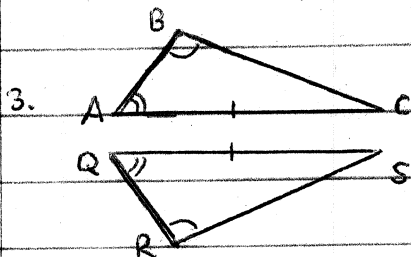


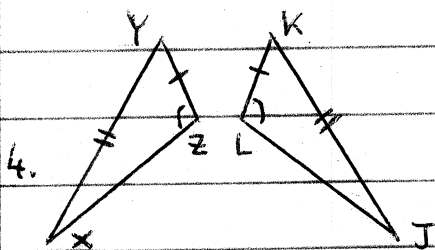
Geometry, Ch 4-6 Exer. pg 250 #3-5, 7-10, 14-17, 31-34

Is it possible to prove that the triangles are congruent?

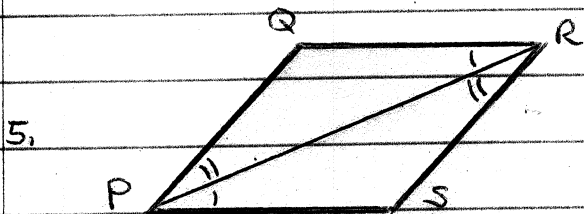
If so, state postulate.



Yes,  $\triangle ABC \cong \triangle QRS$  by A-A-S



No, S-S-A is not sufficient to show congruency.



Use  $\overline{PR} \cong \overline{PR}$ , Reflexive to prove  $\triangle PQR \cong \triangle RSP$  by A-S-A

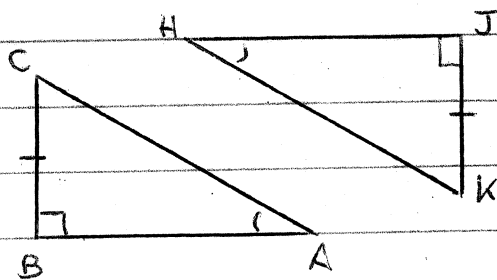
7. Which postulate proves  $\triangle ABC \cong \triangle HJK$ ?

A. HL

B. A-A-S

C. S-A-S

D. Not enough info.



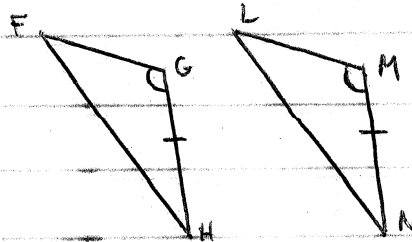
State the third congruence needed to prove  $\triangle FGH \cong \triangle LMN$  using the indicated postulate/theorem.

8. Use A-A-S with

$$\overline{GH} \cong \overline{MN}$$

$$\angle G \cong \angle M$$

$$\angle F \cong \angle L$$

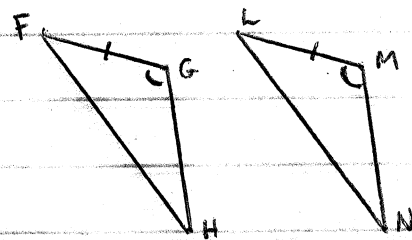


9. Use A-S-A with

$$\overline{FG} \cong \overline{LM}$$

$$\angle G \cong \angle M$$

$$\angle F \cong \angle L$$

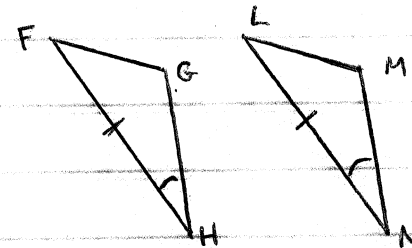


10. Use S-A-S with

$$\overline{FH} \cong \overline{LN}$$

$$\angle H \cong \angle N$$

$$\overline{GH} \cong \overline{MN}$$

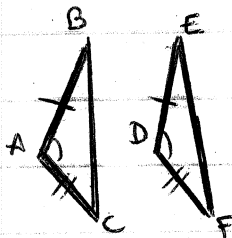


Explain how/whether you can use given info to prove  $\triangle ABC \cong \triangle DEF$

14.  $\angle A \cong \angle D$

$$\overline{AB} \cong \overline{DE}$$

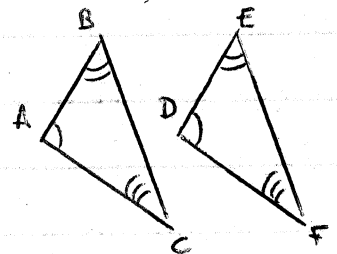
$$\overline{AC} \cong \overline{DF}$$



15.  $\angle A \cong \angle D$

$$\angle B \cong \angle E$$

$$\angle C \cong \angle F$$



Prove with S-A-S.

[Diagrams not necessary, but they help!]

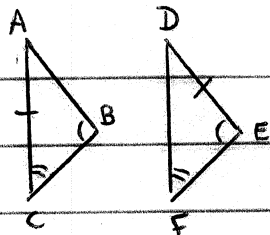
A-A-A is not sufficient to prove Congruency.

