

## Geometry Syllabus, First Semester (correlation to Common Core Geometry)

### Unit 1: Algebra review

Lesson 01: Solving linear equations and inequalities

Lesson 02: Solving systems of two linear equations

Lesson 03: Trinomial factoring

Lesson 04: Special factoring formulas

$$a^2 - b^2; a^2 \pm 2ab + b^2$$

Lesson 05: Solving quadratic equations

Unit 1 review

Unit 1 test

### Unit 2: Basic definitions & concepts (points, lines, and planes)

Lesson 01: Definitions & conventions **G-CO-1**

Lesson 02: Postulates concerning points, lines, & planes **G-CO-1**

Practice with points, lines, and planes

Lesson 03: Distance on a number line **G-Co-1**

Length of a line segment

Lesson 04: Midpoint of a line segment (midpoint formula) **G-Co-9; G-GPe-4**

Lesson 05: Line segment bisectors **G-Co-9; G-GPe-4**

Unit 2 review

Unit 2 test

### Unit 3: Angles

Lesson 01: Angle fundamentals

Lesson 02: Special angle pairs, perpendicular lines **G-Co-1**

Supplementary and complementary angles

Lesson 03: Angle word problems **G-Co-1,9**

Lesson 04: Construction fundamentals **G-CO-12,13**

Copying segments & angles; bisecting segments & angles

Cumulative review, unit 3

Unit 3 test

#### **Unit 4: Parallel lines & planes and transversals**

Lesson 01: Parallel lines & planes fundamentals **G-Co-1,9**

Definitions of transversal angle pairs

Lesson 02: Parallel lines cut by a transversal. **GCo-9**

Lesson 03: More practice with parallel lines and transversals

Same-side angles **GCo-9**

Lesson 04: Parallel line construction **G-CO-12**

Parallel lines: multiple variable problems **GCo-9**

Cumulative review

Unit 4 review

Unit 4 test

#### **Unit 5: Triangles & other Polygons**

Lesson 01: Triangle fundamentals

Sum of the interior angles ( $180^\circ$ ) **GCo-10**

Lesson 02: Triangle inequalities **GCo-10**

Constructing a triangle **G-CO-12**

Lesson 03: Polygons (interior angles) **GCo-11**

Lesson 04: Exterior angles of a polygon **GCo-11**

Cumulative review

Unit 5 review

Unit 5 test

#### **Unit 6: Quadrilaterals**

##### **Parallelograms & Trapezoids**

Lesson 1: Parallelogram fundamentals **GCo-9**

Lesson 2: Rectangles **GCo-11**

Lesson 3: Rhombi & squares **GCo-11**

Lesson 4: Trapezoids **G-GPe-7**

Cumulative review

Unit 6 review

Unit 6 test

## **Unit 7: Right triangles**

### **Trigonometric ratios (sine, cosine, & tangent)**

Lesson 1: The Pythagorean Theorem **G-CO-10; G-Srt-4**

Lesson 2: Pythagorean triples **G-srt-8**

Converse of the Pythagorean Theorem

Lesson 3: A special triangle (45-45-90) **G-srt-6, 8**

Introduction to trig ratios

Lesson 4: Another special triangle (30-60-90) **G-srt-6,-8**

Lesson 5: Trig ratios in right-triangles **G-srt-7, -6,-8**

Word problems using trig

Lesson 6: Solutions of non-right-triangles **G-srt-6, -9**

Sine Law, Cosine Law, & Area formula

Cumulative review

Unit 7 review

Unit 7 test

## **Unit 8: Ratios, Proportional Parts**

### **Similar Polygons, Dilations**

Lesson 1: Practice with ratios and proportions **G-Srt-5**

Associated word problems

Lesson 2: Similar polygons **G-Srt-2, -5**

Lesson 3: Similar triangles **G-Srt-3, -5**

AA, SAS, & SSS similarity

Lesson 4: Dilations **G-Srt-1a, -1b; G-GPe-7**

Lesson 5: Indirect measurement word problems **G-Srt-5**

Lesson 6: Proportional parts produced by parallel lines **G-CO-9,-10; G-Srt-4**

Lesson 7: More parallel lines and proportional segments **G-CO-9,-10; G-Srt-4**

Line joining midpoints of triangle sides

Cumulative review

Unit 8 review

Unit 8 test

### **Unit 9: Area and perimeter**

Lesson 1: Rectangle area, perimeter, and diagonal **G-GP2-7**

Lesson 2. Parallelogram area and perimeter **G-GP2-7**

Lesson 3: Triangle area and perimeter **G-GP2-7**

Lesson 4: Rhombus area and perimeter **G-GP2-7**

Lesson 5: Trapezoid area and perimeter **G-GP2-7**

Cumulative review

Unit 9 review

Unit 9 test

### **Semester summary**

Semester review

Semester test