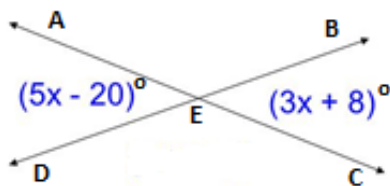


REASON BANK

Addition Property Alternate Interior Angles Theorem Alternate Interior Angles Converse Theorem Alternate Exterior Angles Theorem Alternate Exterior Angles Converse Theorem Combine Like Terms Consecutive Interior Angles Theorem Consecutive Interior Angles Converse Theorem Corresponding Angles Postulate Corresponding Angles Converse Postulate	Division Property Distributive Property Given Linear Pair Postulate Multiplication Property Simplification Substitution Property Subtraction Property Transitive Property Vertical Angles Theorem
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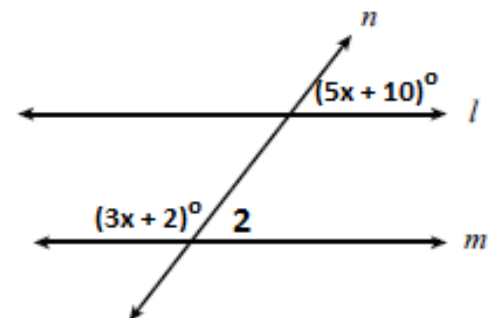
1. Given: $m\angle AED = (5x - 20)^\circ$ and $m\angle BEC = (3x + 8)^\circ$
 Prove: $m\angle BEC = 50^\circ$



Statements	Reasons
1. $m\angle AED = (5x - 20)^\circ$ and $m\angle BEC = (3x + 8)^\circ$	1. Given
2. $5x - 20 = 3x + 8$	2. Vertical Angles Theorem
3. $2x - 20 = 8$	3. Subtraction Property
4. $2x = 28$	4. Addition Property
5. $x = 14$	5. Division Property
6. $m\angle BEC = (3(14) + 8)^\circ$	6. Substitution Property
7. $m\angle BEC = 50^\circ$	7. Simplification

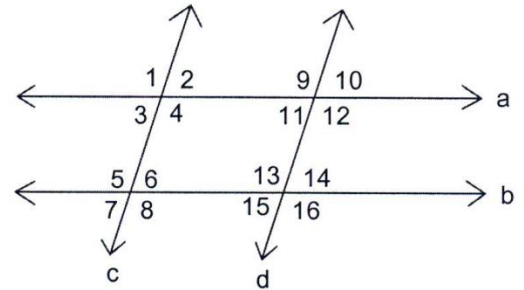
2. Given: $l \parallel m$. Please solve for x .

Statements	Reasons
1. $l \parallel m$	1. Given
2. $m\angle 2 = (5x + 10)^\circ$	2. Corresponding Angles Postulate
3. $(3x + 2)^\circ + (5x + 10)^\circ = 180^\circ$	3. Linear Pair Post.
4. $8x + 12 = 180$	4. Combine Like Terms
5. $8x = 168$	5. Subtraction Property
6. $x = 21$	6. Division Property



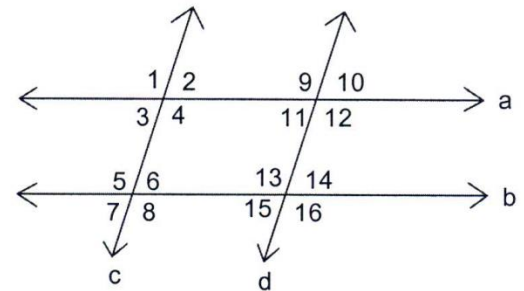
3. Given: $a \parallel b, c \parallel d, \angle 1 \cong \angle 12$
 Prove: $\angle 1 \cong \angle 13$

Statements	Reasons
1. $a \parallel b, c \parallel d$	1. Given
2. $\angle 1 \cong \angle 12$	2. Given
3. $\angle 12 \cong \angle 13$	3. Alt. Int. Angles Thm.
4. $\angle 1 \cong \angle 13$	4. Transitive Property



