Geometry H
2.5 Proving Statements about Lines and Angles Day 2

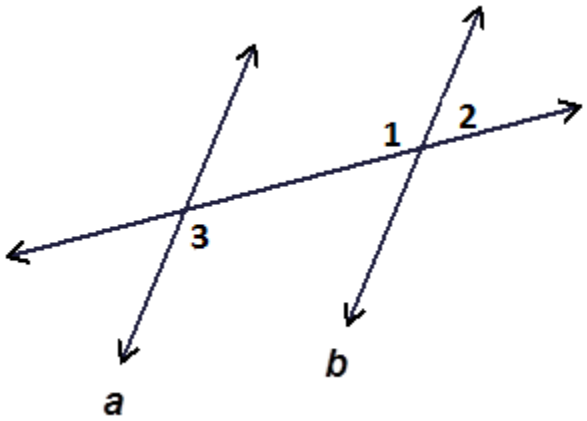
Name: _____
Date: _____ Period : _____

- I can write logical arguments using properties from algebra and geometry.

REASON BANK

Addition Property	Division Property
Alternate Interior Angles Theorem	Distributive Property
Alternate Interior Angles Converse Theorem	Given
Alternate Exterior Angles Theorem	Linear Pair Postulate
Alternate Exterior Angles Converse Theorem	Multiplication Property
Combine Like Terms	Simplification
Consecutive Interior Angles Theorem	Substitution Property
Consecutive Interior Angles Converse Theorem	Subtraction Property
Corresponding Angles Postulate	Transitive Property
Corresponding Angles Converse Postulate	Vertical Angles Theorem

Example 1: Given m$\angle$2 = 50^o and m$\angle$3 = 130^o, Please prove $a \| \| b$.



Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.

Example 2:

a. If AB = 8, and 8 = CD, then _____.

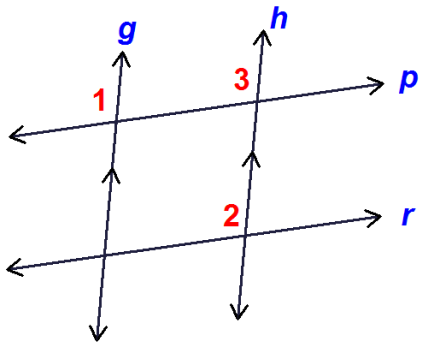
b. If $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$ and $\overleftrightarrow{EF} \parallel \overleftrightarrow{CD}$, then _____.

*To complete these statements, you used the _____ Property.

_____ Property: If a = b and b = c, then a = c.

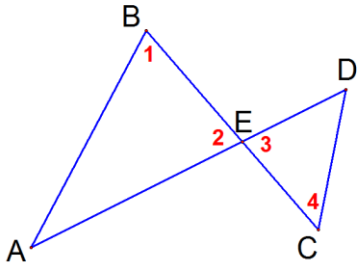
Example 3: Using the Transitive Property in Proofs

a. Given: $g \parallel h$ and $\angle 1 \cong \angle 2$
Prove: $p \parallel r$



Statements	Reasons
1) _____	1) _____
2) _____	2) _____
3) _____	3) _____
4) _____	4) _____
5) _____	5) _____

b. Given: $\angle 1 \cong \angle 2$ and $\angle 3 \cong \angle 4$
Prove: $\overleftrightarrow{AB} \parallel \overleftrightarrow{CD}$



Statements	Reasons
1) _____	1) _____
2) _____	2) _____
3) _____	3) _____
4) _____	4) _____
5) _____	5) _____