The following Practice Standards and Literacy Skills will be used throughout the course:

**Standards for Mathematical Practice**
1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics. ★
5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

**Literacy Skills for Mathematical Proficiency**
1. Use multiple reading strategies.
2. Understand and use correct mathematical vocabulary.
3. Discuss and articulate mathematical ideas.
4. Write mathematical arguments.

---

**Topics Covered this Quarter by Domain and Cluster**

**Congruence (G.CO)**
- Cluster C. Prove geometric theorems

**Expressing Geometric Properties with Equations (G.GPE)**
- Cluster B: Use coordinates to prove simple geometric theorems algebraically

**Similarity, Right Triangles, and Trigonometry (G.SRT)**
- Cluster A: Understand Similarity in terms of similarity transformations
- Cluster B: Prove theorems involving similarity

*Unless otherwise noted, all resources are from the HMH Geometry 2015 edition.*
<table>
<thead>
<tr>
<th>Standards</th>
<th>Student Friendly “I Can” Statements</th>
</tr>
</thead>
</table>
| **G.WCE.5** Find sums and angle measures of polygons. | I can compute the interior and exterior angle sums of convex polygons (*ACT)  
I can find the measure of both an interior and exterior angle of a regular polygon (*ACT) |
| **G.CO.C.10** Prove theorems about triangles. | I can prove the sum of the measures of the interior angles of a triangle is equal to 180°.  
I can prove the base angles of isosceles triangles are congruent.  
I can identify that a polygon is a triangle given three side measures (Triangle Inequality Theorem).  
I can order the sides of a triangle from least to greatest given its angle measures.  
I can order the angles of a triangle from least to greatest given its side measures. |
| **G.WCE.6** Demonstrate understanding of the **Triangle Inequality Theorem** and the Centroid Theorem. |  |
| **G.C.A.3** Construct the incenter and circumcenter of a triangle and use their properties to solve problems in context. | I can construct the circumscribed circle whose center is the point of intersection of the perpendicular bisectors (circumcenter).  
I can solve problems using the properties of the circumcenter.  
I can construct the inscribed circle whose center is the point of |
| **G.WCE.6** Demonstrate understanding of the Triangle Inequality Theorem and the Centroid Theorem. | intersection of the angle bisectors (incenter).  
I can solve problems using the properties of the incenter.  
I can prove the segment joining the midpoints of two sides of a triangle (midsegment) is parallel to, and half the length of, the third side.  
I can prove the medians of a triangle meet at a point called the centroid.  
I can explore additional properties of the Centroid theorem. |
|---|---|
| **Unit 3 - Quadrilaterals and Coordinate Proof** | **G.CO.C.11** Prove theorems about parallelograms.  
I can define and describe the following quadrilaterals: all parallelograms, all trapezoids, and kites.  
I can prove the opposite sides of a parallelogram are congruent.  
I can prove the opposite angles of a parallelogram are congruent.  
I can prove the diagonals of a parallelogram bisect each other.  
I can prove rectangles are parallelograms with congruent diagonals. |
| **G.GPE.B.3** Prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems. | I can use slope to determine properties of polygons.  
I can use slope to prove properties of quadrilaterals and classify them. |
| **G.GPE.B.2** Use coordinates to prove simple geometric theorems algebraically. | I can represent the vertices of a figure in the coordinate plane using variables.  
I can write coordinate proofs. |
| **G.GPE.B.5 ★** Know and use coordinates to compute perimeters of polygons and areas of triangles and rectangles. | I can use coordinate geometry and the distance formula to find the area and perimeters of polygons on the coordinate plane. |

| **Unit 4 - Similarity** |  |
| **G.SRT.A.1** Verify informally the properties of dilations given by a center and a scale factor. | I can define dilation.  
I can perform a dilation with a given center and scale factor on a figure in the coordinate plane.  
I can verify that when a side passes through the center of dilation, the side and its image lie on the same line.  
I can verify that corresponding sides of the pre-image and images are parallel and proportional. |

| **G.SRT.A.2** Given two figures, use the definition of similarity in terms of similarity transformations to decide if they are similar; explain using similarity transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides. | I can define similarity as a composition of rigid motions followed by dilations in which angle measure is preserved and side length is proportional.  
I can identify corresponding sides and corresponding angles of similar triangles.  
I can determine scale factor between two similar figures and use the scale factor to solve problems.  
I can demonstrate that corresponding angles are congruent and corresponding sides are proportional in a pair of similar triangles. |

<p>| <strong>G.SRT.A.3</strong> Use the properties of similarity transformations to establish the AA criterion for two triangles to be similar. | I can determine that two figures are similar by verifying that angle measure is preserved and corresponding sides are proportional. |</p>
<table>
<thead>
<tr>
<th>Standard</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>G.SRT.B.5</strong></td>
<td>Use congruence and <strong>similarity criteria</strong> for triangles to solve problems and to justify relationships in geometric figures. I can show and explain that when two angles measures (AA) are known, the third angle measure is also known. (Third Angle Theorem) I can use triangle similarity theorems such as AA, SSS and SAS to prove two triangles are similar.</td>
</tr>
<tr>
<td><strong>G.SRT.B.4</strong></td>
<td>Prove theorems about similar triangles. I can prove a line parallel to one side of a triangle divides the other two proportionally. I can prove if a line divides two sides of a triangle proportionally; then it is parallel to the third side.</td>
</tr>
<tr>
<td><strong>G.GPE.B.4</strong></td>
<td>Find the point on a directed line segment between two given points that partitions the segment in a given ratio. I can find the point on a line segment, given two endpoints, that divides the segment into a given ratio.</td>
</tr>
</tbody>
</table>

**Honors Addendum**
*Note for Teachers of Honors: Do not teach this Honors Addendum at the end of the quarter. Embed the Honors Addendum within the regular Scope & Sequence.*

**Relationships Within Triangles**

**G.WCE.17** Construct the points of concurrency within a triangle and solve problems using the properties of the centroid, orthocenter, incenter, and circumcenter. I can distinguish among altitudes, angle bisectors, perpendicular bisectors, medians and midsegments in triangles and use their properties to solve problems. I can distinguish among the centroid, orthocenter, incenter, and circumcenter in a triangle and use the properties of each to solve problems. I can construct special segments in triangles using a compass and a straight edge or patty paper. I can use points of concurrency to construct and make conjectures about the Euler Line.