Final Exam: (20% of your final grade)

Your final exam will take place on ________________________:

On the final exam...

- You will complete some multiple choice questions
- You will complete some fill in the blank questions in which you will need to show your work.
- You will complete some open response questions in which you will need to explain your reasoning using complete sentences and work.
- You will complete some proofs.

On the day of the final exam, you should bring...

- Scientific Calculator (should be able to do trig)
- Pencil
- [Optional: Erasers/Highlighters/Colored Pens/Ruler/Protractor/Compass]
- Your Final Exam Reference Sheet...

Your Final Exam Reference Sheet Guidelines...

*Use both sides of an 8 ½” x 11” piece of paper

*All contents of your Reference Sheet must be handwritten (in your handwriting)

*YOU must have put together your Reference Sheet (so you may not photocopy another student’s Reference Sheet)

*There are no other restrictions as to what you may write on the Reference Sheet

Please visit the class website sau57.org/tecce for other study resources.
Topics for Unit 1 (Basics of Geometry)

- Solve equations
- Evaluate expressions using the Substitution Property
- Name points, lines, and planes
- Model situations involving points, lines, and planes
- Use vocabulary including collinear, coplanar, conjecture, intersect, parallel, between
- Make a conjecture about the next item in a sequence.
- Write a conditional statement in if-then form and identify the hypothesis and conclusion
- Write the converse, inverse, and contrapositive of a conditional statement
- Determine if a conjecture if true or false (and provide a counterexample if false)
- Recognize Reflexive, Symmetric, and Transitive properties
- Complete an Algebraic Proof (citing the "Reasons")

Topics for Unit 2 (Segments)

- Name a segment
- Use vocabulary including line segment, endpoints, midpoint, between, congruent, bisect, and equidistant
- Find the measure of a segment using a ruler (in, cm, mm) and a grid
- Understand and apply the Segment Addition Postulate
- Use algebra to find missing measures of segments
- Use the midpoint formula to find the midpoint of points on a number line and/or coordinate plane
- Use the midpoint formula to find the missing endpoint given an endpoint and the midpoint
- Find the perimeter of a polygon or composite figure
- Write a proof to prove facts involving line segments

Topics for Unit 3 (Angles)

- Use vocabulary including ray, angle, vertex, congruent, bisect, and perpendicular
- Name and/or draw a ray
- Find the measure of an angle using a protractor
- Identify the vertex and sides of an angle and name the angle three different ways
- Determine the location of a point with respect to an angle (interior, exterior, or on an angle)
- Classify an angle as acute, obtuse, right, or straight
- Understand and apply the Angle Addition Postulate
- Use algebra to find missing measures of angles
- Identify and use angle relationships including vertical angles, linear pair, adjacent angles, congruent angles, complementary angles, and supplementary angles
- Prove facts involving angle relationships
- Identify and use angle relationships including corresponding angles, alternate exterior angles, alternate interior angles, same-side interior angles, transversal, parallel lines, skew lines, and intersecting lines
- Prove facts involving angles and parallel lines
Topics for Unit 4 (Triangles)

- Name a triangle and its parts (vertices, sides, interior angles)
- Classify a triangle by its angles (acute, right, obtuse, equiangular) and sides (scalene, isosceles, equilateral)
- Find unknown side lengths and angle measures based on a marked triangle
- Find unknown angle measures of a triangle (interior angles and exterior angles)
- Use vocabulary including exterior angle, interior angle, remote interior angles, vertex angle, base angles, legs, and base
- Understand and apply the Isosceles Triangle Theorem (and converse) to find missing angle and side measures of an isosceles triangle
- Prove that a triangle is isosceles
- Understand and apply the fact that an equilateral triangle is equiangular (and converse)
- Order the sides and/or angles of a triangle from least to greatest
- Determine whether a given set of side lengths can create a triangle
- Determine the range of possible side lengths for the third side of a triangle given the other two
- Understand and apply the Hinge Theorem to compare the side/angle measures of two triangles
- Construct the perpendicular bisector and angle bisectors of a triangle
- Understand and apply the Angle Bisector Theorem and Perpendicular Bisector Theorem to find missing measure
- Find unknown interior and exterior angle measures of convex polygons (and recognize the names of these polygons)
- Use vocabulary including convex, concave, and regular in reference to polygons

Topics for Unit 5 (Right Triangles)

- Identify parts of a right triangle (legs, hypotenuse)
- Use Pythagorean Theorem to find missing side lengths of a right triangle (including word problems!)
- Solve word problems involving right triangles
- Use Pythagorean Triples (3, 4, 5 and 5, 12, 13)
- Find the slope of a line given two points, a graph, or situation (i.e. grade, roof)
- Determine whether two lines are parallel, perpendicular, or neither based on the slopes
- Find the distance between two points on a coordinate plane
- Find the perimeter of a polygon on a coordinate plane
- Solve problems involving 30-60-90 triangles
- Solve problems involving 45-45-90 triangles
- Write the trigonometric ratios given a right triangle
- Solve a proportion
- Use trigonometry to find missing side lengths
- Use trigonometry to find missing angle measures
- Understand that the sine of an angle equals the cosine of the complement (the heart problem)
- Find sin 30, cos 30, tan 30, sin 60, cos 60, tan 60, cos 45, sin 45 and tan 45 without a calculator
Topics for Unit 7 (Transformations, Congruent Triangles, Quadrilaterals)

- Name the transformation (Translation, Reflection, Rotation)
- Identify corresponding parts of a preimage and image
- Use the properties of isometries to find missing angles and side lengths.
- Classify a transformation as an isometry
- Identify congruent parts of congruent polygons
- Write a congruence statement for congruent polygons
- Prove that triangles are congruent (SSS, ASA, SAS, AAS)
- Write proofs involving congruent triangles
- Use the properties of parallelograms, rectangles, rhombuses, squares, trapezoids, and isosceles trapezoids to solve problems
- Classify a quadrilateral as a parallelogram, rectangle, rhombus, square, trapezoid, and/or isosceles trapezoid
- Complete proofs involving parallelograms, rectangles, rhombuses, squares, trapezoids, and isosceles trapezoids (and congruent triangles)

Topics for Unit 8 (Area and Volume)

- Find the area of parallelograms
- Find the area of triangles
- Find the area of trapezoids
- Find the area of a circle
- Find the circumference of a circle
- Find the area of a regular polygon
- Find the surface area of a cylinder or prism
- Find the surface area of a cone or pyramid
- Find the surface area of a sphere
- Find the volume of a cylinder or prism
- Find the volume of a cone or pyramid
- Find the volume of a sphere
- Find the area of a composite figure
- Name a solid (prism, pyramid, cone, cylinder, or sphere)

Topics for Unit 9 (Similarity and Proportional Relationships)

- Determine whether two triangles are similar (AA~)
- Find the scale factor for two similar figures
- Find missing side lengths of similar figures