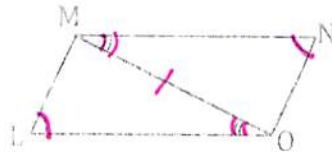


Example #3:

Given:  $\angle L \cong \angle N$ ,  $\angle LOM \cong \angle NMO$

Prove:  $\triangle LMO \cong \triangle NMO$



AAS

Statements

Reasons

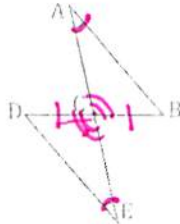
- ①  $\angle L \cong \angle N$   
 $\angle LOM \cong \angle NMO$
- ②  $\overline{MO} \cong \overline{MO}$
- ③  $\triangle LMO \cong \triangle NMO$

- ① Given
- ② Reflexive Property
- ③ AAS

Example #4

Given:  $\overline{AE}$  bisects  $\overline{BD}$ ,  $\angle A \cong \angle E$

Prove:  $\triangle ABC \cong \triangle EDC$



AAS

Statement

Reason

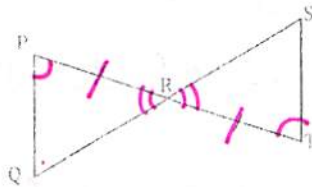
- ①  $\overline{AE}$  bisects  $\overline{BD}$ ,  
 $\angle A \cong \angle E$
- ②  $\overline{DC} \cong \overline{BC}$
- ③  $\angle ACB \cong \angle DCE$
- ④  $\triangle ABC \cong \triangle EDC$

- ① Given
- ② Def. of Bisector
- ③ Vertical Angles
- ④ AAS

Example #5

Given:  $\overline{PQ} \parallel \overline{ST}$ ,  $\overline{PR} \cong \overline{TR}$

Prove:  $\triangle PQR \cong \triangle TSR$



ASA

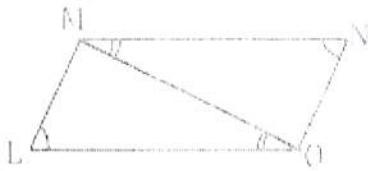
Statement

Reason

- ①  $\overline{PQ} \parallel \overline{ST}$ ,  $\overline{PR} \cong \overline{TR}$
- ②  $\angle P \cong \angle T$
- ③  $\angle PRQ \cong \angle SRT$
- ④  $\triangle PQR \cong \triangle TSR$

- ① Given
- ② Alternate Interior  $\angle$ 's
- ③ Vertical  $\angle$ 's
- ④ ASA

4. Given:  $\angle L \cong \angle N$ ,  $\angle LOM \cong \angle NMO$

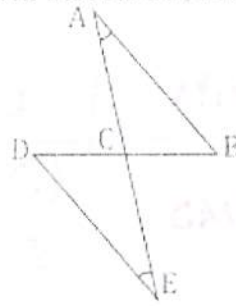


Prove:  $\triangle LMO \cong \triangle NOM$

Statements	Reasons
1.	1.
2.	2. Given
3.	3. Reflexive Property
4. $\triangle LMO \cong \triangle NOM$	4.

5.

Given:  $\overline{AE}$  bisects  $\overline{BD}$ ,  $\angle A \cong \angle E$



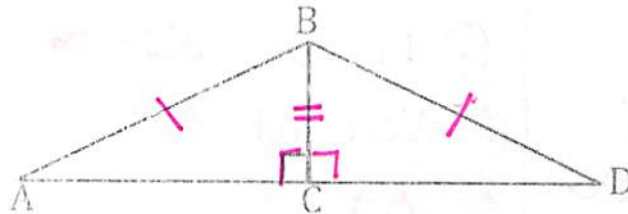
Prove:  $\triangle ABC \cong \triangle EDC$

Statements	Reasons
1. $\angle A \cong \angle E$	1.
2.	2. Given
3.	3. Definition of Bisect
4. $\angle ACB \cong \angle DCE$	4.
5. $\triangle ABC \cong \triangle EDC$	5.

Example #2:

Given:  $\overline{AB} \cong \overline{BD}$ ,  $\overline{BC} \perp \overline{AD}$

Prove:  $\triangle ABC \cong \triangle DBC$



Statements	Reasons
① $\overline{AB} \cong \overline{BD}$ $\overline{BC} \perp \overline{AD}$	① Given
② $\angle BCA$ & $\angle BCD$ are right angles	② Def. of $\perp$ lines
③ $\angle BCA \cong \angle BCD$	③ Right $\angle$ Theorem
④ $\overline{BC} \cong \overline{BC}$	④ Reflexive Property
⑤ $\triangle ABC \cong \triangle DBC$	⑤ HL