a rotation of a 2-D figure.
	Volume of Prisms	

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Write expressions to represent the volumes or unknown measures of right and oblique prisms.
		Calculate the volume or an unknown measure of a right prism based on a mathematical or real-world model.
		Calculate the volume or an unknown measure of an oblique prism based on a mathematical or real-world model.
	Volume of Pyramids	
		Write expressions to represent the volumes or unknown measures of right and oblique pyramids.
		Calculate the volume or an unknown measure of a right pyramid based on a mathematical or real-world model.
		Calculate the volume or an unknown measure of an oblique pyramid based on a mathematical or real-world model.
	Volume of Cylinders, Cones, and Spheres	
		Write expressions to represent the volumes or unknown measures of cylinders and cones.
		Solve mathematical and real-world problems involving the volume of right and oblique cylinders.
		Solve mathematical and real-world problems involving the volume of right and oblique cones.
		Solve mathematical and real-world problems involving the volume of spheres.
	Cavalieri's Principle and Volume of Composite Figures	
		Write an expression to represent the volume of a composite figure.
		Calculate the volumes of composite figures, including those that model real-world objects.
	Surface Area	
		Solve mathematical and real-world problems involving lateral area of prisms, cylinders, pyramids, and cones.
		Solve mathematical and real-world problems involving surface area of prisms, cylinders, cones, spheres, and pyramids.
		Solve mathematical and real-world problems about lateral and surface areas of composite figures.
	Changing Dimensions of 3-D Figures	

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Identify similar solids and determine their scale factors.
		Determine and describe how proportional or nonproportional changes in linear dimensions of a shape affect other measurements such as perimeter, area, surface area, or volume.
		Solve problems about length, area, and volume measures using scale factors.
	Unit Test	
Probability		
	Sets and Venn Diagrams	
		Identify and represent elements of sets and subsets, including the empty and universal sets.
		Represent and interpret the union and intersection of sets using set notation and Venn diagrams.
	Finding Outcomes	
		Identify possible outcomes for an event.
		Evaluate expressions involving factorials.
		Solve combination problems including finding a subset of the total number of possible combinations.
		Solve permutation problems including finding a subset of the total number of possible permutations.
	Theoretical and Experimental Probability	
		Identify the sample space of an experiment and the complement of an event.
		Calculate theoretical and experimental probability.
	Independent and Mutually Exclusive Events	
		Identify mutually exclusive and independent events.
		Calculate probabilities using the addition rule.
		Calculate probabilities using the multiplication rule of independent events.
	Conditional Probability	

TX-Geometry		Scope and Sequence
Unit	**Lesson**	**Objectives**
		Use calculations to determine if two events are independent.
		Calculate conditional probabilities using formulas and Venn diagrams.
		Calculate probabilities of compound events.
	Probability and Two-Way Tables	
		Construct a two-way table.
		Use a two-way table to determine if two events are independent.
		Compute conditional probabilities from data displayed in a two-way table.
	Probability with Combinations and Permutations	
		Identify expressions that represent probabilities of compound events.
		Use combinations to compute probabilities of compound events.
		Use permutations to compute probabilities of compound events.
	Unit Test	
Cumulative Exam		
	Cumulative Exam Review	
	Cumulative Exam	