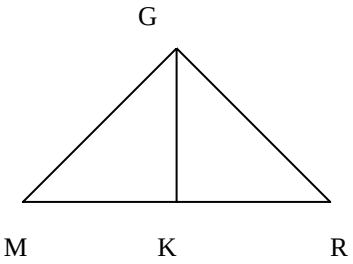
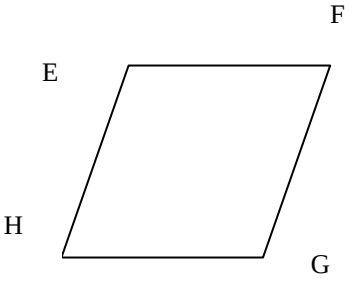
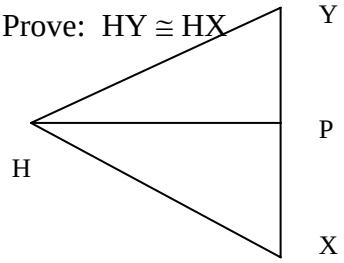
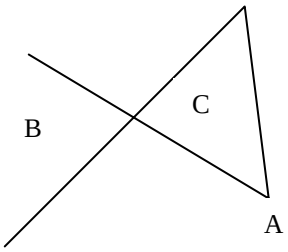
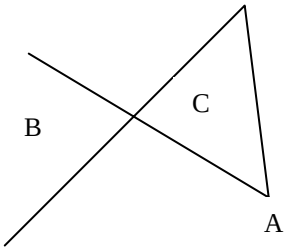
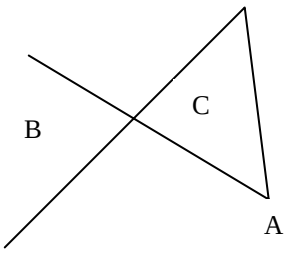
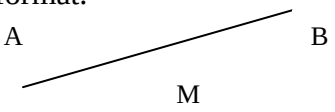
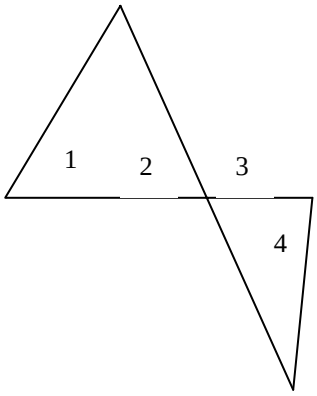
Report Two

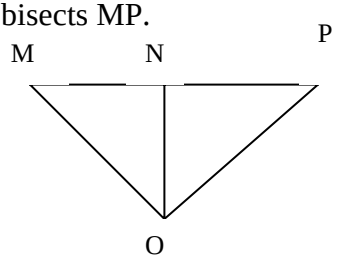
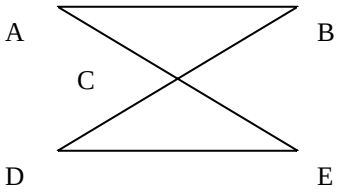
Objectives

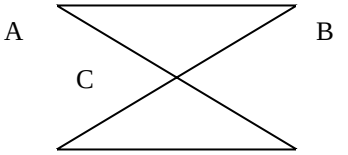
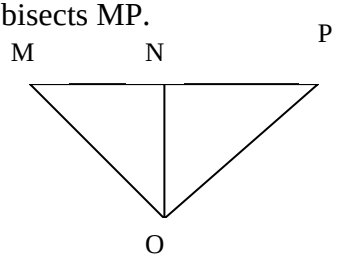
Instructional Goal	Terminal Objective	Assessment Item
Students will generate two-column geometric proofs. **PS**	Given a statement to be proven, a diagram, and a given statement student's will generate a two-column geometric proof by analyzing the given information, drawing and labeling columns, entering given statement into chart, making assumptions about the given and prove statements, and entering assumptions and justifications into chart. 100% accuracy required. **PS**	Write a two-column proof. Given: $\overline{GK} \perp \overline{MR}$ & $\overline{GK}$ bisects $\overline{MR}$. Prove: .$\Delta MGK \cong \Delta RGK$ 
Main Steps of |Instructional Goal	**Performance Objectives of Main Steps**	**Assessment Items for Main Steps**
1. Read and Understand Problem **VI**	Given statements and a diagram students will demonstrate that they have read the problem by restating the given information. **VI**	Given: segment EF ≅ segment GH and segment EH ≅ segment GF Prove: Δ EFH ≅ ΔGHF  1) What is the given statement in this problem? 2) What is to be proved?

