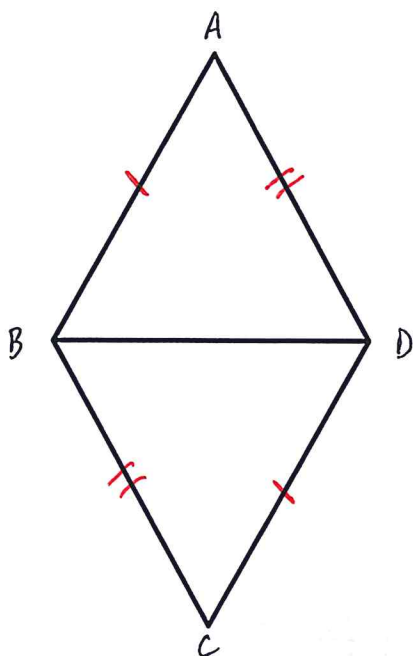


Geometric Proofs
Emphasis on Congruence by Side – Side – Side

Prove each of the following using Side – Side – Side:

1. Given: $\overline{AB} \cong \overline{CD}$
 $\overline{AD} \cong \overline{CB}$

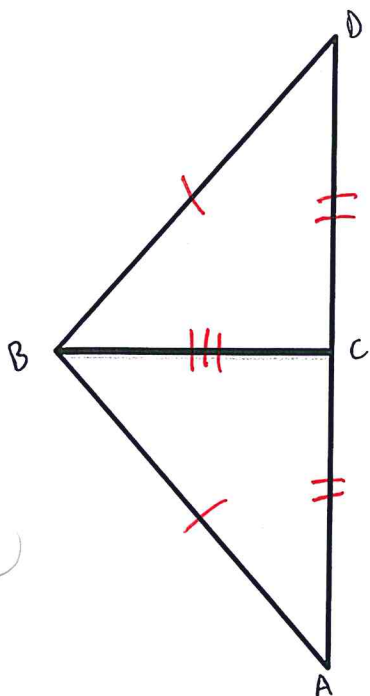
Prove: $\triangle ABD \cong \triangle CDB$



Statements	Reasons
① $\overline{AB} \cong \overline{CD}$; $\overline{AD} \cong \overline{CB}$	① Given
② $\overline{BD} \cong \overline{BD}$	② Reflexive property
③ $\triangle ABD \cong \triangle CDB$	③ SSS.

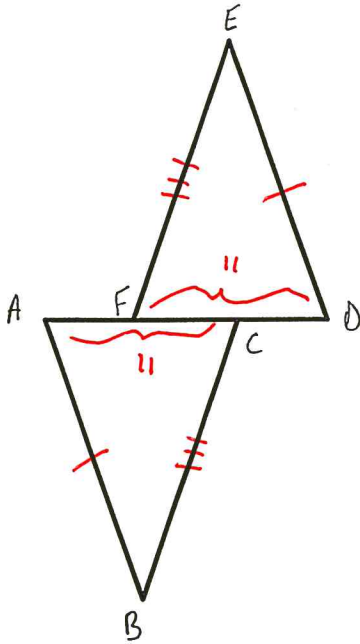
2. Given: $\triangle ABD$ is an Isosceles Triangle with base \overline{AD}
C is the midpoint of \overline{AD}

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



Statements	Reasons.
① $\triangle ABD$ isosceles w/ base \overline{AD} & C is midpt of \overline{AD}	① Given.
② $\overline{AB} \cong \overline{BD}$	② Definition Isosceles \triangle .
③ $\overline{AC} \cong \overline{CD}$	③ Definition midpoint.
④ $\overline{BC} \cong \overline{BC}$	④ Reflexive Property.
⑤ $\triangle ABC \cong \triangle DBC$	⑤ SSS.

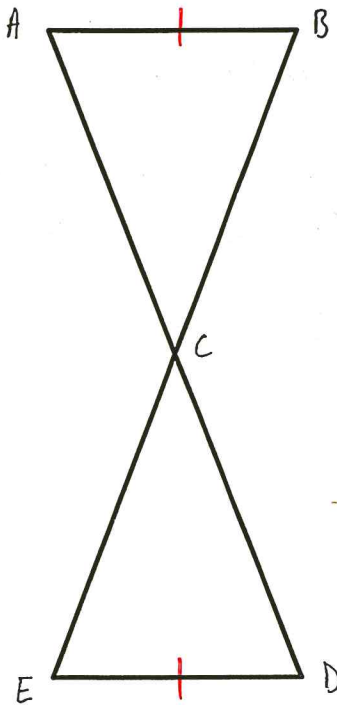
3. Given: $\overline{AB} \cong \overline{DE}$
 $\overline{AC} \cong \overline{DF}$
 $\overline{BC} \cong \overline{EF}$
 Prove: $\triangle ABC \cong \triangle DEF$



Statements	Reasons.
① $\overline{AB} \cong \overline{DE}; \overline{AC} \cong \overline{DF}; \overline{BC} \cong \overline{EF}$.	① Given.
② $\triangle ABC \cong \triangle DEF$	② SSS.

4. Given: C is the midpoint of \overline{AD} & \overline{BE}
 $\overline{AB} \cong \overline{DE}$

Prove: $\triangle ABC \cong \triangle DEC$



Statements	Reasons.
① C midpt of \overline{AD} & \overline{BE} $\overline{AB} \cong \overline{DE}$	① Given.
② $\overline{AC} \cong \overline{DC}; \overline{BC} \cong \overline{CE}$	② Definition Midpoint.
③ $\triangle ABC \cong \triangle DEC$	③ SSS.