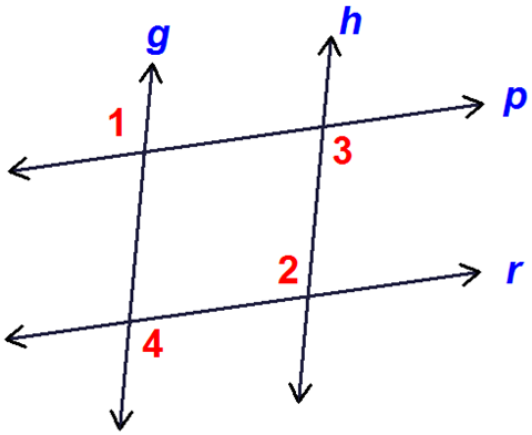
Geometry H
Proofs Mini Quiz Review Activity

Name : _____
Date : _____ Period : _____

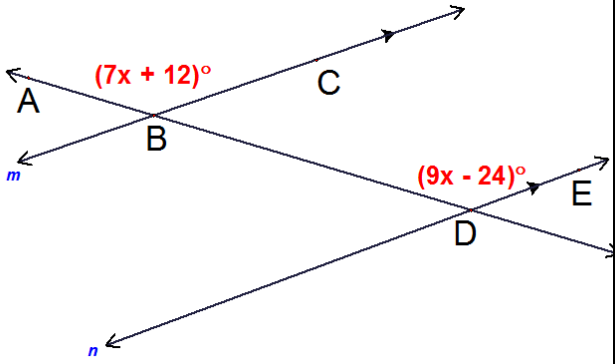
In your groups, please work together to complete each proof below! You may complete them in any order. You may not need to use all provided space for each proof.

1. **Given:** $\angle 1 \cong \angle 2, p \parallel r$
   Prove: $\angle 2 \cong \angle 4$



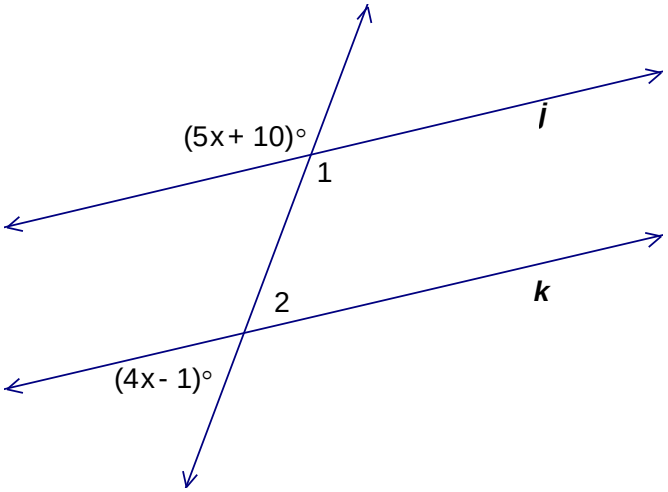
Statements	Reasons
1. $\angle 1 \cong \angle 2$	1. Given
2. $p \parallel r$	2. Given
3. $\angle 2 \cong \angle 3$	3. Alt. Int. Angles Thm.
4. $\angle 1 \cong \angle 3$	4. Transitive Prop.
5. g‖h	5. Alt. Ext. Angles Converse
6. $\angle 2 \cong \angle 4$	6. Alt. Int. Angles Thm.

2. **Given:** $m\angle ABC = (7x + 12)°, m\angle BDE = (9x - 24)°$ and $m \parallel n$
   Prove: $m\angle ABC = 138°$



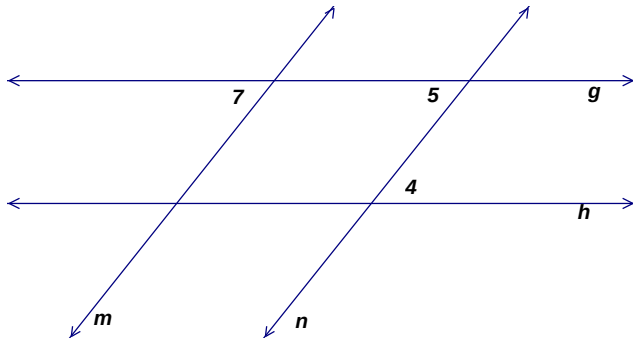
Statements	Reasons
1. $m\angle ABC = (7x + 12)°, m\angle BDE = (9x - 24)°$ and $m \parallel n$	1. Given
2. 7x + 12 = 9x – 24	2. Corr. Angles Post.
3. 12 = 2x – 24	3. Subtraction Prop.
4. 36 = 2x	4. Addition Prop.
5. x = 18	5. Division Prop.
6. m∠ABC = (7(18)+12)°	6. Substitution Prop.
7. m∠ABC = 138°	7. Simplification

