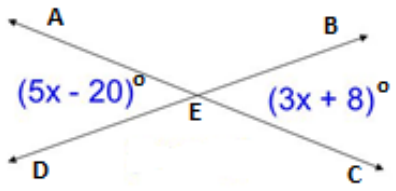
Geometry H
Proofs Involving Parallel Lines and Transversals
In-Class Practice

Name : _____
Date : _____ Period : ____

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

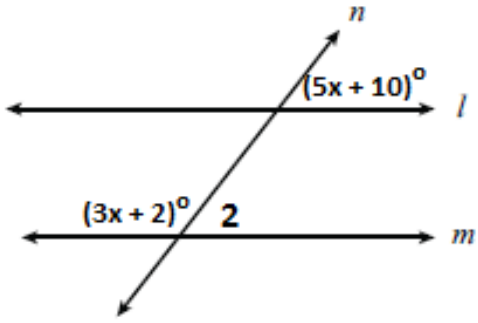
1. Given: $m\angle AED = (5x-20)°$ and $m\angle BEC = (3x+8)°$
   Prove: $m\angle BEC = 50°$



Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.
7.	7.

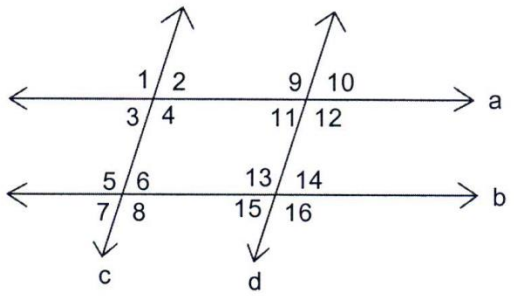
2. Given: *l*||m. Please solve for *x*.

Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.
6.	6.



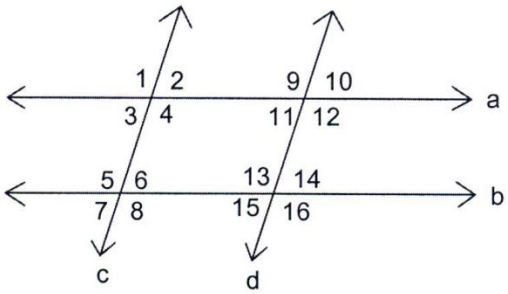
3. Given: a||b, c||d, ∠1 ≅∠12
Prove: ∠1 ≅∠13

Statements	Reasons
1.	1.
2. ∠1 ≅∠12	2.
3. ∠12 ≅∠13	3.
4. ∠1 ≅∠13	4.



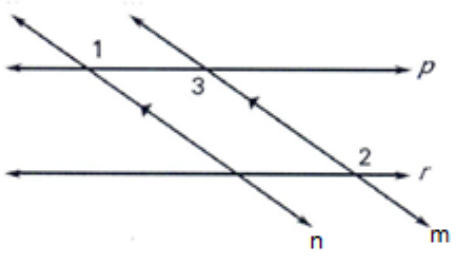
4. Given: a||b
Prove: m∠9 + m∠14 = 180

Statements	Reasons
1.	1.
2. m∠9 + m∠11 = 180	2.
3. m∠11 ≅ m∠14	3.
4. m∠9 + m∠14 = 180	4.

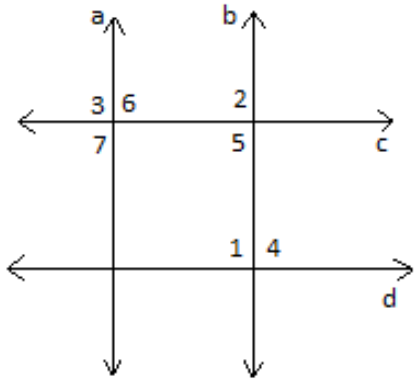


5. Given: n||m, ∠1 ≅∠2
Prove: p||r

Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

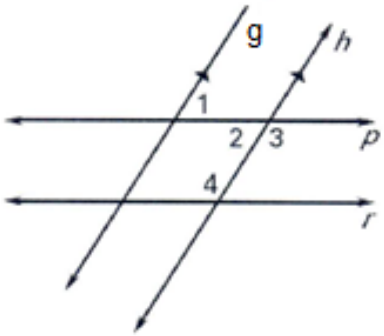


6. Given: a||b, c||d
Prove: ∠7 ≅ ∠4



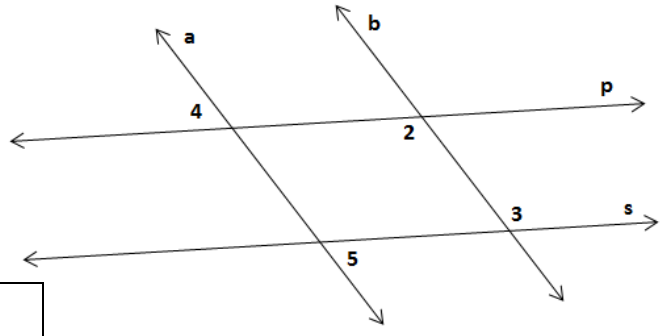
Statements	Reasons
1.	1.
2. ∠7 ≅ ∠5	2.
3. ∠5 ≅ ∠4	3.
4.	4.

7. Given: g||h, ∠1 and ∠4 are supplementary
Prove: p||r



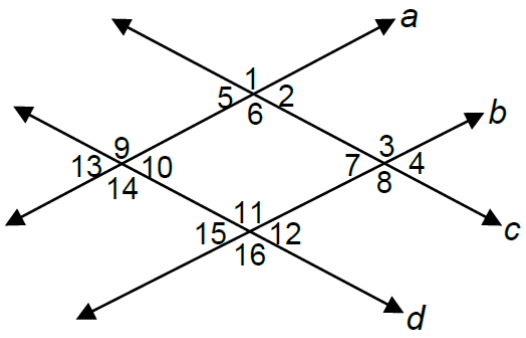
Statements	Reasons
1.	1.
2.	2.
3.	3.
4.	4.
5.	5.

8. Given: ∠4 ≅ ∠5
Prove ∠2 ≅ ∠3



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

9. Given: a || b, c || d
Prove: m∠2 + m∠11 = 180



Statements	Reasons
1.	1. Given
2. ∠2 and ∠3 are supplementary	2.
3.	3.
4.	4.
5. m∠2 + m∠11 = 180	5.