CO-A1a: Point/Lines/Planes: I know precise definition of line segment, based on the undefined notions of point, line, and distance along a line.

CO-A1b: Types of Lines: I know the precise definitions of parallel and perpendicular lines based on the undefined notions of point, line, and distance along a line.

CO-A1c: Angles and Circles: I know precise definitions of angles and circles, based on the undefined notions of point, line, and distance along a line, and distance around a circular arc.

CO-D12a: Constructions 1: I can make formal geometric constructions including: copying segment and angle, midpoint, perpendicular bisector, and angle bisector.

GPE-B6a: Partitioning a Segment: I can find the point on a directed line segment between two given points that partitions the segment in a given ratio.

GPE-B7a: Distance Formula: I can use coordinates to compute perimeters of polygons and areas of triangles and rectangles using the distance formula.

GPE-B5a: Slopes: I can prove the slope criteria for parallel and perpendicular lines and use them to solve geometric problems (e.g., find the equation of a line parallel or perpendicular to a given line that passes through a given point).

CO-C9a: Basics of Proof: I can prove theorems about lines and angles, ex: vertical angles are congruent.

CO-C9b: Line Proofs: I can prove theorems about lines and angles. Theorems include: when a transversal crosses parallel lines, alternate interior angles are congruent and corresponding angles are congruent; points on a perpendicular bisector of a line segment are exactly those equidistant from the segment's endpoints.

CO-A2a: Performing Transformations: I can represent transformations in the plane using compass and straight edge, tracing paper, and geometry software; I can describe transformations as functions that take points in the plane as inputs and give other points as outputs. I can compare transformations that preserve distance and angle to those that do not (e.g., translation versus horizontal stretch).

CO-A3a: Symmetry: Given a rectangle, parallelogram, trapezoid, or regular polygon, I can describe the rotations and reflections that carry it onto itself.
CO-A4a: Types of Transformations: I can develop definitions of rotations, reflections, and translations in terms of angles, circles, perpendicular lines, parallel lines, and line segments.

CO-A3b: Symmetry: Given a rectangle, parallelogram, trapezoid, or regular polygon, I can describe the rotations and reflections that carry it onto itself.

CO-A5b: Sequences of Transformations: Given a geometric figure and a rotation, reflection, or translation, I can draw the transformed figure. I can specify a sequence of transformations that will carry a given figure onto another.

CO-A1a: Point/Lines/Planes: I know precise definition of line segment, based on the undefined notions of point, line, and distance along a line.

SRT-B5a: Proving Triangles Congruent: I can use congruence criteria for triangles to solve problems and to prove relationships in geometric figures.

SRT-B5b: Advanced Triangle Congruence: I can use congruence criteria for triangles to solve complex problems and to prove relationships in geometric figures.

CO-C10a: Isosceles Triangles; Midsegments: I can prove theorems about triangles, including the fact that base angles of an isosceles triangle are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length.

CO-C10b: Triangle Centers: I can prove theorems about triangles, including the fact that the medians of a triangle are concurrent; the angle bisectors are concurrent; the perpendicular bisectors are concurrent.

CO-C11a: Parallelograms: I can prove that parallelograms have congruent opposite sides and opposite angles.

CO-C11b: More Parallelograms: I can prove that the diagonals of a parallelogram bisect each other and that rectangles are parallelograms with congruent diagonals, and theorems about rhombuses and squares.

GPE-B4a: Coordinate Quadrilaterals: I can prove that given coordinates describe a type of quadrilateral.

CO-A2b: Non-Rigid Motions: I can compare transformations that keep distance and angle to those that do not.

SRT-A1a: Basics of Dilation: I can perform and examine dilations involving scale factors and centers.

SRT-A1b: Dilation Lines: I can show that a dilation takes a line not passing through the center of the dilation to a parallel line, and leaves a line passing through the center unchanged, and I can show that the dilation of a line segment is longer or shorter in the ratio given by the scale factor.

SRT-A2a: Similar Triangles Basics: I can use the definition of similarity in terms of transformations to decide if two figures are similar; I can explain using transformations the meaning of similarity for triangles as the equality of all corresponding pairs of angles and the proportionality of all corresponding pairs of sides.

SRT-A3a: AA Similarity: I can use transformations to establish the AA criterion for two triangles to be similar.

SRT-B5c: Using Similarity: I can use similarity criteria for triangles to solve problems and prove relationships in geometric figures; I can prove two triangles similar.