4-4 Using Corresponding Parts of Congruent Triangles

Content Standards
G.SRT.5 Use congruence . . . criteria for triangles to solve problems and prove relationships in geometric figures.
Also G.CO.12

Objective To use triangle congruence and corresponding parts of congruent triangles to prove that parts of two triangles are congruent

Essential Understanding If you know two triangles are congruent, then you know that every pair of their corresponding parts is also congruent.
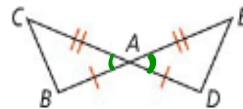
SSS
SAS
ASA
AAS

CPCTC
Corresponding Parts of Congruent Triangles are Congruent

Got It? **1. Given:** $\overline{BA} \cong \overline{DA}, \overline{CA} \cong \overline{EA}$
Prove: $\angle C \cong \angle E$

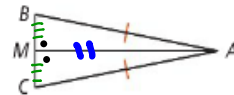| Statements	Reasons
1. $\overline{BA} \cong \overline{DA}$ $\overline{CA} \cong \overline{EA}$	1. Given
2. $\angle CAB \cong \angle EAD$	2. Vertical $\angle$s Thm
3. $\triangle CAB \cong \triangle EAD$	3. SAS
4. $\angle C \cong \angle E$	4. CPCTC

✓ **Got It?** **2. a. Given:** $\overline{AB} \cong \overline{AC}$, M is the midpoint of $\overline{BC}$

Prove: $\angle AMB \cong \angle AMC$

Statements

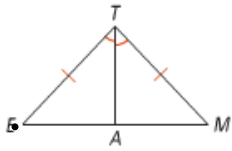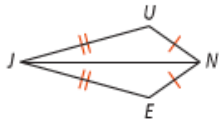| Statements	Reasons
1. $\overline{AB} \cong \overline{AC}$ M is the midpoint of $\overline{BC}$	1. Given
2. $\overline{MA} \cong \overline{MA}$	2. Reflexive Prop. of $\cong$
3. $\overline{BM} \cong \overline{CM}$	3. Def. of midpoint
4. $\triangle BAM \cong \triangle CAM$	4. SSS
5. $\angle AMB \cong \angle AMC$	5. CPCTC

Name the postulate or theorem that you can use to
show the triangles are congruent. Then explain why the
statement is true.

1. $\overline{EA} \cong \overline{MA}$

SAS, CPCTC

2. $\angle U \cong \angle E$

SSS, CPCTC

Name
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