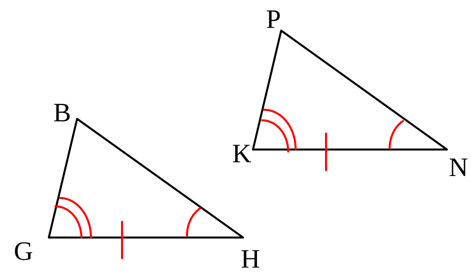
<name>
Class: Honors Geometry
Date: 9/14/06
Topic: Lesson 4-3 (Triangle Congruence: ASA & AAS)

Postulate 4-3

Angle-Side-Angle (ASA) Postulate

If 2 $\angle' s$ & incl side of 1 Δ are $\cong$ to the 2 $\angle' s$ & incl side of another, the 2 Δs are $\cong$.

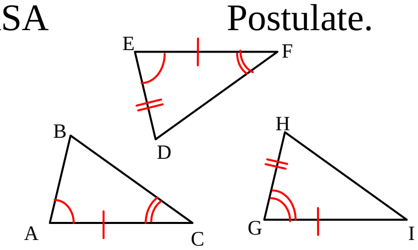
$\Delta ABC \cong \Delta PQR$



Example

Pg 197, #2

Name 2 $\Delta' s$ that are $\cong$ by the ASA Postulate.

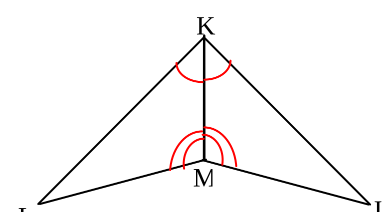


$\angle BAC \cong \angle DEF$
$\overline{AC} \cong \overline{EF}$
$\angle ACB \cong \angle EFD$
So $\Delta ACB \cong \Delta EFD$ by ASA

Example

Pg 197, #8

Developing a proof: complete the proof by filling in blanks.



Given: $\angle LKM \cong \angle JKM$
$\angle LMK \cong \angle JMK$
Prove: $\Delta LKM \cong \Delta JKM$

Proof: $\angle LKM \cong \angle JKM$	Given
$\angle LMK \cong \angle JMK$	Given
$\overline{KM} \cong \overline{KM}$	a) Reflexive POC
$\Delta LKM \cong \Delta JKM$	b) ASA

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Theorem 4-2

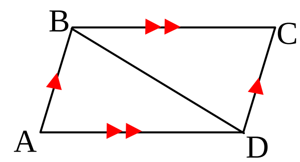
Angle-Angle-Side (AAS) Theorem

If 2 $\angle$'s & a non-incl side of 1 Δ are $\cong$ to 2 $\angle$'s & the corresponding non-incl side of another Δ, then the 2 Δs are $\cong$.

Example

Pg. 197 #10

Tell whether AAS or ASA can be applied directly to prove the Δs $\cong$. If not, write *not possible*.



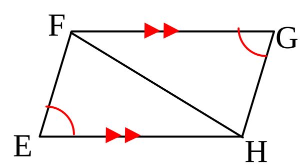
ASA; following is the reasoning…

$\angle CBD \cong \angle ADB$	If $\parallel$ lines then alt. Int. $\angle$'s are $\cong$
$\overline{BD} \cong \overline{BD}$	Reflexive POC
$\angle CDB \cong \angle ABD$	If $\parallel$ lines then alt. Int. $\angle$'s are $\cong$

Example

Not in the book

Tell whether AAS or ASA can be applied directly to prove the Δs $\cong$. If not, write *not possible*.



AAS; following is the reasoning…

$\angle E \cong \angle G$	Given
$\angle EHF \cong \angle GFH$	If $\parallel$ lines then alt. Int. $\angle$'s are $\cong$
$\overline{FH} \cong \overline{HF}$	Reflexive POC