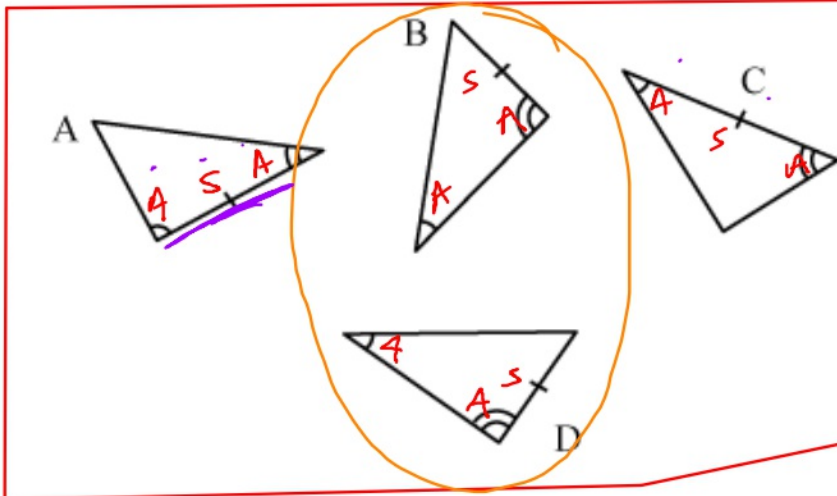


Good morning: warm up



Which two triangles are congruent by AAS?

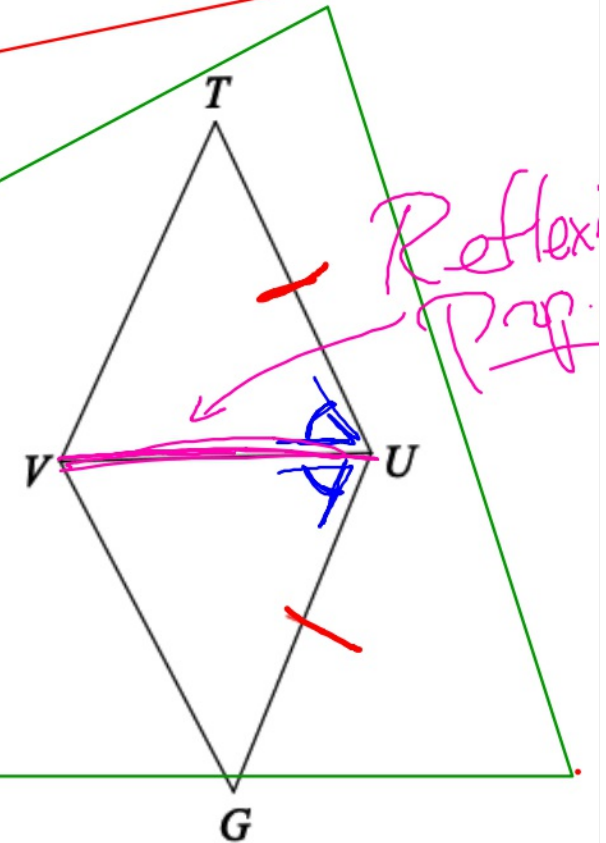
What additional piece of information is needed to prove these two triangles congruent by SAS?

A) $\angle T \cong \angle G$ or $\angle UVT \cong \angle UVG$

C) $\overline{UV} \cong \overline{UV}$

B) $\angle TUV \cong \angle GUV$

D) $\overline{VT} \cong \overline{VG}$



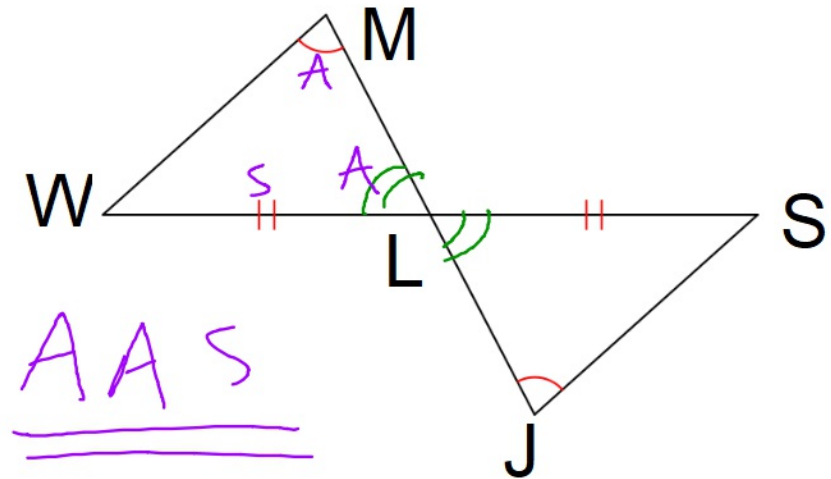
What's the point of all this SSS, SAS, stuff?

They're the pieces you need in order to write a proof showing why two triangles must be congruent

my first $\triangle \cong$ proof

Given: $\angle M \cong \angle J$, $\overline{WL} \cong \overline{SL}$

Prove: $\angle W \cong \angle S$

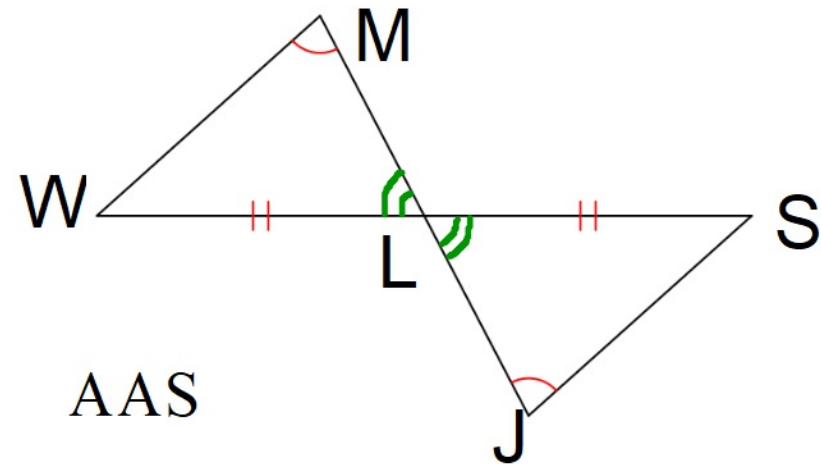


1. Mark the figure based on the given
2. Make observations: any vertical angles?
Shared sides? Parallel lines?
3. Identify which criteria is present
4. If proving triangles congruent, you're done. If proving parts congruent, use CPCTC.

