GEOMETRY – SPRING FINAL STUDY TOPICS

- Be able to use the Triangle Sum Theorem
- Know the difference between Supplementary and Complementary Angles
- Identify angle pairs formed by two lines and a transversal (Alternate Interior, Same Side Interior, Corresponding, Vertical)
- Identify congruent triangles by SSS, SAS, ASA, AAS or HL
- Know the definition of an isosceles triangle and use this information to solve for missing angles in a triangle
- Know the properties of a the special quadrilaterals (Parallelogram, Rectangle, Square, Rhombus, Kite, Trapezoid)
- Use the properties of kites and parallelograms to solve for missing angles and side lengths
- Prove triangles are similar by SSS, SAS or AA
- Solve for missing side lengths or angles in similar triangles (use proportions for side lengths). Be able to sketch the similar triangles given the dimensions
- Solve for missing angles in a trapezoid (remember that the same side interior angles between the parallel sides are supplementary)
- Solve proportions
- Use the Pythagorean theorem to find missing sides in a right triangle
- Use special 30-60-90 and 45-45-90 triangles to solve for missing sides keeping in simplest radical form
- Know your trig ratios, Sine, Cosine and Tangent
- Solve for missing sides and angles in right triangles using trig and inverse trig
- Find the area of polygons including triangles, trapezoids, hexagons, pentagons, octagons, etc.
- Find the Surface Area of Prisms, cylinders, cones and pyramids
- Find the Volume of Prisms, Cylinders, Cones and Pyramids
- Find the area of a sector of a circle
- Know that if a chord is perpendicular to a radius or diameter then it is bisected. Use this to solve for a missing length
- Know that an inscribed angle is equal to ½ the measure of its intercepted arc
- Know that the central angle is equal to the measure of its intercepted arc
- Identify if a situation is a Permutation or a Combination and find all the possibilities
- Find the expected value of one spin of a spinner
- Be able to create an area model given a situation and calculate the probability
- Identify Pythagorean Triples
- Be able to find the Volume of a Sphere
- Be able to find the similarity ratio of similar figures given the area ratio
- Know the definition of a polygon
- Solve probability problems for spinners, dice and a deck of cards (52 cards with 4 suits of 13).
- Solve probability of being in the space of a region inside another region. Such as a triangle inside a rectangle.
- Write and simplify a ratio (Ex: 4 minutes to 10 seconds. Make sure both units are the same first)
- Know the definition of concentric circles (Same center but different radii)
- Know that a tangent is perpendicular to the radius or diameter of a circle.
- Solve for segments of chords that intersect inside a circle and secants that intersect outside a circle
- Solve for angles when chords or secants intersect inside or outside a circle
- Know how to find the length of a diagonal inside a box. Solve by using the Pythagorean theorem twice
- Know how to set up a similarity problem for triangles made from shadows cast (Remember the shadow length is on the ground)
- Construct any of the points of concurrency identifying what tools you used with proper vocabulary and any special features
- Complete a 2 column proof
- Plot points to form a shape on a graph and calculate the side lengths and angles formed