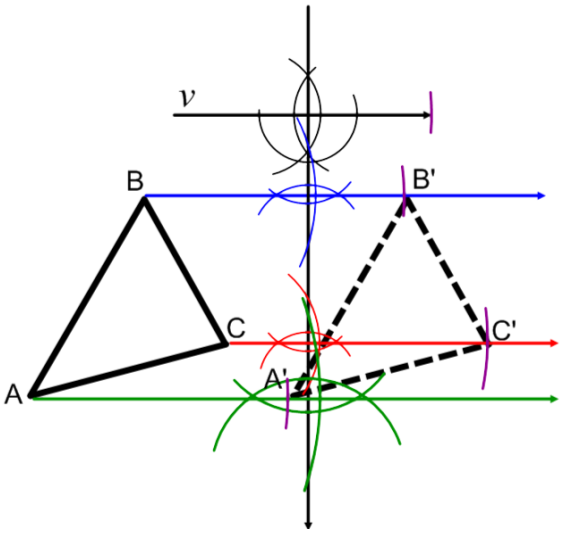
Name _____ Date _____ Section _____

Geometry Bridge to Unit 4

Congruency through Transformation Exploration

Look back to Unit 1 for help (specifically lesson 1-7)

1) Determine and write the transformation that mapped the pre-image ΔABC to its image ΔA'B'C' in the table at right. Explain how you know.



2) What construction steps were used in this transformation?

3) How do the construction steps justify the transformation?

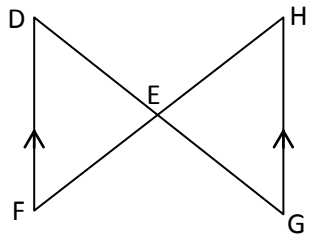
Function Notation	
Arrow Notation	
Sequence of corresponding sides (Are they congruent?)	
Sequence of corresponding angles (Are they congruent?)	
Isometry? (Yes/No)	
Congruency Statement	ΔABC ≅ Δ_____

4) State the corresponding sides and angles between the pre-image and the image in the table.

5) Is this an isometric transformation? Explain your thinking.

6) Fill in the congruency statement. What did you consider as you filled it in?

Congruent Angles in Triangles Investigation



A) Given the drawing at right with $\overline{DF} \parallel \overline{GH}$, state three sets of congruent angles And the relationship you used to determine that they are congruent:

a. Angle Pair: _____

Reason: _____

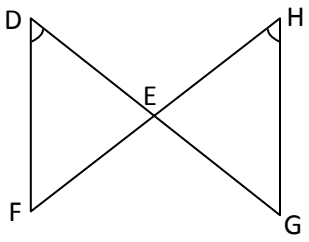
b. Angle Pair: _____

Reason: _____

c. Angle Pair: _____

Reason: _____

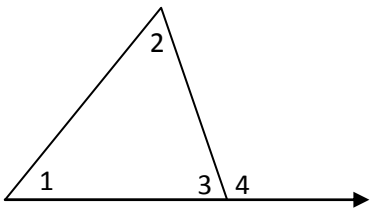
B) Given the drawing with $\measuredangle D \cong \measuredangle H$ instead, would $\measuredangle F \cong \measuredangle G$? Explain your reasoning below:



C) Explain why the congruent angle pairs for questions A and B are different.

Exterior Angle Discovery

Use the drawing of the triangle with one side extended into a ray to complete the following questions:



a. $m\measuredangle 1 + m\measuredangle 2 + m\measuredangle 3 = 180°$. Why?

b. $m\measuredangle 3 + m\measuredangle 4 = 180°$. Why?

c. Determine a relationship between the $m\measuredangle 1,\ m\measuredangle 2,$ and the $m\measuredangle 4$. Show any algebraic steps.