

<p><u>Big Understandings of the Content Area</u> *Applying Logic and Reasoning. *Understanding Geometric Figures and their Relationships. *Determining Measures for Length, Area, and Volume. *Using Coordinate Geometry to Explore Geometric Concepts.</p>					
<p><u>Content Standards</u> A. NUMBERS AND NUMBER SENSE: Students will understand and demonstrate a sense of what numbers mean and how they are used.</p>		<p>B. COMPUTATION: Students will understand and demonstrate computation skills.</p>		<p>D. PROBABILITY: Students will understand and apply concepts of probability.</p>	
<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Describe the structure of the real number system and identify its appropriate applications and limitations. ♦ Explain what complex numbers (real and imaginary) mean and describe some of their many uses. 		<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Use various techniques to approximate solutions, determine the reasonableness of answers, and justify the results. ♦ Explain operations with number systems other than base ten. 		<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Find the probability of compound events and make predictions by applying probability theory. ♦ Create and interpret probability distributions. 	
<p><u>Knowledge/Skills</u></p> <ul style="list-style-type: none"> ♦ Express a ratio in simplest form. 		<p>* Solve a given proportion or one of its equivalent forms.</p>		<p>* Use probability to determine best game. * Use geometric models to calculate probability.</p>	
				<p>E. GEOMETRY: Students will understand and apply concepts from geometry.</p>	
				<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Draw coordinate representations of geometric figures and their transformation. ♦ Use inductive and deductive reasoning to explore and determine the properties of and relationships among geometric figures. ♦ Apply trigonometry to problem situations involving triangles and periodic phenomena. 	
				<p>F. MEASUREMENT: Students will understand and demonstrate measurement skills.</p>	
				<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Use measurement tools and units appropriately and recognize limitations in the precision of the measurement tools. ♦ Derive and use formulas for area, surface area, and volume of many types of figures. 	
				<ul style="list-style-type: none"> • Understand basic terms and postulates of geometry. • Relate segments and rays to lines. • Recognize parallel planes and parallel lines in a drawing. • Understand how angle pairs are related. • Use the distance formula. • Use deductive reasoning. • Use the midpoint and angle bisector theorem. • Distinguish between intersecting lines, parallel lines, and skew lines and 	
				<ul style="list-style-type: none"> • Find the length of a segment and the measure of an angle. • Use the correct formula to find the area of different polygons. • Use the correct formula to find the perimeter of different polygons. • Compute the area of circles, segments, and sectors of circles. • Use the correct formula to find the surface area and lateral area of various space figures. • Use the correct formula to 	

				<p>classify the angles formed with these lines.</p> <ul style="list-style-type: none"> • Use the properties and theorems of parallel and perpendicular lines. • Classify triangles according to sides and to angles. • Use the sum of the measures of a triangle and the exterior angle of a triangle theorems to solve problems. • Understand and use inductive reasoning. • Define and classify special quadrilaterals. • Prove congruent triangles and use CPCTC correctly. • Apply the definitions of the median and altitude of a triangle and the perpendicular bisector of a segment. • Use the properties of midsegments. • State and apply the properties of similar polygons. • Use AA similarity postulate to prove triangles similar. • Apply the triangle proportionality theorem and its corollary and the triangle angle bisector theorem. • State and apply the relationships that exist when an altitude is drawn to the hypotenuse of a right triangle. • State and apply the Pythagorean Theorem. • Use the Pythagorean Theorem to classify a triangle by its angles. 	<p>find the volume of various space figures.</p> <ul style="list-style-type: none"> • Calculate the surface area and volume of composite space figures. • State and apply the distance and midpoint formulas.
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<u>Assessment</u> <ul style="list-style-type: none"> ♦ Quizzes, homework, tests, projects 	<ul style="list-style-type: none"> • SAME • LAS: Boats and Ambulances 		<ul style="list-style-type: none"> • SAME 	<ul style="list-style-type: none"> • SAME • LAS: Boats and Ambulances • LAS: Dude on a Cliff 	<ul style="list-style-type: none"> • SAME • LAS: Boxes 'R' Us
<u>Resources</u> <ul style="list-style-type: none"> ♦ Geometry, McDougal Littell 	Same		Same	Same	Same
<u>Instructional Strategies</u> <ul style="list-style-type: none"> ♦ Group work ♦ Cooperative Learning ♦ Lecture ♦ Overhead projector use ♦ Speed Sheet ♦ Definition Jeopardy 	Same		Same	Same	Same