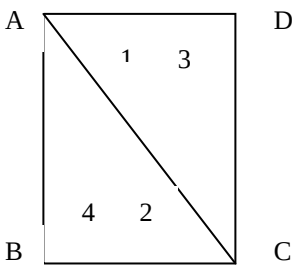
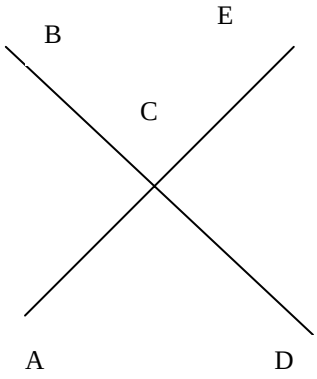
2. Analyze given information. **PS**	Given a statement to be proved, a diagram, and a given statement students will correctly label diagram with geometric marking symbols and identify relationship between the given and prove statements by writing a conjecture in sentence form. **PS**	Label diagram and identify the relationship between the given and prove statements by writing a conjecture in sentence form. Given: segment PH bisects ∠ YHX. Segment HP is perpendicular to segment YX. Prove: HY ≅ HX 
2.1 Locate The Diagram MS	Given a statement to be proved, a diagram, and a given statement students will locate the diagram by re-drawing it. MS	Re-drawing the diagram from the following proof problem. Given: ∠ A ≅ ∠ B Prove: ∠ A ≅ ∠ C 
2.2 Label the given information on the diagram. R	Given a geometric statement and a diagram, students will label the statement on the diagram with geometric marking symbols. R	Label the given information on the diagram below using geometric marking symbols. Given: ∠ A ≅ ∠ B Prove: ∠ A ≅ ∠ C 

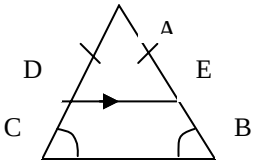
2.3 Determine the relationship between the given statement, the prove statement, and the diagram. R	Given a statement to be proved, a diagram, and a given statement, students will determine the relationship between the statements and the diagram by writing a conjecture in sentence form. R	Write a sentence about the relationship of these three angles. Given: $\angle A \cong \angle B$ Prove: $\angle A \cong \angle C$ 
3. Draw and Label Columns. **MS**	Given paper and a writing utensil students will execute drawing a t-chart and labeling the two columns with the words STATEMENTS and JUSTIFICATIONS. **MS**	Draw a t-chart and label each column Statements and Justifications respectively.
3.1 Identify two-column proof method for displaying steps and justifications.(also 6.1) **DC**	Given a proof in paragraph form students will re-write the steps and justifications into a two–column proof. **DC**	Re-write the following proof in a two-column format.  Given that M is the midpoint of segment AB we can say that the measure of segment AM is equal to the measure of segment MB from the definition of midpoint. Segment AM must then be congruent to segment MB by definition of congruent segments.