3. **Given:** $j \parallel k$ and the measures of the angles in the diagram
Prove: x = 19



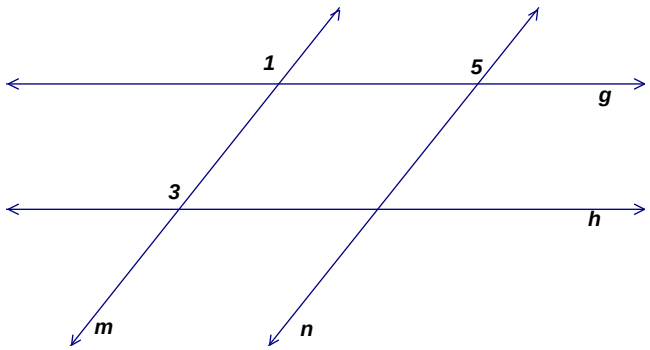
Statements	Reasons
1. $j \parallel k$	1. Given
2. m∠1 = (5x + 10)°	2. VAT
3. m∠2 = (4x – 1)°	3. VAT
4. 5x+10 +4x –1 = 180	4. Consec. Int. Angles Thm.
5. 9x + 9 = 180	5. Combine Like Terms
6. 9x = 171	6. Subtraction Prop.
7. x = 19	7. Division Prop.

4. **Given:** $g \parallel h$ and $m \parallel n$
Prove: $\angle 7 \cong \angle 4$



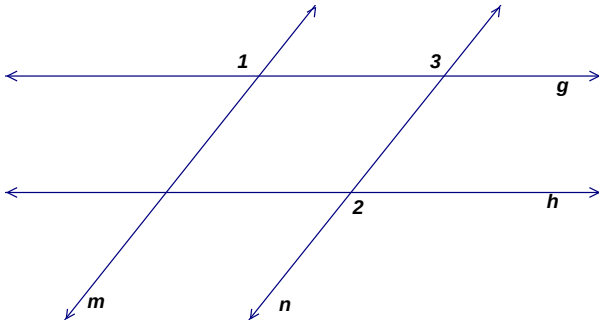
Statements	Reasons
1. $g \parallel h$	1. Given
2. $\angle 4 \cong \angle 5$	2. Alt. Int. Angles Thm.
3. $m \parallel n$	3. Given
4. $\angle 7 \cong \angle 5$	4. Corresponding Angles Postulate
5. $\angle 7 \cong \angle 4$	5. Transitive Prop.

5. **Given:** $g \parallel h$ and $\angle 1 \cong \angle 5$
Prove: $\angle 5 \cong \angle 3$



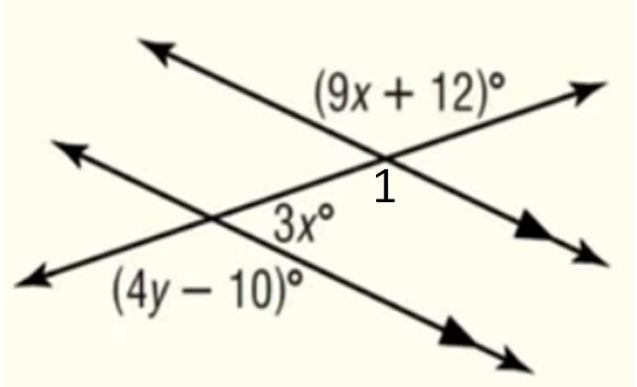
Statements	Reasons
1. $g \parallel h$	1. Given
2. $\angle 1 \cong \angle 3$	2. Corresponding Angles Post.
3. $\angle 1 \cong \angle 5$	3. Given
4. $\angle 3 \cong \angle 5$	4. Transitive Prop.

6. **Given:** $m \parallel n$ and $\angle 1 \cong \angle 2$
Prove: $g \parallel h$



Statements	Reasons
1. $m \parallel n$	1. Given
2. $\angle 1 \cong \angle 3$	2. Corresponding Angles Post.
3. $\angle 1 \cong \angle 2$	3. Given
4. $\angle 3 \cong \angle 2$	4. Transitive Prop.
5. g‖h	5. Alt. Ext. Angles Converse

7. **Given:** The lines are parallel and the measures of the angles in the diagram
Prove: x = 14 and y = 37



Statements	Reasons
1. Lines are ‖	1. Given
2. m∠1 = (9x + 12)°	2. VAT
3. 3x + 9x + 12 = 180	3. Consec. Int. Angles Thm.
4. 12x + 12 = 180	4. Combine Like Terms
5. 12x = 168	5. Subtraction Prop.
6. x = 14	6. Division Prop
7. m∠1 = (9(14)+12)°	7. Substitution Prop.
8. m∠1 = 138°	8. Simplification
9. 4y – 10 = 138	9. Corresponding Angles Post.
10. 4y = 148	10. Addition Prop.
11. y = 37	11. Division Prop.