

Pacing Guide for Geometry

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1.5 weeks		Tools of Geometry			
*		*	Patterns and Inductive Reasoning	Inductive reasoning to make conjecture.	3108.3.1 Use algebra and coordinate geometry to analyze and solve problems about geometric figures (including circles).	Inductive Reasoning Conjecture
*			Points, Lines, and Planes	Basic terms of geometry. Basic postulates of	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variable or function notation.	Point Space
*			Segments, Rays, Parallel Lines and Planes	Identify segments and rays. Recognize parallel lines	3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation.	Segment Ray Opposite rays Parallel lines Skew lines Parallel planes
*		*	Measuring Segments and Angles	Find the lengths of segments. Find the measures of angles.	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	Coordinate Congruent segments Midpoint Angle Acute angle Right angle Obtuse angle Straight angle Congruent angles
*			Basic Constructions	Use a compass and a straightedge to construct congruent segments and congruent angles. Use a compass and a straightedge to bisect segments and angles.	3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	Construction Straightedge Compass Perpendicular lines Perpendicular bisector Angle bisector
*			The Coordinate Plane	Find the distance between two points in the coordinate plane. Find the coordinates of the midpoint of a segment in the coordinate plane.	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	
*		*	Perimeter, Circumference, and Area	Find perimeters of rectangles and squares, and circumferences of circles. Find areas of rectangles, squares, and circles.	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation.	

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	2 weeks		Reasoning and Proof			
*		*	Conditional, Converse, Inverses, Contrapositives Statements, and Indirect Reasoning	Recognize conditional statements. Write converses of conditional statements. Write the negation of a statement and the inverse and contrapositive of a conditional statement. Use indirect reasoning.	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation. 3108.3.3 Factor polynomials. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop an apply strategies to estimate the area of any shape on a plane grid.	Conditional Hypothesis Conclusion Truth value Converse Negation Inverse Contrapositive Equivalent statements Indirect reasoning Indirect proof
*			Biconditionals and Definitions	Write biconditional statements. Recognize good definitions.	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.	Biconditional
*			Deductive Reasoning	Using the Law of Detachment. Using the Law of Syllogism.	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.	Deductive reasoning Law of Detachment Law of Syllogism
*		*	Reasoning in Algebra	Connect reasoning in algebra and geometry.	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop an apply strategies to estimate the area of any shape on a plane grid.	Reflexive Property Symmetric Property Transitive Property
*		*	Proving Angles Congruent	Identify angles pairs. Prove and apply theorems about angles.	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.6 Determine and interpret slope in multiple contexts including rate of change in real-world problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop an apply strategies to estimate the area of any shape on a plane grid. 3108.4.4 Convert rates and measurements.	Vertical angles Adjacent angles Complementary angles Supplementary angles Theorem Paragraph proof

