diagrams without words. Focus on the validity of the underlying reasoning while exploring a variety of formats for expressing that reasoning
Standard II.G.CO.9: Prove theorems about lines and angles. *Theorems include: vertical angles are congruent; 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.*
Concepts and Skills to Master
Prove and use theorems about lines and angles, including but not limited to: • Vertical angles are congruent. • When parallel lines are cut by a transversal congruent angle pairs are created. • When parallel lines are cut by a transversal supplementary angle pairs are created. • Points on the perpendicular bisector of a line segment are equidistant from the segment's endpoints.

Related Standards: Current Course	Related Standards: Future Courses
II.G.CO.10, II.G.CO.11, II.G.SRT.2, II.G.SRT.3, II.G.SRT.4	III.G.MG.1, III.G.MG.2, III.G.MG.3

Support for Teachers

Critical Background Knowledge
• Include use of coordinates and absolute value to find distances between points with the same x-coordinate or the same y-coordinate (6.NS.8) • Know properties of supplementary, complementary, vertical, and adjacent angles (7.G.5) • Know how rigid motions affect a given geometric figure (I.G.CO.1,2,3,4,5,6)
Academic Vocabulary
proof, vertical angles, parallel lines, transversal, alternate interior angles, corresponding angles, perpendicular bisector, equidistant
Resources
Curriculum Resources: http://www.uen.org/core/core.do?courseNum=5620#71537

Prove geometric theorems. Encourage multiple ways of writing proofs, such as narrative paragraphs, flow diagrams, two-column format, and diagrams without words. Focus on the validity of the underlying reasoning while exploring a variety of formats for expressing that reasoning
Standard II.G.CO.10: Prove theorems about triangles. *Theorems include: measures of interior angles of a triangle sum to 180°; base angles of isosceles triangles are congruent; the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length; the medians of a triangle meet at a point.*
Prove and use theorems about triangles including, but not limited to: • Prove that the sum of the interior angles of a triangles = 180^0. • Prove that the base angles of an isosceles triangle are congruent. Prove that if two angles of a triangle are congruent, the triangle is isosceles. • Prove the segment joining midpoints of two sides of a triangle is parallel to the third side and half the length. • Prove the medians of a triangle meet at a point.

Related Standards: Current Course	Related Standards: Future Courses
II.G.C.2; II.G.SRT.1,3,4,5, 6,&7; II.G.GPE.6	III.G.MG Modeling standards

Support for Teachers

Critical Background Knowledge
• Find distances between points with the same x-coordinate or the same y-coordinate (6.NS.8) • Know properties of supplementary, complementary, vertical, and adjacent angles (7.G.5) • Understand that a 2-D figure is congruent to another if the second can be obtained through transformations (8.G.2, 8.G.4) • Use informal arguments to establish facts about the angle sum and exterior angles of triangles (8.G.5) • Know how rigid motions affect a given geometric figure (I.G.CO.1, 2, 3, 4, 5, 6) • Prove theorems about lines and angles (II.G.CO.9) • Know and explain Triangle Congruence Theorems (I.G.CO.7, I.G.CO.8)
Academic Vocabulary
proof, interior/exterior angles of a triangle, supplementary angles, linear pairs, isosceles, base, legs, base angles, vertex angles, midpoint, median of a triangle, auxiliary line
Resources
Curriculum Resources: http://www.uen.org/core/core.do?courseNum=5620#71537

Prove geometric theorems. Encourage multiple ways of writing proofs, such as narrative paragraphs, flow diagrams, two-column format, and diagrams without words. Focus on the validity of the underlying reasoning while exploring a variety of formats for expressing that reasoning -
Standard II.G.CO.11: Prove theorems about parallelograms. *Theorems include: opposite sides are congruent, opposite angles are congruent, the diagonals of a parallelogram bisect each other, and conversely, rectangles are parallelograms with congruent diagonals.*
Concepts and Skills to Master
Prove and use theorems about parallelograms including, but not limited to: • Opposite sides of a parallelogram are congruent. • Opposite angles of a parallelogram are congruent. • The diagonals of a parallelogram bisect each other • Rectangles are parallelograms with congruent diagonals.

Related Standards: Current Course	Related Standards: Future Courses
II.G.C.2; II.G.SRT.1,3,4,5, 6,&7; II.G.GPE.6	III.G.MG Modeling standards

Support for Teachers

Critical Background Knowledge
• Find distances between points with the same x-coordinate or the same y-coordinate (6.NS.8) • Find the area of quadrilaterals (6.G.1) and draw polygons in a coordinate plane (6.G.3) • Know properties of supplementary, complementary, vertical, and adjacent angles (7.G.5) • Solve real world problems using quadrilaterals (7.G.6) • Understand that a 2-D figure is congruent to another if overlap obtained through series of transformations (8.G.2, 8.G.4) • Use informal arguments to establish facts about the angle sum and exterior angles of triangles (8.G.5) • Know and explain Triangle Congruence Theorem (I.G.CO.7, I.G.CO.8) and how rigid motions affect a given geometric figure (I.G.CO.1, 2, 3, 4, 5, 6) • Prove theorems about lines and angles (II.G.CO.9) and about triangles (II.G.CO.10)
Academic Vocabulary
parallelogram, diagonal, consecutive angles, opposite angles, bisect
Resources
Curriculum Resources: http://www.uen.org/core/core.do?courseNum=5620#71537