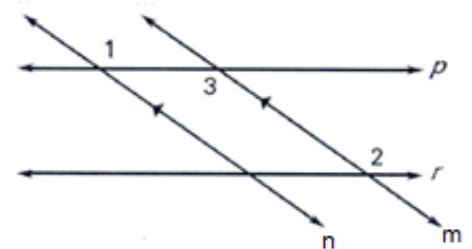
4. Given: $a \parallel b$
 Prove: $m\angle 9 + m\angle 14 = 180$

Statements	Reasons
1. $a \parallel b$	1. Given
2. $m\angle 9 + m\angle 11 = 180$	2. Linear Pair Postulate
3. $m\angle 11 \cong m\angle 14$	3. Alt. Int. Angles Thm.
4. $m\angle 9 + m\angle 14 = 180$	4. Substitution

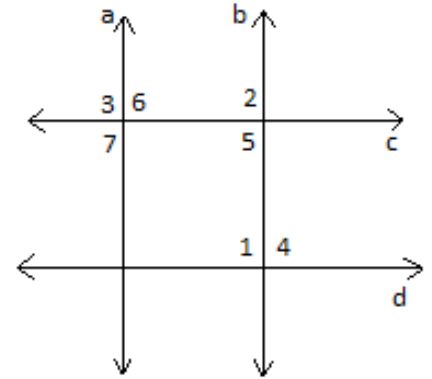


5. Given: $n \parallel m, \angle 1 \cong \angle 2$
 Prove: $p \parallel r$

Statements	Reasons
1. $n \parallel m, \angle 1 \cong \angle 2$	1. Given
2. $\angle 1 \cong \angle 3$	2. Alt. Interior Angles Thm.
3. $\angle 2 \cong \angle 3$	3. Transitive Property
4. $p \parallel r$	4. Alt. Int. Angles Converse

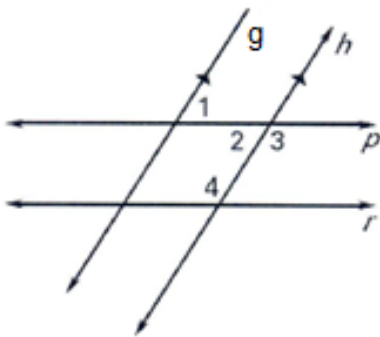


6. Given: $a \parallel b, c \parallel d$
 Prove: $\angle 7 \cong \angle 4$



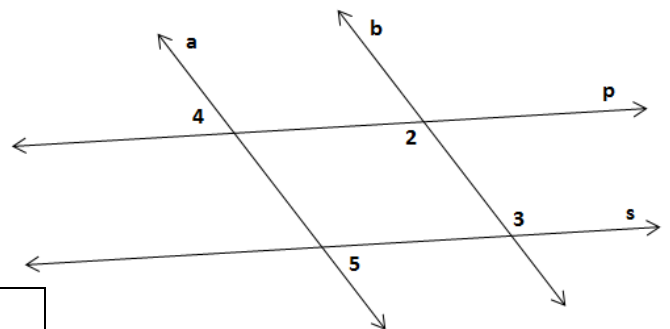
Statements	Reasons
1. $a \parallel b, c \parallel d$	1. Given
2. $\angle 7 \cong \angle 5$	2. Corresponding Angles Post.
3. $\angle 5 \cong \angle 4$	3. Alt. Int. Angles Theorem
4. $\angle 7 \cong \angle 4$	4. Transitive Property

7. Given: $g \parallel h, \angle 1$ and $\angle 4$ are supplementary
 Prove: $p \parallel r$



Statements	Reasons
1. $g \parallel h, \angle 1$ and $\angle 4$ are supplementary	1. Given
2. $\angle 1 \cong \angle 2$	2. Alt. Int. Angles Thm.
3. $\angle 2$ and $\angle 4$ are supplementary	3. Substitution
4. $p \parallel r$	4. Consec. Int. Angles Converse

8. Given: $\angle 4 \cong \angle 5$
 Prove $\angle 2 \cong \angle 3$



Statements	Reasons
1. $\angle 4 \cong \angle 5$	1. Given
2. $p \parallel s$	2. Alt. Ext. Angles Converse
3. $\angle 2 \cong \angle 3$	3. Alt. Int. Angles Thm.