

Name: \_\_\_\_\_

Aim#35: 4.3 - 4.5 How can we use our knowledge of congruent angles and segments to prove triangles congruent?

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NHS-Geometry  
Nov. 5, 2014

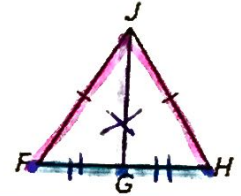


Guiding Questions

Notes/Diagrams/Illustrations

How can I write a proof using the SSS Congruence Postulate?

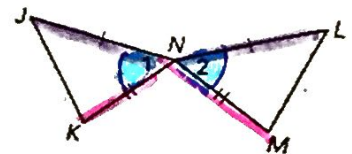
1. Given:  $\overline{FJ} \cong \overline{HJ}$ , G is the midpoint of  $\overline{FH}$   
Prove:  $\triangle FGJ \cong \triangle HGJ$



Statements	Reasons
1. $\overline{FJ} \cong \overline{HJ}$ , G mdpt $\overline{FH}$	1. Given
2. $\overline{FG} \cong \overline{HG}$	2. If mdpt then $\cong$
3. $\overline{JG} \cong \overline{JG}$	3. reflexive
4. $\triangle FGJ \cong \triangle HGJ$	4. SSS

How can I write a proof using the SAS Congruence Postulate?

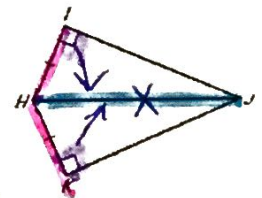
2. Given:  $\overline{JN} \cong \overline{LN}$ ,  $\overline{KN} \cong \overline{MN}$ .  
Prove:  $\triangle JKN \cong \triangle LMN$



Statements	Reasons
1. $\overline{JN} \cong \overline{LN}$ , $\overline{KN} \cong \overline{MN}$	1. Given
2. $\angle 1 \cong \angle 2$	2. Vertical
3. $\triangle JKN \cong \triangle LMN$	3. SAS

How can I write a proof using the H-L Congruence Postulate?

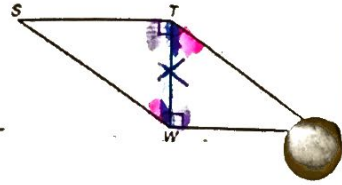
3. Prove:  $\triangle IHJ \cong \triangle KHJ$



Statements	Reasons
1. $\angle I = 90$ , $\angle K = 90$ $\overline{IH} \cong \overline{KH}$	1. Given
2. $\angle I \cong \angle K$	2. All rt $\angle \cong$
3. $\overline{HJ} \cong \overline{HJ}$ (HYP)	3. reflexive (across 90)
4. $\triangle IHJ \cong \triangle KHJ$	4. HL

How can I write a proof using the ASA Congruence Postulate?

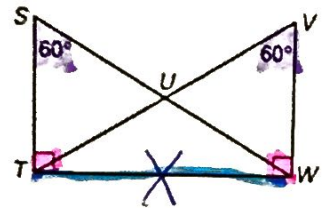
4. Prove:  $\triangle STW \cong \triangle VWT$



Statements	Reasons
1. $\angle STW = 90^\circ$ , $\angle VWT = 90^\circ$ $\angle VTW \cong \angle SWT$	1. Given
2. $\overline{TW} \cong \overline{TW}$	2. reflexive
3. $\angle STW \cong \angle VWT$	3. All rt $\angle \cong$
4. $\triangle STW \cong \triangle VWT$	4. ASA

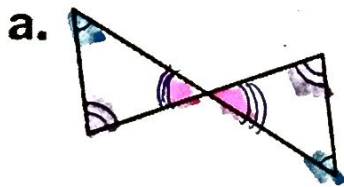
How can I write a proof using the AAS Congruence Postulate?

5. Prove:  $\triangle STW \cong \triangle VWT$



Statements	Reasons
1. $\angle S = 60^\circ$ , $\angle V = 60^\circ$ $\angle STW = 90^\circ$ , $\angle VWT = 90^\circ$	1. Given
2. $\angle S \cong \angle V$ $\angle STW \cong \angle VWT$	2. Substitution
3. $\overline{TW} \cong \overline{WT}$	3. reflexive
4. $\triangle STW \cong \triangle VWT$	4. AAS

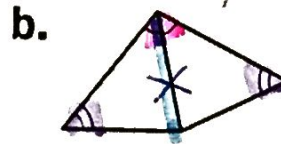
Can the triangle be proven congruent with the information given? Explain.



Yes

No

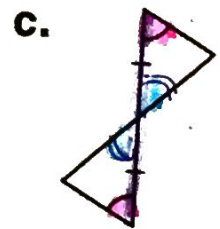
AAA False



Yes

No

AAS



Yes

No

ASA