Geometry Syllabus (Second Semester)

Unit 10: Areas of regular polygons

Lesson 01: Areas of regular (equilateral) triangles

Lesson 02: Areas of regular quadrilaterals (squares)

Lesson 03: Areas of regular hexagons

Lesson 04: Area of regular n-gons

Lesson 05: Effects of dimension and area changes

Cumulative review
Unit 10 review
Unit 10 test

Unit 11: Three dimensional objects; Prisms

Lesson 01: Isometric drawings and nets

Lesson 02: Prism fundamentals

Lesson 03: Areas and volumes of prisms

Lesson 04: More practice with areas and volumes of prisms

Lesson 05: Effects of prism dimension, area, and volume changes
           Units conversions

Cumulative review
Unit 11 review
Unit 11 test

Unit 12: Pyramids

Lesson 01: Pyramid fundamentals and associated nets

Lesson 02: Surface areas and volumes of pyramids

Lesson 03: More practice with areas and volumes of pyramids

Lesson 04: Effects of pyramid dimension, area, and volume changes
           Units conversions

Cumulative review
Unit 12 review
Unit 12 test

Unit 13: Circles

Lesson 01: Circle fundamentals

Lesson 02: Shaded areas involving circles

Lesson 03: Circle equations and inequalities

Lesson 04: Tangents

Cumulative review
Unit 13 review
Unit 13 test

Unit 14: Cylinders, cones, and spheres

Lesson 01: Cylinder fundamentals (areas and volumes)

Lesson 02: Cone fundamentals (areas and volumes)

Lesson 03: Sphere fundamentals (areas and volumes)
             Rotation of two-dimensional objects; cross sections

Cumulative review
Unit 14 review
Unit 14 test

Unit 15: Arcs, chords, central angles
       Sector and segment area

Lesson 1: Arcs, semicircles, and central angles

Lesson 2: Arcs and chords

Lesson 3: Arc length, sector area, and segment area

Lesson 4: Area probability problems
             Construction: Circumscribing a triangle with a circle

Cumulative review
Unit 15 review
Unit 15 test

Unit 16: Inscribed angles and angles formed by secants & tangents

Lesson 1: Inscribed angles

Lesson 2: Angles formed by secants and tangents

Lesson 3: More practice with inscribed angles and angles formed by
        secants and tangents

Lesson 4: Special line segments associated with a circle

Lesson 5: More practice with special segments

Lesson 6: Inscribing circles inside triangles and regular polygons

Cumulative review
Unit 16 review
Unit 16 test

Unit 17: Rigid Motion Transformations
   Equations of Lines & Slope Relationships

Lesson 1: Translations in a plane

Lesson 2: Reflections in a plane

Lesson 3: Rotations in a plane

Lesson 4: Patterns (arithmetic and geometric sequences)

Lesson 5: Parallel and perpendicular line relationships
        Slopes and equations of lines

Cumulative review
Unit 17 review
Unit 17 test

Unit 18: Logic and Proofs (SSS, SAS, & ASA)

Lesson 1: Conditional statements

Lesson 2: Introduction to two column proofs;
        Algebraic proofs

Lesson 3: Congruent triangles and CPCTC

Lesson 4: Triangle congruence: Postulates and theorems
     SSS, SAS, ASA, AAS

Lesson 5: Proving triangles congruent using triangle congruence theorems and CPCTC

Unit 18 review
Unit 18 test

Semester summary

Semester review
Semester test

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In-depth Topics

Topic A: Sign rules
Topic B: Derivation of the quadratic formula
Topic C: Conic section applications and equation derivations
Topic D: Euclidean/non-Euclidean geometry
Topic E: Constructions
Topic F: Exterior Angle Sum Theorem
Topic G: Interior Angle Sum Theorem
Topic H: Derivation of the Sine Law
Topic I: Derivation of the Cosine Law
Topic J: Derivation of a triangle area formula
Topic K: Analytic Geometry and the use of equations in geometry
Topic L: Area & volume density and associated unit conversions
Topic M: Area of a regular polygon by apothem and perimeter
Topic N: Area of a regular polygon by apothem and perimeter