Steps for Proving Triangles Congruent

1. **Mark the Given.**
2. **Mark … Reflexive Sides / Vertical Angles**
3. **Choose a Method.** ***(SSS, SAS, ASA, AAS, HL)***
4. **List the Parts …** ***in the order of the method.***
5. **Fill in the Reasons …** ***why you marked the parts.***
6. **Is there more? CPCTC – Corresponding Parts of Congruent Triangles are Congruent**

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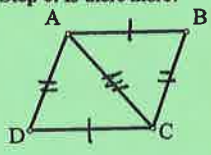
Problem 1 →

Given: $\overline{AB} \cong \overline{CD}$
$\overline{BC} \cong \overline{DA}$
Prove: $\triangle ABC \cong \triangle CDA$

Step 1: Mark the Given
Step 2: Mark reflexive sides
Step 3: Choose a Method (SSS /SAS /ASA / AAS / HL)
Step 4: List the Parts in the order of the method
Step 5: Fill in the reasons
Step 6: Is there more?



Statements	Reasons
$\overline{AB} \cong \overline{CD}$	Given
$\overline{BC} \cong \overline{DA}$	Given
$\overline{AC} \cong \overline{AC}$	Reflexive
$\triangle ABC \cong \triangle CDA$	SSS

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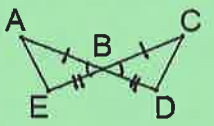
Problem 2 →

Given : $\overline{AB} \cong \overline{CB}$; $\overline{EB} \cong \overline{DB}$
Prove: $\angle A \cong \angle C$

Step 1: Mark the Given
Step 2: Mark vertical angles
Step 3: Choose a Method (SSS /SAS /ASA /AAS /HL)
Step 4: List the Parts in the order of the method
Step 5: Fill in the reasons
Step 6: Is there more?

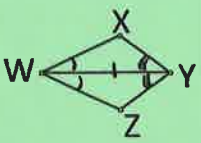


Statements	Reasons
$\overline{AB} \cong \overline{CB}$	given
$\overline{EB} \cong \overline{DB}$	given
$\angle ABC \cong \angle CBD$	vertical $\angle$s $\cong$
$\triangle ABE \cong \triangle CBD$	SAS
$\angle A \cong \angle C$	CPCTC

Problem 3

Given : $\angle XWY \cong \angle ZWY$; $\angle XYW \cong \angle ZYW$
Prove: $\triangle WXY \cong \triangle WZY$

Step 1: Mark the Given
Step 2: Mark reflexive sides
Step 3: Choose a Method (SSS /SAS /ASA / AAS / HL)
Step 4: List the Parts in the order of the method
Step 5: Fill in the reasons
Step 6: Is there more?



Statements	Reasons
$\angle XWY \cong \angle ZWY$	given
$\angle XYW \cong \angle ZYW$	given
$\overline{WY} \cong \overline{WY}$	Reflexive
$\triangle WXY \cong \triangle WZY$	ASA

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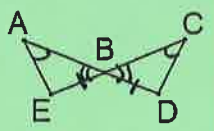
Problem 4 →

Given: $\angle A \cong \angle C$
$\overline{BE} \cong \overline{BD}$
Prove: $\triangle ABE \cong \triangle CBD$

Step 1: Mark the Given
Step 2: Mark vertical angles
Step 3: Choose a Method (SSS /SAS/ASA/AAS/ HL)
Step 4: List the Parts in the order of the method
Step 5: Fill in the reasons
Step 6: Is there more?



Statements	Reasons
$\angle A \cong \angle C$	Given
$\overline{BE} \cong \overline{BD}$	Given
$\angle ABE \cong \angle CBD$	vertical $\angle$s $\cong$
$\triangle ABE \cong \triangle CBD$	AAS

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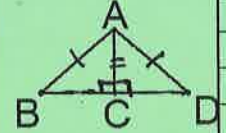
Problem 5 →

Given: $\triangle ABC$, $\triangle ADC$ right $\triangle$s
$\overline{AB} \cong \overline{AD}$
Prove: $\overline{BC} \cong \overline{CD}$

Step 1: Mark the Given
Step 2: Mark reflexive sides
Step 3: Choose a Method (SSS /SAS /ASA /AAS / HL)
Step 4: List the Parts in the order of the method
Step 5: Fill in the reasons
Step 6: Is there more?



Statements	Reasons
$\triangle ABC, \triangle ADC$ rt $\triangle$	given
$\overline{AB} \cong \overline{AD}$	given
$\overline{AC} \cong \overline{AC}$	Reflexive
$\triangle ABC \cong \triangle ADC$	HL
$\overline{BC} \cong \overline{CD}$	CPCTC