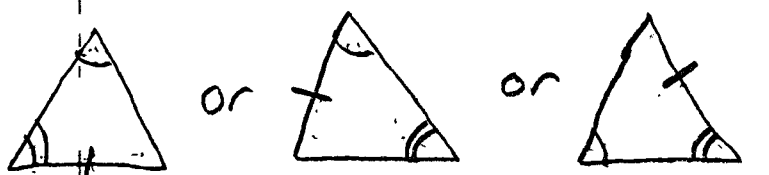
GEOMETRY | MONDAY 10-15-12 | CLASS NOTES

Ch. 4-6 Triangle Congruence: ASA, AAS

ASA ⇒ KNOW 2 ANGLES AND "INCLUDED" SIDE

(EX)  or or

AAS ⇒ KNOW 2 ANGLES AND a "NOT INCLUDED" SIDE

(EX)  or or

or  or or

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BTW ⇓ "By the Way"

ANYTIME YOU KNOW 2 ANGLES YOU "really" KNOW 3 SO

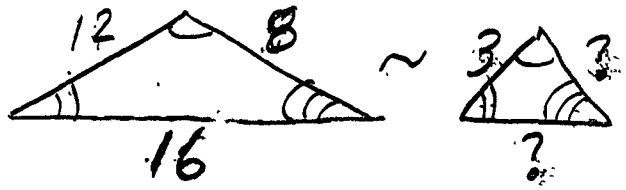
ASA, AAS } are really "AAA plus Side"

WHAT does NOT work?

AAA ⇒ you only know the triangles are <u>similar</u>

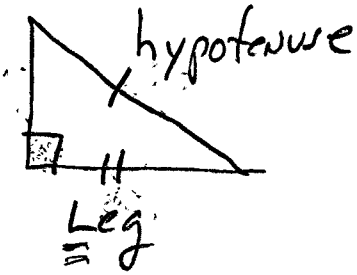
⇓

SIDES ARE "in proportion"

(EX) 

SSA ⇒ may be ONE, two, or NO triangles that are congruent

⇓

EXCEPTION ⇒ HL ⇒ 

understood to be A=90°

hypotenuse Leg

⇒ SSA

↑

90° angle

HL works! If the angle is 90° there is only 1 possible triangle once you pick A length for the hypotenuse and ONE leg (side).

Summary of Triangle $\cong$

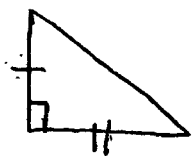
SSS
SAS
ASA
AAS

WORKS

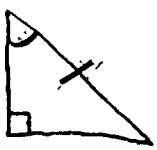
AAA — ONLY PROVES similarity, NOT $\cong$

SSA — ONLY WORKS if $A = 90^\circ \Rightarrow HL \Rightarrow SS(90^\circ)$

NOTE:



LL is really SAS ✓



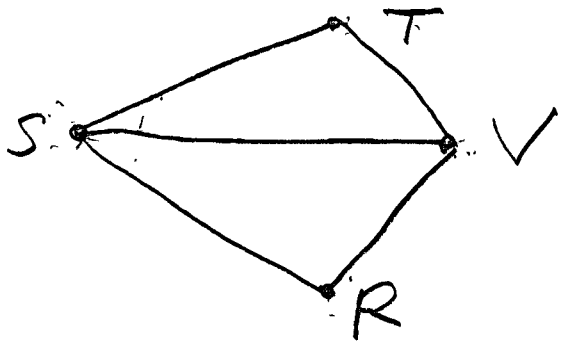
HA is really AAS ✓

LA is really ASA ✓

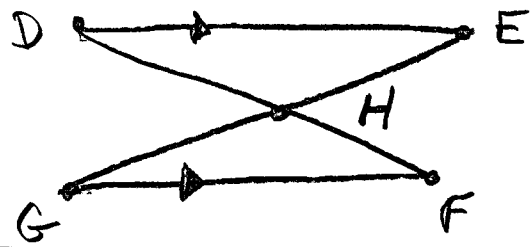
Ex 4 pg 264

PROVE: $\triangle VRS \cong \triangle VTS$

GIVEN: $\overline{VS}$ bisects $\angle RST$ AND $\angle RVT$

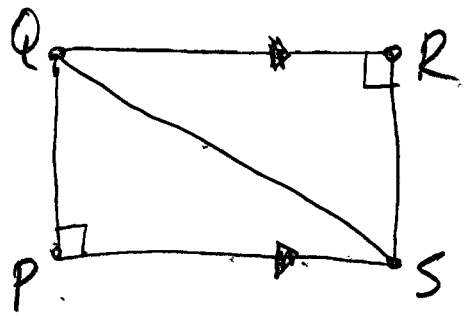


Ex 5 $\triangle DEH \cong \triangle FGH$

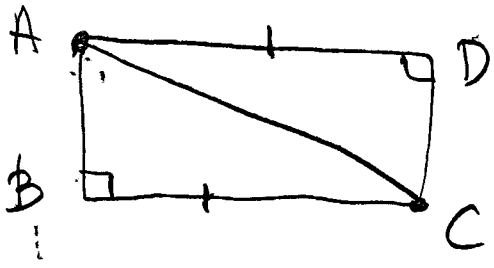


Ex 6

$\triangle QPS \cong \triangle SRQ$



Ex 7



$\triangle ABC \cong \triangle CDA$