# Possible Theorem Proofs for Final Exam

2 – 1: Midpoint Theorem

2 – 2: Angle Bisector Theorem

2 – 4: If two lines are perpendicular, then they form congruent adjacent angles.

2 – 5: If two lines form congruent adjacent angles, then the lines are perpendicular.

2 – 6: If the exterior sides of two adjacent acute angles a re perpendicular, then the angles are complementary.

2 – 7: If two angles are supplements of congruent angles (or the same angle), then the two angles are congruent.

3 – 2: If two parallel lines are cut by a transversal, then alternate interior angles are congruent.

3 – 3: If two parallel lines are cut by a transversal, the same-side interior angles are supplementary.

3 – 6: If two lines are cut by a transversal and same-side interior angles are supplementary then the lines are parallel.

3 – 11: The sum of the measures of the angles of a triangle is 180.

3 – 12: The measure of an exterior angle of a triangle equals the sum of the measures of the two remote interior angles.

4 – 1: The Isosceles Triangle Theorem

4 – 3: AAS Theorem

5 – 5: If one pair of opposite sides of a quadrilateral are both congruent and parallel, then the quadrilateral is a parallelogram.

5 – 12: The diagonals of a rectangle are congruent.

5 – 13: The diagonals of a rhombus are perpendicular.

Corollary 1: Chapter 8: When the altitude is drawn to the hypotenuse of a right triangle, the length of the altitude is the geometric mean between the segments of the hypotenuse.

Corollary 2: Chapter 8: When the altitude is drawn to the hypotenuse of a right triangle, each leg is the geometric mean between the hypotenuse and the segment of the hypotenuse that is adjacent to that leg.

8 – 2: Pythagorean Theorem

9 – 10: The measure of an angle formed by two secants, two tangents, or a secant and a tangent drawn from a point outside a circle is equal to half the difference of the measures of the intercepted arcs.

9 – 12: When two secant segments are drawn to a circle from an external point, the product of one secant segment and its external segment equals the product of the other secant segment and its external segment.

9 – 13: When a secant segment and a tangent segment are drawn to a circle from an external point, the product of the secant segment and its external segment is equal to the square of the tangent segment.