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1.5 weeks		Parallel and Perpendicular Lines			
*		*	Properties of Parallel Lines	Identify angles formed by two lines and a transversal. Prove and use properties of parallel lines.	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	Transversal Alternate interior angles Same-side interior angles Consecutive interior angles Corresponding angles Two-column proof
*			Proving Lines Parallel	Use a transversal in proving lines parallel. Relate parallel and perpendicular lines.	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	Flow proof
*		*	Parallel Lines and the Triangle Angle-Sum Theorem	Classify triangles and find the measures of their angles. Use exterior angles of triangles.	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	Acute triangle Right triangle Obtuse triangle Equiangular triangle Equilateral triangle Isosceles triangle Scalene triangle Exterior angle of a polygon Remote interior angles
*		*	The Polygon Angle-Sum Theorems	Classify polygons. Find the sums of the measures of the interior and exterior angles of polygons.	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.	Polygon Convex polygon Concave polygon Equilateral polygon Equiangular polygon Regular polygon
*			Lines in the Coordinate Plane	Graph lines given their equations. Write equations of lines.	3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	Slope-intercept form Standard form of a linear equation Point-slope form
*			Slopes of Parallel and Perpendicular Lines	Relate slope and parallel lines. Relate slope and perpendicular lines.	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	
*			Constructing Parallel and Perpendicular Lines	Construct parallel lines. Construct perpendicular lines.	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1 week		Congruent Figures			
*		*	Congruent Figures	Recognize congruent figures and their corresponding parts.	3108.1.3 Apply properties to evaluate expressions 3108.1.5 Recognize and express the effect of changing constants and/or coefficients in problem solving. 3108.4.4 Convert rates and measurements	Congruent polygons
*		*	Triangle Congruence by SSS and SAS	Prove two triangles congruent using the SSS Postulate and the SAS Theorem.	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.1.5 Recognize and express the effect of changing constants and/or coefficients in problem solving. 3108.4.4 Convert rates and measurements.	
*		*	Triangle Congruence by ASA and AAS	Prove two triangles congruent using the ASA Postulate and the AAS Theorem.	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.1.5 Recognize and express the effect of changing constants and/or coefficients in problem solving.	
*		*	Congruence in Right Triangles	Prove triangles congruent using the HL, LL, HA, and LA theorems.	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.5.5 Determine theoretical and/or experimental probability of an event and/or its complement including using relative frequency.	Hypotenuse Legs of a right triangle
*		*	Isosceles and Equilateral Triangles	Use and apply the properties of isosceles triangles.	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.5.5 Determine theoretical and/or experimental probability of an event and/or its complement including using relative frequency.	Legs of an isosceles triangle Base of an isosceles triangle Vertex angle of an isosceles triangle Base angles of an isosceles triangle Corollary
*		*	Using Congruent Triangles: CPCTC	Use triangle congruence and CPCTC to prove that parts of two triangles are congruent.	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.1.5 Recognize and express the effect of changing constants and/or coefficients in problem solving. 3108.2.3 Describe and/or order a given set of real numbers including both rational and irrational numbers. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid.	CPCTC
*		*	Using Corresponding Parts of Congruent Triangles	Identify congruent overlapping triangles. Prove two triangles congruent by first proving two other triangles congruent.		

Benchmark Test 1

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1 week		Relationships with Triangles			
*		*	Midsegments of Triangles	Use properties of midsegments to solve problems	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems.	midsegment coordinate proof
*		*	Bisectors in Triangles	To use properties of perpendicular bisectors and angle bisectors	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variable or function notation. 3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid.	distance from a point to a line
*		*	Concurrent Lines, Medians, and Altitudes	To identify properties of perpendicular bisectors and angle bisectors To identify properties of medians and altitudes of a triangle	3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation.	point of concurrency circumcenter of the triangle incenter of the triangle inscribed triangle altitude median centroid orthocenter
*			Inequalities in Triangles	To use inequalities involving angles of triangles To use inequalities involving sides of triangles	3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	

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	1 week		Quadrilaterals			
*			Classifying Quadrilaterals	To define and classify special types of quadrilaterals	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation. 3108.3.3 Factor polynomials. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop an apply strategies to estimate the area of any shape on a plane grid.	parallelogram rhombus rectangle square kite trapezoid isosceles trapezoid
*		*	Properties of Parallelograms	To use relationships among sides and among angles of parallelograms To use relationships involving diagonals of parallelograms or transversals	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.	consecutive angles
*			Proving that quadrilaterals are parallelograms	To determine whether a quadrilateral is a parallelogram	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.	
*		*	Special Parallelograms	To use properties of diagonals of rhombuses and rectangles To determine whether a parallelogram is a rhombus or a rectangle	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop an apply strategies to estimate the area of any shape on a plane grid.	
*		*	Special Right Triangles	To use the properties of 30-60-90 triangles To use the properties of 45-45-90 triangles	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	

