

Name _____

Two-Column Proof Practice

Algebraic Proofs

1. Statements

Reasons

1. $5x - 10 = 35$

2. Statements

Reasons

1. $3(4x - 6) = 9x + 6$

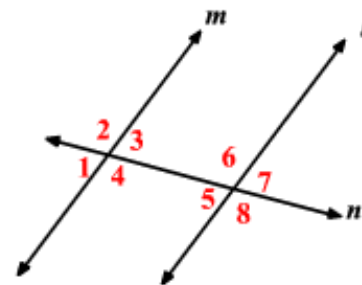
3. Statements

Reasons

1. $\frac{11x-6}{2} = 19$

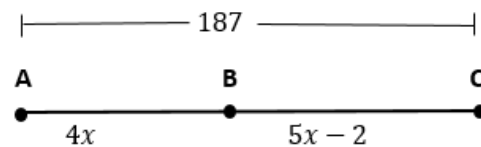
Geometric Proofs

4. Given: $l \parallel m$, $m\angle 1 = 70^\circ$
 Prove: $m\angle 6 = 110^\circ$



Statements	Reasons

5. Given: $AB = 4x$, $BC = 5x - 2$, and $AC = 187$
 Prove: $x = 21$



Statements	Reasons

Two-Column Proof Practice – Answer Key

Algebraic Proofs (Sample Answers)

1. Statements

1. $5x - 10 = 35$
2. $5x = 45$
3. $x = 15$

Reasons

1. Given
2. Addition Property of Equality
3. Division Property of Equality

2. Statements

1. $3(4x - 6) = 9x + 6$
2. $12x - 18 = 9x + 6$
3. $12x = 9x + 24$
4. $3x = 24$
5. $x = 8$

Reasons

1. Given
2. Distributive Property
3. Addition Property of Equality
4. Subtraction Property of Equality
5. Division Property of Equality

3. Statements

1. $\frac{11x-6}{2} = 19$
2. $11x - 6 = 38$
3. $11x = 44$
4. $x = 4$

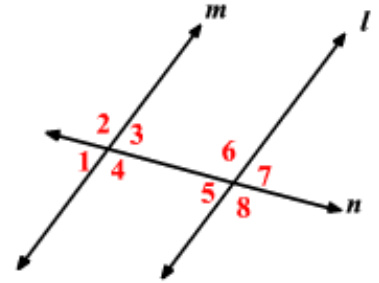
Reasons

1. Given
2. Multiplication Property of Equality
3. Addition Property of Equality
4. Division Property of Equality

Geometric Proofs (Sample Answers)

4. Given: $l \parallel m$, $m\angle 1 = 70^\circ$

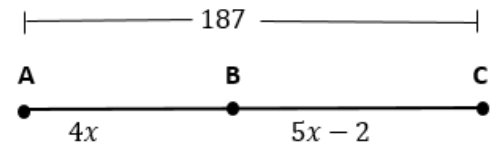
Prove: $m\angle 6 = 110^\circ$



Statements	Reasons
1. $l \parallel m$, $m\angle 1 = 70^\circ$	1. Given
2. $\angle 1 \cong \angle 5$	2. Corresponding \angle
3. $m\angle 1 \cong m\angle 5$	3. Def. of \cong
4. $m\angle 5 = 70^\circ$	4. Substitution
5. $\angle 5$ and $\angle 6$ are supp.	5. Def. Linear Pair
6. $m\angle 5 + m\angle 6 = 180^\circ$	6. Linear Pair Theorem
7. $70^\circ + m\angle 6 = 180^\circ$	7. Substitution
8. $m\angle 6 = 110^\circ$	8. Subtraction Prop of Equal

5. Given: $AB = 4x$, $BC = 5x - 2$, and $AC = 187$

Prove: $x = 21$



Statements	Reasons
1. $AB = 4x$, $BC = 5x - 2$, $AC = 187$	1. Given
2. $AB + BC = AC$	2. Segment Addition
3. $4x + (5x - 2) = 187$	3. Substitution
4. $9x - 2 = 187$	4. Simplify
5. $9x = 189$	5. Addition Prop of Equal
6. $x = 21$	6. Division Prop of Equal