

## CURRICULUM MAP FOR GEOMETRY

(Suggested timeline for introducing content and process standards - some overlap all four quarters)

GLE's/GSE's NCTM Standards	1 <sup>st</sup> Quarter	2 <sup>nd</sup> Quarter	3 <sup>rd</sup> Quarter	4 <sup>th</sup> Quarter
<b>1. Numbers Sense and Operations (content)</b>	<ul style="list-style-type: none"> <li>• <b>Review</b> <ul style="list-style-type: none"> <li>• Properties of real numbers 1.1.1</li> <li>• Simplify numerical expressions 1.5.1</li> <li>• Numbers, natural, whole, integers 1.1.1</li> <li>• Expression using exponents 1.1.1</li> <li>• Order of operations 1.5.1</li> <li>• Estimates</li> </ul> </li> <li>• Evaluate expressions 1.5.1</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Review</b> <ul style="list-style-type: none"> <li>• Evaluate expressions 1.5.1</li> <li>• Ratios 1.2.1</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>• <b>Review</b></li> <li>• Evaluate expressions 1.5.1</li> <li>• Review                             <ul style="list-style-type: none"> <li>• Estimates 1.4.1</li> <li>• Roots and Exponentiation 1.1.1</li> <li>• Laws of Exponents 1.1.1</li> </ul> </li> </ul> <p style="color: red; margin-top: 10px;"><b>Required Problems</b></p> <ul style="list-style-type: none"> <li>• Ladder # 8</li> <li>• Polygons # 3</li> <li>• Scale Drawing # 2</li> <li>• Take Me Out to the Ballgame #4</li> </ul>	<ul style="list-style-type: none"> <li>• <b>Review</b> <ul style="list-style-type: none"> <li>• Evaluate expressions 1.5.1</li> <li>• Percents 1.2.1</li> <li>• Ratios 1.2.1</li> </ul> </li> </ul> <p style="color: red; margin-top: 10px;"><b>Required Problems</b></p> <ul style="list-style-type: none"> <li>• Bicycle Wheel #15</li> <li>• Designing a Tent # 5</li> <li>• Cupcake #6</li> </ul>
<b>2. Geometry and Measurement</b>	<ul style="list-style-type: none"> <li>• Points, lines, planes 2.1.1</li> <li>• Formal proofs 2.1.1</li> <li>• Postulates and theorems 2.1.1</li> <li>• Inductive/deductive</li> </ul>	<ul style="list-style-type: none"> <li>• Congruent triangles 2.3.2</li> <li>• Triangles (classification) 2.2.1</li> <li>• Angle relationships of triangles 2.2.1</li> <li>• Proving triangles</li> </ul>	<ul style="list-style-type: none"> <li>• Pythagorean Theorem 2.2.1</li> <li>• Special right triangles Classification of polygons 2.2.1</li> <li>• Areas of triangles and</li> </ul>	<ul style="list-style-type: none"> <li>• Volume, surface area and lateral area 2.6.1</li> <li>• Graph circles 2.8.1</li> <li>• Sketch solids 2.6.1</li> <li>• Distance formula 2.8.1</li> <li>• Midpoint formula 2.8.1</li> </ul>

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	reasoning 2.2.1 <ul style="list-style-type: none"> <li>• Logic</li> <li>• Parallel/perpendicular lines 2.2.1</li> <li>• Angles formed and their measures 2.3.1</li> <li>• Angle relationships 2.3.1</li> <li>• Slope 2.8.1</li> </ul> <p style="color: red;">Required problems</p> <ul style="list-style-type: none"> <li>• Cubes #1</li> <li>• Trapezoid #9</li> <li>• Hexagon #10</li> <li>• The Problem #11</li> <li>• Diagonals in a Polygon #16</li> </ul>	congruent 2.3.1 <ul style="list-style-type: none"> <li>• Perpendiculars and bisectors of triangles 2.2.1</li> <li>• Medians/altitudes of triangles 2.2.1</li> <li>• Median theorem 2.2.1</li> <li>• Triangle inequalities 2.5.2</li> <li>• Quadrilaterals 2.2.1</li> <li>• Parallelograms, rectangles, rhombus, square 2.2.1</li> <li>• Angle/sides of polygons 2.2.1</li> <li>• Trapezoids 2.2.1</li> </ul>	quadrilaterals 2.6.1 <ul style="list-style-type: none"> <li>• Perimeter/circumference area</li> <li>• Perimeter/area of irregular shapes 2.6.1</li> <li>• Circles 2.2.1</li> <li>• Segment relationships in circles 2.2.1</li> <li>• Angle and arc relationships in circles 2.2.1</li> <li>• Equations of circles 2.8.1</li> <li>• Ratio/proportion 1.2.1</li> <li>• Similarity in triangles 2.4.1</li> <li>• Similarity in polygons 2.4.1</li> <li>• Trigonometry 2.4.2</li> </ul>	<ul style="list-style-type: none"> <li>• Transformations 2.3.2</li> <li>• Symmetry 2.3.2</li> </ul> <p style="color: red;">Required problems</p> <ul style="list-style-type: none"> <li>• Cupcake #6</li> <li>• Pentagon #7</li> </ul>
<b>3. Functions and Algebra</b>	<b>Review</b> <ul style="list-style-type: none"> <li>• Equations and inequalities 3.4.2</li> <li>• Linear equations 3.4.2</li> </ul>	<b>Review</b> <ul style="list-style-type: none"> <li>• Equations and inequalities 3.4.2</li> <li>• Linear equations 3.4.2</li> </ul>	<b>Review</b> <ul style="list-style-type: none"> <li>• Equations and inequalities 3.4.2</li> </ul>	<b>Review</b> <ul style="list-style-type: none"> <li>• Quadratic patterns 3.1.1</li> <li>• Exponential patterns</li> </ul>

