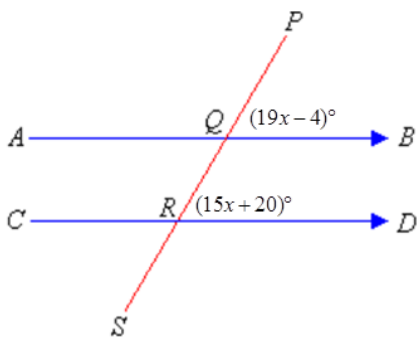


- 1) Given $4 - 2(3x - 1) = 30 - 10x$, prove that $x = 6$.

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

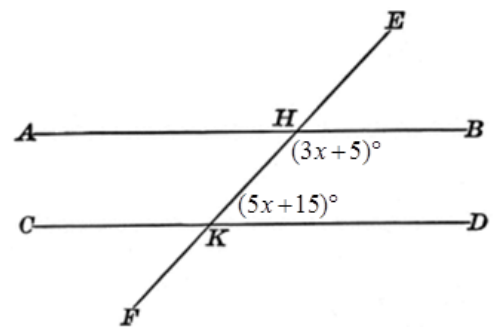
- 2) Using the diagram below, please prove $x = 6$.



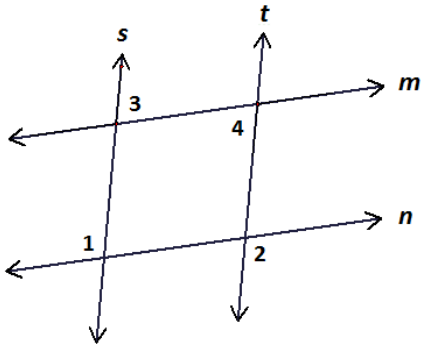
Statements	Reasons
1. $m\angle PQB = (19x - 4)^\circ$, $m\angle QRD = (15x + 20)^\circ$	1.
2.	2.
3.	3.
4.	4.
5.	5.

- 3) Using the diagram below, please prove $x = 20$.

Statements	Reasons
1. $m\angle BHK = (3x + 5)^\circ$, $m\angle HKD = (5x + 15)^\circ$	1.
2.	2.
3.	3.
4.	4.
5.	5.



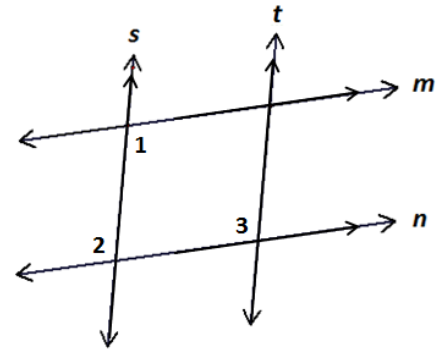
4) Given $\angle 1 \cong \angle 2$, please prove $\angle 3 \cong \angle 4$.



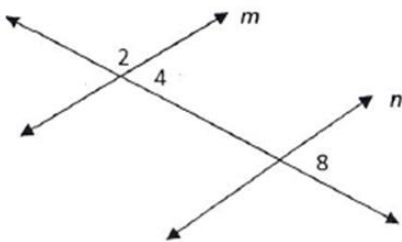
Statements	Reasons
1.	1.
2.	2.
3. $\angle 3 \cong \angle 4$	3.

5) Given $s \parallel t$ and $m \parallel n$, please prove $\angle 1 \cong \angle 3$

Statements	Reasons
1. $s \parallel t$	1.
2. $m \parallel n$	2.
3.	3.
4.	4.
5.	5.



6) Given $\angle 2$ & $\angle 8$ are supplementary, please prove $m \parallel n$.



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

Answer Key :

- 1) Given $4 - 2(3x - 1) = 30 - 10x$, prove that $x = 6$.

Statements	Reasons
1. $4 - 2(3x - 1) = 30 - 10x$	1. Given
2. $4 - 6x + 2 = 30 - 10x$	2. Distributive Property
3. $6 - 6x = 30 - 10x$	3. Combine Like Terms
4. $-6x = 24 - 10x$	4. Subtraction Property
5. $4x = 24$	5. Addition Property
6. $x = 6$	6. Division Property

- 2) Using the diagram below, please prove $x = 6$.

Statements	Reasons
1. $m\angle PQB = (19x - 4)^\circ$, $m\angle QRD = (15x + 20)^\circ$	1. Given
2. $19x - 4 = 15x + 20$	2. Corresponding Angles Post.
3. $4x - 4 = 20$	3. Subtraction Property
4. $4x = 24$	4. Addition Property
5. $x = 6$	5. Division Property

- 3) Using the diagram below, please prove $x = 20$.

Statements	Reasons
1. $m\angle BHK = (3x + 5)^\circ$, $m\angle HKD = (5x + 15)^\circ$	1. Given
2. $(3x + 5)^\circ + (5x + 15)^\circ = 180^\circ$	2. Consec. Int. Angles Theorem
3. $8x + 20 = 180$	3. Combine Like Terms
4. $8x = 160$	4. Subtraction Property
5. $x = 20$	5. Division Property

4) Given $\angle 1 \cong \angle 2$, please prove $\angle 3 \cong \angle 4$.

Statements	Reasons
1. $\angle 1 \cong \angle 2$	1. Given
2. $s \parallel t$	2. Alt. Exterior Angles Converse
3. $\angle 3 \cong \angle 4$	3. Alt. Interior Angles Theorem

5) Given $s \parallel t$ and $m \parallel n$, please prove $\angle 1 \cong \angle 3$

Statements	Reasons
1. $s \parallel t$	1. Given
2. $m \parallel n$	2. Given
3. $\angle 1 \cong \angle 2$	3. Alt. Interior Angles Theorem
4. $\angle 2 \cong \angle 3$	4. Corresponding Angles Post.
5. $\angle 1 \cong \angle 3$	5. Transitive Property

6) Given $\angle 2$ & $\angle 8$ are supplementary, please prove $m \parallel n$.

Statements	Reasons
1. $\angle 2$ & $\angle 8$ are supplementary	1. Given
2. $\angle 2$ & $\angle 4$ are supplementary	2. Linear Pair Postulate
3. $\angle 8 \cong \angle 4$	3. Transitive Property
4. $m \parallel n$	4. Correspond. Angles Converse