*		*	Trapezoids and Kites	To verify and use properties of trapezoids and kites	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.6 Determine and interpret slope in multiple contexts including rate of change in real-world problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop an apply strategies to estimate the area of any shape on a plane grid. 3108.4.4 Convert rates and measurements.	base angles
EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1 week		Area			
*		*	The Pythagorean Theorem and its Converse	To use the Pythagorean Theorem to solve problems	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	Pythagorean triple
*		*	Area of parallelograms and triangles	To find the area of a parallelogram and a triangle	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	base, altitude, and height of a parallelogram and of a triangle
*		*	Area of Trapezoids, Rhombuses, and Kites	To find the area of Trapezoids, Rhombuses, and Kites	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	
*		*	Area of Regular Polygons	To find the area of regular polygons	3108.1.2 Write and equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.	apothem radius center of a reg. polygon

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1 week		Circles			
*		*	Circles and Arcs	To find the measures of central angles and arcs To find circumference and arc length	3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	circle center radius congruent circles diameter central angle semicircle minor arc major arc adjacent arcs circumference arc length congruent arcs
*		*	Tangent Lines	<u>To use the relationship between a radius and a tangent</u> <u>To use the relationship between two tangents from one point</u>	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation.	tangent to a circle point of tangency inscribed in circumscribed about
*		*	Chords and Arcs	To use congruent chords, arcs, and central angles To recognize properties of lines through the center of a circle	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid. 3108.4.2 Solve contextual problems using the Pythagorean Theorem. 3108.4.3 Solve problems involving the distance between points or midpoint of a segment.	chord
*		*	Inscribed Angles	To find the measure of an inscribed angle To find the measure of an angle formed by a tangent and a chord	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid. 3108.4.2 Solve contextual problems using the Pythagorean Theorem. 3108.4.3 Solve problems involving the distance between points or midpoint of a segment.	inscribed angle intercepted arc
*		*	Angle Measures and Segment Lengths	To find the measures of angles formed by chords, secants, and tangents To find the lengths of segments associated with circles	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	secant

*			Circles in the Coordinate Plane	To write an equation of a circle To find the center and radius of a circle	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.4 Operate with, evaluate, and simplify rational expressions including determining restrictions on the domain of the variables. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.3.7 Determine domain and range of a relation, determine whether a relation is a function and/or evaluate a function at a specified rational value. 3108.3.9 Solve systems of linear equation/inequalities in two variables.	standard form of an equation of a circle
*		*	Area of circles and sectors	To find the areas of circles, sectors, and segments of circles	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	sector of a circle segment of a circle
EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1 week		Similarity			
*			Ratios and Proportions	To write ratios and solve proportions	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation.	proportion extended proportion cross-product property scale drawing scale
*		*	Similar Polygons	To identify similar polygons To apply similar polygons	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	similar similarity ratio golden rectangle golden ratio
*		*	Proving Triangles Similar	To use AA, SAS, and SSS similarity statements To apply AA, SAS, and SSS similarity statements	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	indirect measurement
*		*	Similarity in Right Triangles	To find and use relationships in similar right triangles	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	geometric mean

*		*	Proportions in Triangles	To use the Side-Splitter Theorem	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.	
*		*	Perimeters and Areas of Similar Figures	To find the perimeters and areas of similar figures	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation. 3108.3.5 Write and/or solve linear equations, inequalities and compound inequalities including those containing absolute value. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid.	
EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1 week		Right Triangle Trigonometry			
*		*	The Tangent Ratio	To use tangent ratios to determine side lengths in triangles	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.2 Operate with polynomials and simplify results.	tangent
*		*	Sine and Cosine Ratios	To use sine and cosine to determine side lengths in triangles	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.2 Operate with polynomials and simplify results.	sine cosine identity
*		*	Angles of Elevation and Depression	To use angles of elevation and depression to solve problems	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid.	angle of elevation angle of depression
*		*	Trigonometry and Area	To find the area of a regular polygon using trigonometry To find the area of a triangle using trigonometry	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.2 Operate with polynomials and simplify results. 3108.3.3 - Factoring polynomials.	

