



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

REASON BANK

Addition Property of Equality

Alternate Interior Angles Theorem

Alternate Interior Angles Converse

Alternate Exterior Angles Theorem

Alternate Exterior Angles Converse

Combine Like Terms

Congruent Complements Theorem

Congruent Supplements Theorem

Consecutive Interior Angles Theorem

Consecutive Interior Angles Converse

Corresponding Angles Postulate

Corresponding Angles Converse

Division Property

Distributive Property

Given

Linear Pair Postulate

Multiplication Property

Simplification

Substitution Property

Subtraction Property

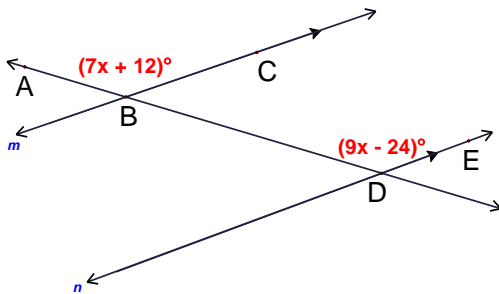
Transitive Property

Vertical Angles Theorem

1. Please solve for x by completing the two column proof.

Given: $m\angle ABC = (7x + 12)^\circ$, $m\angle BDE = (9x - 24)^\circ$, $m \parallel n$

Prove: $x = 18$



Statements

Reasons

1)

1)

2)

2)

3)

3)

4)

4)

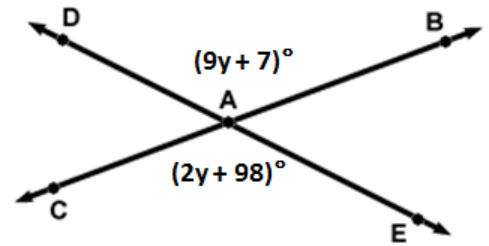
5)

5)

2. Given the diagram below and $m\angle DAB = (9y+7)^\circ$ and $m\angle CAE = (2y+98)^\circ$, prove that $y = 13$.

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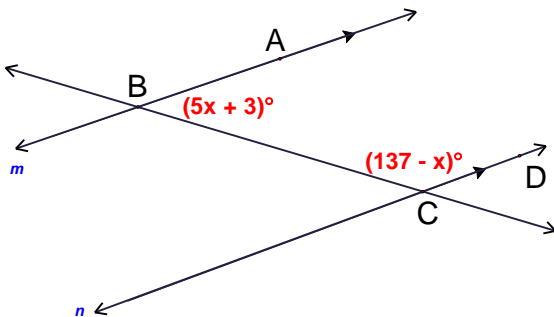
1) _____ _____	1) _____ _____
2) _____ _____	2) _____ _____
3) _____ _____	3) _____ _____
4) _____ _____	4) _____ _____
5) _____ _____	5) _____ _____



3. Please solve for x by completing the two column proof.

Given: $m\angle ABC = (5x+3)^\circ$, $m\angle BCD = (137-x)^\circ$, $m \parallel n$

Prove: $x = 10$



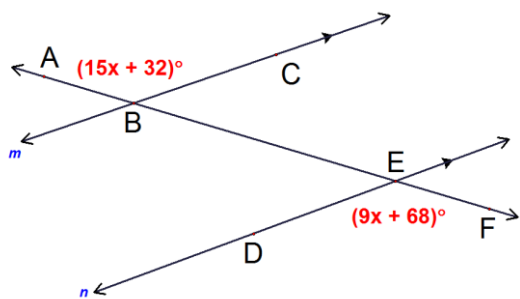
Statements	Reasons
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1) _____ _____	1) _____ _____
2) _____ _____	2) _____ _____
3) _____ _____	3) _____ _____
4) _____ _____	4) _____ _____
5) _____ _____	5) _____ _____

4. Please find $m\angle ABC$ by completing the two column proof.

Given: $m\angle ABC = (15x + 32)^\circ$, $m\angle DEF = (9x + 68)^\circ$, $m \parallel n$

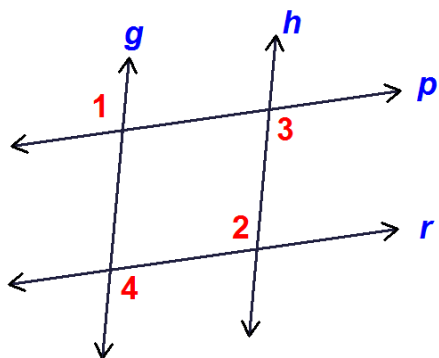
Prove: $m\angle ABC = 122^\circ$



Statements	Reasons
1) _____	1) _____
2) _____	2) _____
3) _____	3) _____
4) _____	4) _____
5) _____	5) _____
6) _____	6) _____
7) _____	7) _____

5. Given: $\angle 1 \cong \angle 3$

Prove: $\angle 2 \cong \angle 4$



Statements	Reasons
1) _____	1) _____
2) _____	2) _____
3) _____	3) _____