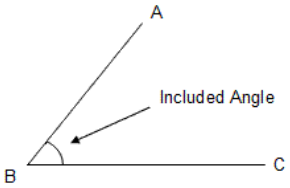
Geometry A
Section 4.4 Notes – SAS

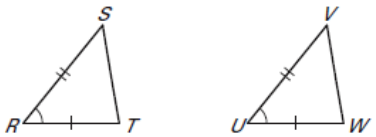
Name : _____
Date : _____ Period : ____

➢ I can prove triangles congruent using SAS.

Vocabulary:

➢ An included angle is an angle made by two lines with a common vertex.

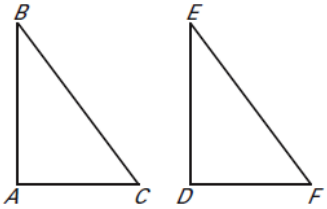


Side – Angle – Side Congruence Postulate (SAS)	**Example:**
If two sides and the included angle of one triangle are congruent to two sides and the included angle of a second triangle, then the two triangles are congruent.	If Side $\overline{RS} \cong$ _____, Angle $\angle R \cong$ _____, and Side $\overline{RT} \cong$ _____, then $\triangle RST \cong$ _____. 

Example 1: Use the SAS Congruence Postulate

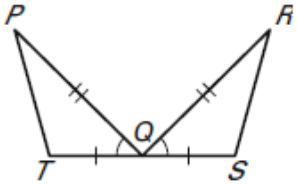
1. State the third congruence that must be given in order to prove $\Delta ABC \cong \Delta DEF$ using the SAS Congruence Postulate.

Given: $\angle B \cong \angle E$, $\overline{BC} \cong \overline{EF}$, _____ $\cong$ _____

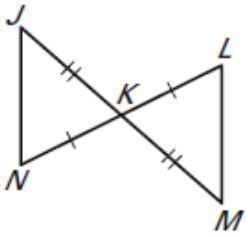


2. Decide whether enough information is given to prove that the triangles are congruent using the SAS Congruence Postulate.

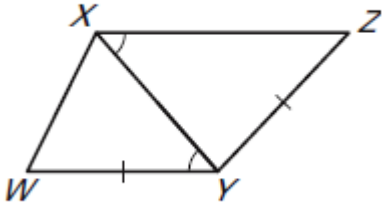
a) $\triangle PQT, \triangle RQS$



b) $\triangle NKJ, \triangle LKM$



c) $\triangle WXY, \triangle ZXY$



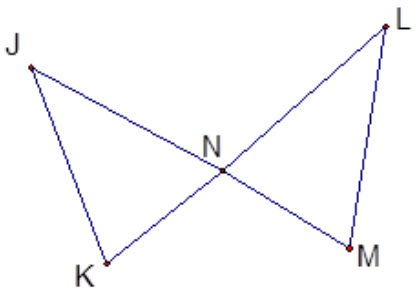
Reasons to prove angles are congruent:

- _____
- _____
- _____
- _____

Example 2: Use the SAS Congruence Postulate to write a proof.

Given: $\overline{JN} \cong \overline{LN}$, $\overline{KN} \cong \overline{MN}$

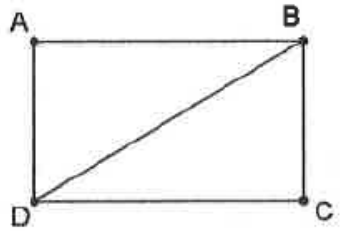
Prove: $\Delta JKN \cong \Delta LMN$



Statement	Reason
1. $\overline{JN} \cong \overline{LN}$	1.
2. $\overline{KN} \cong \overline{MN}$	2.
3.	3.
4. $\Delta JKN \cong \Delta LMN$	4.

Given: $\overline{AD} \cong \overline{CB}$, $\overline{AD} \parallel \overline{CB}$

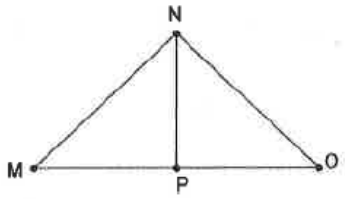
Prove: $\Delta ABD \cong \Delta CDB$



Statements	Reasons
1. $\overline{AD} \cong \overline{CB}$	1.
2. $\overline{AD} \parallel \overline{CB}$	2.
3.	3.
4.	4.
5. $\Delta ABD \cong \Delta CDB$	5.

Given: $\overline{NP}$ bisects $\angle MNO$, $\overline{MN} \cong \overline{ON}$

Prove: $\Delta MNP \cong \Delta ONP$



Statements	Reasons
1. $\overline{NP}$ bisects $\angle MNO$	1.
2.	2.
3. $\overline{MN} \cong \overline{ON}$	3.
4.	4.
5. $\Delta MNP \cong \Delta ONP$	5.