Benchmark Test 2

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1 week		Surface Area and Volume			
*			Space Figures and Nets	To recognize nets of space figures	3108.1.4 Translate between representations of functions that depict real-world situations. 3108.3.4 Operate with, evaluate, and simplify rational expressions including determining restrictions on the domain of the variables. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.3.6 Interpret various relations in multiple representations.	polyhedron face edge vertex net cube
*			Space Figures and Drawings	To make isometric and orthographic drawings To describe cross sections of 3-dimensional figures	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.1.4 Translate between representations of functions that depict real-world situations. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.3.6 Interpret various relations in multiple representations. 3108.3.10 Find the solution of a quadratic equation and/or zeros of a quadratic function.	isometric drawing orthographic drawing foundation drawing cross section
*		*	Surface Areas of Prisms and Cylinders	<u>To find the surface area of a prism</u> <u>To find the surface area of a cylinder</u>	3108.1.1 Interpret patterns found in sequences, tables, and other forms of quantitative information using variables or function notation. 3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation. 3108.3.3 Factor polynomials.	prism bases lateral faces altitude height lateral area surface area right prism oblique prism cylinder right cylinder oblique cylinder
*		*	Volumes of Prisms and Cylinders	<u>To find the volume of a prism</u> <u>To find the volume of a cylinder</u>	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.3 Factor polynomials. 3108.3.4 Operate with, evaluate, and simplify rational expressions including determining restrictions on the domain of the variables. 3108.3.7 Determine domain and range of a relation, determine whether a relation is a function and/or evaluate a function at a specified rational value. 3108.3.10 Find the solution of a quadratic equation and/or zeros of a quadratic function.	volume composite space figure

*		*	Surface Areas of Pyramids and Cones	<p><u>To find the surface area of a pyramid</u></p> <p><u>To find the surface area of a cone</u></p>	<p>3108.1.2 Write an equation symbolically to express a contextual problem.</p> <p>3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems.</p> <p>3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.</p> <p>3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.</p> <p>3108.3.10 Find the solution of a quadratic equation and/or zeros of a quadratic function.</p> <p>3108.3.11 Analyze nonlinear graphs including quadratic and exponential functions that model a contextual situation.</p> <p>3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid.</p>	<p>pyramid</p> <p>base</p> <p>lateral faces</p> <p>vertex</p> <p>altitude</p> <p>height</p> <p>slant height</p> <p>lateral area</p> <p>surface area</p> <p>regular pyramid</p> <p>cone</p> <p>right cone</p>
*		*	Volumes of Pyramids and Cones	<p><u>To find the volume of a pyramid</u></p> <p><u>To find the volume of a cone</u></p>	<p>3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems.</p> <p>3108.3.3 Factor polynomials.</p> <p>3108.3.4 Operate with, evaluate, and simplify rational expressions including determining restrictions on the domain of the variables.</p> <p>3108.3.7 Determine domain and range of a relation, determine whether a relation is a function and/or evaluate a function at a specified rational value.</p> <p>3108.3.10 Find the solution of a quadratic equation and/or zeros of a quadratic function.</p>	
*		*	Surface Areas and Volumes of Spheres	<p><u>To find the surface area and volume of a sphere</u></p>	<p>3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems.</p> <p>3108.2.1 Operate (add, subtract, multiply, divide, simplify, powers) with radicals and radical expressions including radicands involving rational numbers and algebraic expressions.</p> <p>3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.</p> <p>3108.3.10 Find the solution of a quadratic equation and/or zeros of a quadratic function.</p> <p>3108.3.11 Analyze nonlinear graphs including quadratic and exponential functions that model a contextual situation.</p>	<p>sphere</p> <p>center</p> <p>radius</p> <p>diameter</p> <p>circumference</p> <p>great circle</p> <p>hemisphere</p>
*		*	Areas and Volumes of Similar Solids	<p>To find relationships between the ratios of the areas and volumes of similar solids</p>	<p>3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems.</p> <p>3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation.</p> <p>3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.</p> <p>3108.3.10 Find the solution of a quadratic equation and/or zeros of a quadratic function.</p>	<p>similar solids</p> <p>similarity ratio</p>