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<p><u>Content Standards</u> G. PATTERNS, RELATIONS, FUNCTIONS: Students will understand that mathematics is the science of patterns, relationships, and functions.</p>		<p>H. ALGEBRA CONCEPTS: Students will understand and apply algebraic concepts.</p>	<p>I. DISCRETE MATHEMATICS: Students will understand and apply concepts in discrete mathematics.</p>	<p>J. MATHEMATICAL REASONING: Students will understand and apply concepts of mathematical reasoning.</p>	<p>K. MATHEMATICAL COMMUNICATION: Students will reflect upon and clarify their understanding of mathematical ideas and relationships.</p>
<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Create a graph to represent a real-life situation and draw inferences from it. ♦ Translate and solve a real-life problem using symbolic language. ♦ Model phenomena using a variety of functions (linear, quadratic, exponential, trigonometric, etc.). ♦ Identify a variety of situations explained by the same type of function. 		<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Use tables, graphs, and spreadsheets to interpret expressions, equations, and inequalities. ♦ Investigate concepts of variation by using equations, graphs, and data collection. ♦ Formulate and solve equations and inequalities ♦ Analyze and explain situations using symbolic representations. 	<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Use linear programming to find optimal solutions to a system. ♦ Use networks to find solutions to problems ♦ Apply strategies from game theory to problem-solving situations. ♦ Use matrices as tools to interpret and solve problems. 	<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Analyze situations where more than one logical conclusion can be drawn from data presented. 	<p><u>Performance Indicators</u> Students will be able to:</p> <ul style="list-style-type: none"> ♦ Restate, create, and use definitions in mathematics to express understanding, classify figures, and determine the truth of a proposition or argument. ♦ Read mathematical presentations of topics within the Learning Results with understanding.
<p><u>Knowledge/Skills</u></p> <ul style="list-style-type: none"> ♦ Use the properties of tangents, secants, and chords to solve problems. ♦ State and apply the general equation of a circle. ♦ State and apply the slope formula. ♦ Identify the slope and y-intercept of a given equation and be able to graph the equation. 		<ul style="list-style-type: none"> • Apply the properties of inequality to positive numbers, lengths of segments and the measures of angles. • Use properties of angle and perpendicular bisectors. • Find the length of chords and the measures of arcs of circles. • Find the measures of angles and arcs formed by chords, tangents and secants. • Find the measures of 	<ul style="list-style-type: none"> • Use Networks to solve problems. 	<ul style="list-style-type: none"> • Recognize what can be concluded from a diagram. • Use properties from algebra and properties of congruence in proofs. • Classify polygons and use formulas to find the sum of the interior and exterior and the angles of regular polygons. • Identify the corresponding parts of congruent figures. • Use properties of isosceles 	<ul style="list-style-type: none"> • Draw representations of points, lines, planes using the correct symbols. • Apply the definition & theorems about perpendicular lines. • Plan and write proofs. • Apply and identify the properties of quadrilaterals. • Apply and identify the properties of a trapezoid and the isosceles trapezoid.

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	<p>segments associated with circles.</p> <ul style="list-style-type: none"> • Use the correct formula to find the perimeter of different polygons. • Determine whether two lines are perpendicular, parallel or neither. • Use properties of 45-45-90 and 30-60-90 triangles to solve problems. • Determine the intersection of two lines. 		<p>triangles.</p> <ul style="list-style-type: none"> • Prove that certain quadrilaterals are parallelograms. • Determine when a parallelogram is a rectangle, rhombus or a square. • Understand the relationship between logically equivalent statements. • Write indirect proofs. 		
<p>Assessment</p> <ul style="list-style-type: none"> • SAME 	<ul style="list-style-type: none"> • SAME 	<ul style="list-style-type: none"> • SAME • LAS: Exploring Networks 	<ul style="list-style-type: none"> • SAME • LAS: Boats and Ambulances 	<ul style="list-style-type: none"> • SAME 	
<p>Resources</p> <ul style="list-style-type: none"> ♦ Same 	Same	Same	Same	Same	
<p>Instructional Strategies</p> <ul style="list-style-type: none"> ♦ Same 	Same	Same	Same	Same	