

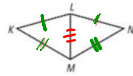
Honors NC Math 3
Triangle Congruence Proofs Notes

Name: _____

1. Write a two-column proof of the following.

Given: $\overline{KL} \cong \overline{NL}$, $\overline{KM} \cong \overline{NM}$
Prove: $\triangle KML \cong \triangle NML$

SSS

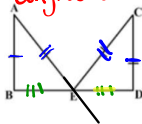


Statements	Reasons
① $\overline{KL} \cong \overline{NL}$	① Given
② $\overline{KM} \cong \overline{NM}$	② Reflexive Property
③ $\triangle KML \cong \triangle NML$	③ SSS \cong SSS (SSS Congruence Postulate)

2. Write a two-column proof of the following.

Given: $\overline{AE} \cong \overline{CE}$, $\overline{AB} \cong \overline{CD}$
E is the midpoint of \overline{BD}
Prove: $\triangle EAB \cong \triangle ECD$

SSS



Statement	Reason
① $\overline{AE} \cong \overline{CE}$	① Given
② $\overline{AB} \cong \overline{CD}$	
E is the midpoint of \overline{BD}	
③ $\overline{BE} \cong \overline{DE}$	② Definition of midpoint
④ $\triangle EAB \cong \triangle ECD$	③ SSS \cong SSS Q.E.D.

Do Now:

Congruent Triangles Handout

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Name: _____

Write a paragraph proof of the following.

Given: $\overline{BC} \cong \overline{DA}$, $\overline{BC} \parallel \overline{AD}$

Prove: $\triangle ABC \cong \triangle CDA$

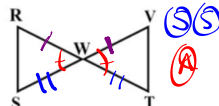


Write a paragraph proof of the following.

4. Given: $\overline{RW} \cong \overline{VW}$

$\overline{SW} \cong \overline{TW}$

Prove: $\triangle RWS \cong \triangle VWT$



Statement	Reasons
① $\overline{RW} \cong \overline{VW}$	① Given
② $\overline{SW} \cong \overline{TW}$	② Vertical Angles are \cong
③ $\triangle RWS \cong \triangle VWT$	③ SAS \cong SAS (SAS Congruence Postulate)