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	1 week		Transformations			
*		*	Tessellations	To identify transformations in tessellations, and figures that will tessellate To identify symmetries in tessellations	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.2 Operate with polynomials and simplify results. 3108.3.3 Factor polynomials	tessellation tiling translational symmetry glide reflectional symmetry
*		*	Reflections	To identify isometries	3108.1.4 Translate between representations of functions that depict real-world situations. 3108.1.5 Recognize and express the effect of changing constants and/or coefficients in problem solving. 3108.3.1 Express a generalization of a pattern in various representations including algebraic and function notation. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.3.6 Interpret various relations in multiple representations.	transformation preimage image isometry reflection
*		*	Translations	To describe translations using vectors	3108.1.5 Recognize and express the effect of changing constants and/or coefficients in problem solving. 3108.3.2 Operate with polynomials and simplify results. 3108.3.4 Operate with, evaluate, and simplify reationa expressions including determining restricitions on the domain of the variables. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.3.6 Interpret various relations in multiple representations. 3108.3.7 Determine domain and range of a relation, determine whether a relation is a function and/or evaluate a function at aspecified rational value.	translation composition
*		*	Rotations	To draw and identify rotation images of figures	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.2 Operate with polynomials and simplify results. 3108.3.4 Operate with, evaluate, and simplify reationa expressions including determining restricitions on the domain of the variables.	rotation
*			Compositions of Reflections	To use a composition of reflections To identify glide reflection	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.2.2 Multiply, divide, and square numbers expressed in scientific notation. 3108.3.4 Operate with, evaluate, and simplify reationa expressions including determining restricitions on the domain of the variables.	glide reflection
*			Symmetry	To identify the type of symmetry in a figure	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.1 Express a generalization fo a patten in various prepresentations including algebraic and function notation. 3108.3.4 Operate with, evaluate, and simplify reationa expressions including determining restricitions on the domain of the variables. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.4.1Develop and apply strategies to estimate the area of any shape on a plane grid.	symmetry reflectional symmetry line symmetry rotational symmetry point symmetry
*			Dilations	To locate dilation images of figures	3108.1.2 Write an equation symbolically to express a contextual problem. 3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value.	dilation enlargement reduction scalar multiplication

EOC	General Time Frame to Cover Materials	PS	Section	Objectives	SPI's	Vocabulary
	Optional		Optional Topics			
		*	Vectors	To describe vectors To solve problems that involve vector addition	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.2 Operate with polynomials and simplify results. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid.	vector magnitude initial point terminal point resultant
			Placing Figures in the Coordinate Plane	Name coordinates of special figures by using their properties.	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.2 Operate with polynomials and simplify results. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid.	
			Proofs Using Coordinate Geometry	Prove theorems using figures in the coordinate plane.	3108.1.3 Apply properties to evaluate expressions, simplify expressions, and justify solutions to problems. 3108.3.2 Operate with polynomials and simplify results. 3108.4.1 Develop and apply strategies to estimate the area of any shape on a plane grid.	
			Locus: A Set of Points	To draw and describe a locus	3108.1.5 Recognize and express the effect of changing constants and/or coefficients in problem solving. 3108.3.4 Operate with, evaluate, and simplify rational expressions including determining restrictions on the domain of the variables. 3108.3.5 Write and/or solve linear equations, inequalities, and compound inequalities including those containing absolute value. 3108.3.6 Interpret various relations in multiple representations. 3108.3.7 Determine domain and range of a relation, determine whether a relation is a function and/or evaluate a function at a specified rational value. 3108.3.11 Analyze nonlinear graphs including quadratic and exponential functions that model a contextual situation.	locus