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	<ul style="list-style-type: none"> <li>• Combining like terms 3.3.1</li> <li>• Variable expressions 3.3.1</li> <li>• Patterns 3.1.1</li> <li>• Formulas 3.4.2</li> </ul> <p style="color: red; margin-top: 10px;">Required Problems</p> <ul style="list-style-type: none"> <li>• Cubes # 1</li> <li>• Trapezoid #9</li> <li>• Hexagon #10</li> <li>• The Problem #11</li> <li>• Growing Fish #13</li> <li>• Diagonals in a Polygon #16</li> </ul>	<ul style="list-style-type: none"> <li>• Variable expressions 3.3.1</li> <li>• Systems of equations 3.4.2</li> </ul>	<p style="color: red; margin-top: 10px;">Required Problems</p> <ul style="list-style-type: none"> <li>• Scale Drawing #2</li> <li>• Polygons #3</li> <li>• Take Me Out to the Ballgame #4</li> <li>• Ladder #8</li> <li>• Tilting Refrigerator #14</li> </ul>	<ul style="list-style-type: none"> <li>and expressions 3.1.1</li> <li>• Standard form of equations 3.4.2</li> <li>• Mid point formula 3.4.2</li> <li>• Distance formula 3.4.2</li> <li>• Slope 3.4.2</li> <li>• X and y intercepts 3.4.2</li> <li>• Cartesian plane 3.4.2</li> </ul> <p style="color: red; margin-top: 10px;">Required problems</p> <ul style="list-style-type: none"> <li>• Designing a Tent #5</li> <li>• Cupcake #6</li> <li>• Pentagon #7</li> <li>• Bicycle Wheel #15</li> </ul>
<p><b>4. Data, Statistics, and Probability (content)</b></p>	<p style="color: red; margin-top: 10px;">Required Problems</p> <ul style="list-style-type: none"> <li>• Cubes #1</li> <li>• Trapezoid #9</li> <li>• Hexagon #10</li> <li>• The Problem #11</li> <li>• Growing Fish #13</li> <li>• Diagonals in a Polygon #16</li> </ul>		<ul style="list-style-type: none"> <li>• Geometric probability 4.1.1</li> </ul>	

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<b>5. Problem Solving, Reasoning and Proof</b> (process)	<ul style="list-style-type: none"> <li>• Problem-solving strategies 5.1.1</li> <li>• Logical conclusions and generalizations 5.2.1</li> <li>• Mathematical conjectures and arguments 5.2.2</li> <li>• Validity of a mathematical solution 5.2.3</li> <li>• Mathematical reasoning in other disciplines. 5.2.4</li> </ul>	<ul style="list-style-type: none"> <li>• Problem-solving strategies 5.1.1</li> <li>• Logical conclusions and generalizations 5.2.1</li> <li>• Mathematical conjectures and arguments 5.2.2</li> <li>• Validity of a mathematical solution 5.2.3</li> <li>• Mathematical reasoning in other disciplines. 5.2.4</li> </ul>	<ul style="list-style-type: none"> <li>• Problem-solving strategies 5.1.1</li> <li>• Logical conclusions and generalizations 5.2.1</li> <li>• Mathematical conjectures and arguments 5.2.2</li> <li>• Validity of a mathematical solution 5.2.3</li> <li>• Mathematical reasoning in other disciplines. 5.2.4</li> </ul>	<ul style="list-style-type: none"> <li>• Problem-solving strategies 5.1.1</li> <li>• Logical conclusions and generalizations 5.2.1</li> <li>• Mathematical conjectures and arguments 5.2.2</li> <li>• Validity of a mathematical solution 5.2.3</li> <li>• Mathematical reasoning in other disciplines. 5.2.4</li> </ul>
<b>6. Communication, Representation, and connections</b> (process)	<ul style="list-style-type: none"> <li>• Ideas clearly and logically in both written and oral form. 6.1.1</li> <li>• Mathematical <b>terminology, labels</b>, symbols, and notation 6.1.3</li> <li>• Questions, conjectures, definitions, and generalizations about data, information, and problem situations 6.1.4</li> <li>• Models and technology 6.2.1</li> <li>• Representations 6.2.2</li> <li>• Oral and written form 6.3.3</li> </ul>	<ul style="list-style-type: none"> <li>• Ideas clearly and logically in both written and oral form. 6.1.1</li> <li>• Mathematical <b>terminology, labels</b>, symbols, and notation 6.1.3</li> <li>• Questions, conjectures, definitions, and generalizations about data, information, and problem situations 6.1.4</li> <li>• Models and technology 6.2.1</li> <li>• Representations 6.2.2</li> <li>• Oral and written form 6.3.3</li> </ul>	<ul style="list-style-type: none"> <li>• Ideas clearly and logically in both written and oral form. 6.1.1</li> <li>• Mathematical <b>terminology, labels</b>, symbols, and notation 6.1.3</li> <li>• Questions, conjectures, definitions, and generalizations about data, information, and problem situations 6.1.4</li> <li>• Models and technology 6.2.1</li> <li>• Representations 6.2.2</li> <li>• Oral and written form 6.3.3</li> </ul>	<ul style="list-style-type: none"> <li>• Ideas clearly and logically in both written and oral form. 6.1.1</li> <li>• Mathematical <b>terminology, labels</b>, symbols, and notation 6.1.3</li> <li>• Questions, conjectures, definitions, and generalizations about data, information, and problem situations 6.1.4</li> <li>• Models and technology 6.2.1</li> <li>• Representations 6.2.2</li> <li>• Oral and written form 6.3.3</li> </ul>