4. Enter given information into chart. **R**	Given a statement and a chart students will demonstrate entering the given information into the chart under the statement column and enter given under the justification column. **R**	Enter the given statement and it's justification into the following chart. Given: $\angle A \cong \angle B$ $\angle 1 \cong \angle 2$ Statements | Justifications
5. Determine what can be assumed from given statement. **R**	Given a geometric statement and a diagram students will demonstrate writing an assumption that can be made from that statement and justify that assumption with a geometric definition, postulate, or theorem. **R**	Write a conjecture about what can be assumed from the statement and diagram. Given: $\angle 1 \cong \angle 2$ 
5.1 Determine the theorem, postulate, or definition that allows the assumption to be made. R	Given a diagram, a statement to be proved, a given statement, and a conjecture in sentence form, students will determine the theorem, postulate, or definition that allowed the assumption to be made by naming the theorem postulate or definition. R	Determine the geometric postulate, definition, or theorem that allows the following assumption to be made. Given: $\angle 1 \cong \angle 2$ Prove: $\angle 1 \cong \angle 4$ Assumption: Angle two is congruent to angle four. *use diagram from assessment 5*

6. Enter next proof step and justification into chart. **R**	Given a statement, a diagram and a conjecture, students will rewrite the conjecture in two-column form. **R**	Given: MO ≅ PO & NO bisects MP.  Conclusion: MN is congruent to NP by definition of midpoint. No is congruent to itself by reflexive property. Therefore the triangles are congruent by SSS.
7. Determine what could be assumed from the previous statement R	Given a partially completed proof, students will determine what assumption could be made from the last step entered by writing a conjecture in sentence form. R	Determine what can be assumed from the last step entered in the following proof. Given: segment AD bisects segment BE. Segment AB parallel to segment DE. Prove: triangle ABC is congruent to triangle DEC.  Statements / Justifications 1.AD bisects BE and AB || DE. — 1. Given 2. BC ≅ EC — 2. Def. Segment bisector.

7.1 Determine the theorem, postulate, or definition that allows the assumption to be made. R	Given a partially completed proof, students will determine the postulate, definition, or theorem that allows the last assumption to be made by naming the postulate , definition, or theorem. R	What postulate, definition or theorem allows the assumption in step three to be made? Given: segment AD bisects segment BE. Segment AB parallel to segment DE. Prove: triangle ABC is congruent to triangle DEC.  Statements Justifications 1.AD bisects BE and AB || DE. — 1. Given 2. BC ≅ EC — 2. Def. Segment bisector. 3. ∠B ≅ ∠E — 3.
8. Enter next proof step and justification into chart. **R**	Given a statement, a diagram and a conjecture, students will rewrite the conjecture in two-column form. **R**	Given: MO ≅ PO & NO bisects MP.  Conclusion: MN is congruent to NP by definition of midpoint. No is congruent to itself by reflexive property. Therefore the triangles are congruent by SSS.

Subordinate Skills	Subordinate Objectives	Assessment Items
2.2.1 Apply geometric marking symbols of congruence. **R**	Given a statement and a diagram students will apply geometric marking symbols of congruence to the diagram. **R**	Mark the following statements in the diagram below using geometric symbols. a. $\angle 1 \cong \angle 2$ b. $\angle 3 \cong \angle 4$ c. segment AB ≅ segment DC d. segment AD ≅ segment BC e. segment AB || CD 
2.3.1 Classify geometric postulates, theorems, and definitions.(also boxes 5.1.1 and 7.2.1) **R**	Given a statement and a diagram students will classify which geometric postulate, definition, or theorem that allowed the assumption to be made. **R**	If angle BCA and angle ECD are vertical angles then angle BCA is congruent to angle ECD. 

Entry Behaviors	Performance Objectives	Assessment Items
2.2.1.1 Classify geometric marking symbols **DC**	Given a diagram that is marked with geometric symbols students will classify what the symbols mean by writing statements. **DC**	 Write three statements about the figure above concerning the markings.
2.3.1.1 Identify geometric symbols and figures.(also boxes 5.1.1.1 and 7.2.1.1) **CC**	Given a geometric figure or symbol students will be able to identify the figure or symbol by naming it. **CC**	Identify the following symbols. 1. $\cong$ 2. $\perp$ 3. Δ