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Geometry

Guiding Principle

A student at the proficient level in Geometry will be able to demonstrate understanding of high school mathematics by solving problems, reasoning, communicating, representing, and making connections based on the following indicators:

Benchmark/Topics	As a result of studying Geometry, I will be able to:
(1) Lines and Angles <ul style="list-style-type: none"> • Midpoints • Distance formula • Parallel • Perpendicular 	4.0.1 Demonstrate an understanding of basic geometric relationships when I can <ul style="list-style-type: none"> • Identify a midpoint <input type="checkbox"/> Apply the midpoint formula <input type="checkbox"/> Apply the distance formula <input type="checkbox"/> Determine relationships of parallel lines <input type="checkbox"/> Determine relationships of perpendicular lines
(2) Logical Reasoning <ul style="list-style-type: none"> • Conditionals • Indirect Proof • Formal Two Column Proof 	4.0.2 Apply logical reasoning to <ul style="list-style-type: none"> <input type="checkbox"/> Interpret conditional statements <input type="checkbox"/> Justify conditional statements using indirect proof <input type="checkbox"/> Justify conditional statements using formal two column proof
(3) Congruent Polygons <ul style="list-style-type: none"> • Definition • Proof 	4.2.3 Demonstrate an understanding of the properties of congruent polygons when I can <ul style="list-style-type: none"> <input type="checkbox"/> Classify congruent polygons by definition <input type="checkbox"/> Show two polygons are congruent using formal proof
(4) Similar Polygons <ul style="list-style-type: none"> • Triangle Properties • Ratio/Proportion 	5.1.4 Demonstrate knowledge of similar polygons when I can <ul style="list-style-type: none"> <input type="checkbox"/> Identify the properties of similar triangles <input type="checkbox"/> Apply properties of ratio and proportion to solve problems involving indirect measurement
	4.2.5 Identify, state the properties and determine the relationships between each of the following quadrilaterals: <ul style="list-style-type: none"> <input type="checkbox"/> Parallelograms <input type="checkbox"/> Trapezoids <input type="checkbox"/> Squares <input type="checkbox"/> Rectangles <input type="checkbox"/> Rhombi

(5) Quadrilaterals	
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| <ul style="list-style-type: none">• Parallelograms• Trapezoids• Squares• Rectangles• Rhombus | |
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<p>(6) Right Triangle Trig</p> <ul style="list-style-type: none"> • Geometric Mean • Pythagorean Theorem • Special Right Triangles • Sine, Cosine, Tangent 	<p>4.5.6 Apply right triangle properties to problem situations when I can</p> <ul style="list-style-type: none"> <input type="checkbox"/> Solve geometric mean problems <input type="checkbox"/> Apply the Pythagorean Theorem <input type="checkbox"/> State the properties of special right triangles <ul style="list-style-type: none"> <input type="checkbox"/> 30-60-90 triangle <input type="checkbox"/> 45-45-90 triangle <input type="checkbox"/> Apply the sine, cosine and tangent ratios
<p>(7) Circles</p> <ul style="list-style-type: none"> • Circumference • Area • Secants • Tangents • Chords 	<p>4.0.7 Demonstrate an understanding of circles and their properties when I can</p> <ul style="list-style-type: none"> <input type="checkbox"/> Calculate the circumference <input type="checkbox"/> Determine the area <input type="checkbox"/> Define special cases of segments and lines related to circles and develop and use theorems about measures of the following <ul style="list-style-type: none"> <input type="checkbox"/> Secants <input type="checkbox"/> Tangents <input type="checkbox"/> Chords
<p>(8) Area and Volume</p>	<p>4.1.8 define and use the appropriate formula for</p> <ul style="list-style-type: none"> <input type="checkbox"/> Finding the area of <ul style="list-style-type: none"> <input type="checkbox"/> Triangles <input type="checkbox"/> Quadrilaterals <input type="checkbox"/> Regular Polygons <input type="checkbox"/> Circles <input type="checkbox"/> Finding the volume and surface area of <ul style="list-style-type: none"> <input type="checkbox"/> Right rectangular prisms <input type="checkbox"/> Right circular prisms <input type="checkbox"/> Right rectangular pyramids <input type="checkbox"/> Right cones

(9) Coordinate Geometry	4.3.9 Use coordinate geometry to <input type="checkbox"/> Solve problems on the coordinate plane <input type="checkbox"/> Confirm theorems using coordinate proof
(10) Constructions	4.0.10 Perform the following constructions: <input type="checkbox"/> Copy a given segment <input type="checkbox"/> Copy a given angle <input type="checkbox"/> Perpendicular bisector of a segment <input type="checkbox"/> Perpendicular through a point not on a given line <input type="checkbox"/> Perpendicular through a point on a given line <input type="checkbox"/> Angle bisector <input type="checkbox"/> Parallel line through a point not on a given line
(11) Normal Distributions <ul style="list-style-type: none"> • 68-95-99.7 Rule • Data 	6.6.11 Describe the normal curve and use its properties when I can <input type="checkbox"/> Apply the 68-95-99.7 rule <input type="checkbox"/> Answer questions about sets of data that are assumed to be normally distributed

*Benchmark Key – State Content Standard . State Benchmark . District Benchmark