16.

$\angle B \cong \angle E$

$\angle C \cong \angle F$

$\overline{AC} \cong \overline{DE}$

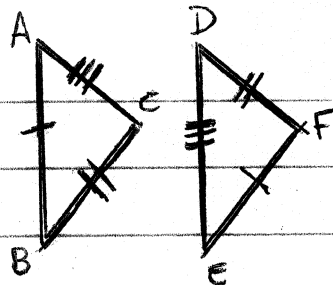


No,  $\overline{AC}$  and  $\overline{DE}$  are not corresponding sides

17.  $\overline{AB} \cong \overline{EF}$

$\overline{BC} \cong \overline{FD}$

$\overline{AC} \cong \overline{DE}$



While the two triangles are  $\cong$  by S-S-S, the statement  $\triangle ABC \cong \triangle DEF$  is not correct. A correct congruency statement would be  $\triangle ABC \cong \triangle FED$

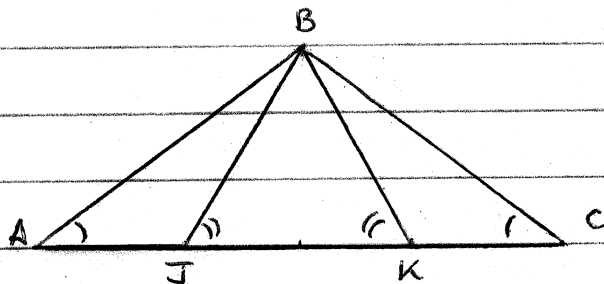
Write a proof.

31. Given:  $\overline{AK} \cong \overline{CJ}$

$\angle BJK \cong \angle BKJ$

$\angle A \cong \angle C$

Prove:  $\triangle ABK \cong \triangle CBJ$



Very easy... take stock of what's given!

Statement

Reason

$\overline{AK} \cong \overline{CJ}$

Given

[SIDE]

$\angle BJK \cong \angle BKJ$

Given

[ANGLE]

$\angle A \cong \angle C$

Given

[ANGLE]

$\triangle ABK \cong \triangle CBJ$

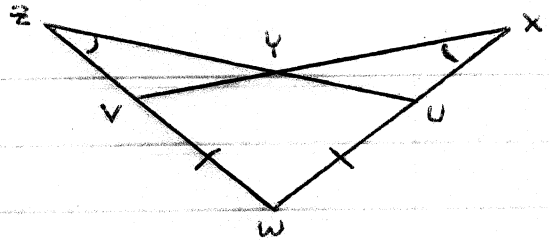
 $\Delta$ -S-A

[Why not A-A-S??]

32. Given:  $\overline{VW} \cong \overline{UW}$

$\angle X \cong \angle Z$

Prove:  $\triangle XWV \cong \triangle ZWU$

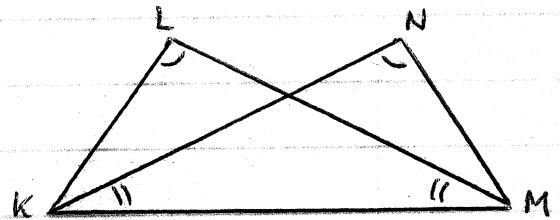


<u>Statement</u>	<u>Reason</u>
$\angle X \cong \angle Z$	Given [ANGLE]
$\overline{VW} \cong \overline{UW}$	Given [SIDE]
$\angle W \cong \angle W$	Reflexive [ANGLE]
$\triangle XWV \cong \triangle ZWU$	A-A-S [why not A-S-A?]

33. Given:  $\angle NKM \cong \angle LMK$

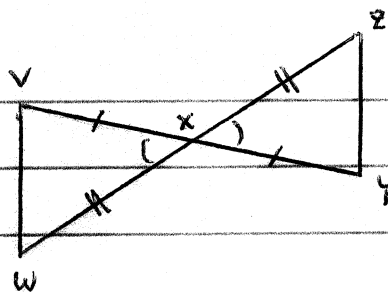
$\angle L \cong \angle N$

Prove:  $\triangle NMK \cong \triangle LKM$



<u>Statement</u>	<u>Reason</u>
$\angle NKM \cong \angle LMK$	Given [ANGLE]
$\angle L \cong \angle N$	Given [ANGLE]
$\overline{KM} \cong \overline{KM}$	Reflexive [SIDE]
$\triangle NMK \cong \triangle LKM$	A-A-S

34.

Given:  $X$  is midpt of  $\overline{VY}$  $X$  is midpt of  $\overline{WZ}$ Prove:  $\triangle VWX \cong \triangle YZX$ 

Statement	Reason
$X$ is midpt of $\overline{VY}$	Given
$\overline{VX} \cong \overline{YX}$	Defn of Midpoint [SIDE]
$X$ is midpt of $\overline{WZ}$	Given
$\overline{WX} \cong \overline{ZX}$	Defn of Midpoint [SIDE]
$\angle VWX \cong \angle YZX$	Vertical Angles [ANGLE]
$\triangle VWX \cong \triangle YZX$	S-A-S