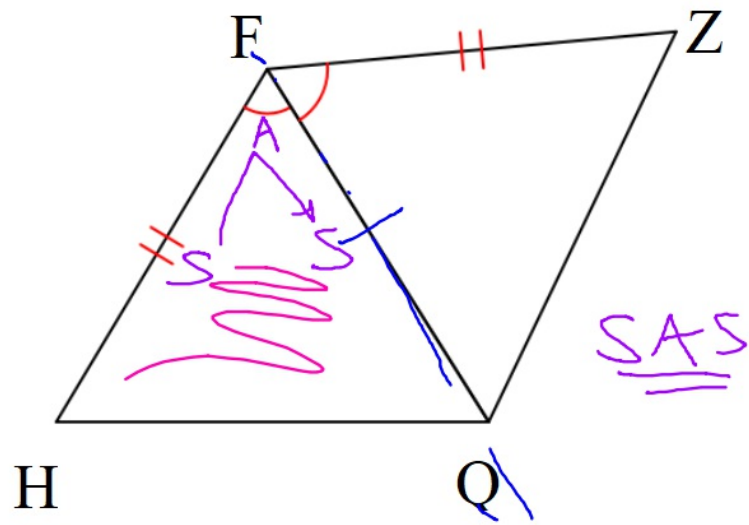
Corresp. parts of $\cong \triangle$ are \cong .

Given: $\angle M \cong \angle J$, $\overline{WL} \cong \overline{SL}$

Prove: $\angle W \cong \angle S$



We are given $\angle M \cong \angle J$ and $\overline{WL} \cong \overline{SL}$. $\angle WLM \cong \angle SLJ$ because they are vertical angles. Thus we can say that $\triangle WML \cong \triangle SJL$ by AAS criteria. Therefore, $\angle W \cong \angle S$ by CPCTC.



GIVEN: $\angle HFQ \cong \angle ZFQ$, $\overline{HF} \cong \overline{ZF}$
 PROVE: $\overline{HQ} \cong \overline{ZQ}$

We're given $\angle HFQ \cong \angle ZFQ$, and $\overline{HF} \cong \overline{ZF}$.

We can say that

$\overline{FQ} \cong \overline{FQ}$ by Reflexive property.

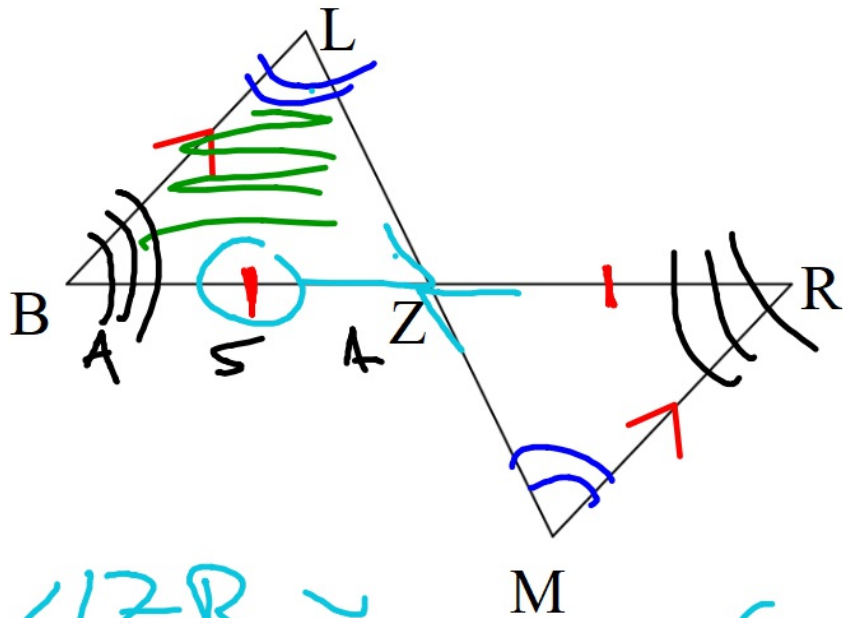
We can say that $\triangle HFQ \cong \triangle ZFQ$

by SAS criteria.

Therefore, $\overline{HQ} \cong \overline{ZQ}$ by CPCTC

Your turn :)

GIVEN: $\overline{BZ} \cong \overline{RZ}$, $\overline{BL} \parallel \overline{RM}$
 PROVE: $\overline{LZ} \cong \overline{MZ}$



Where can you find evidence?

- vertical \angle 's
- shared sides
- parallel lines/angles.

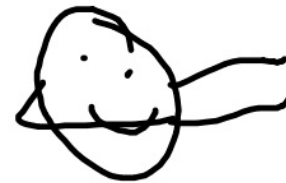
$$\angle LZB \cong \angle MZR \text{ (vert.)}$$

$$\angle L \cong \angle M \text{ (Alt. Int.)}$$

$$\triangle LZB \cong \triangle MZR \text{ (AAS)}$$

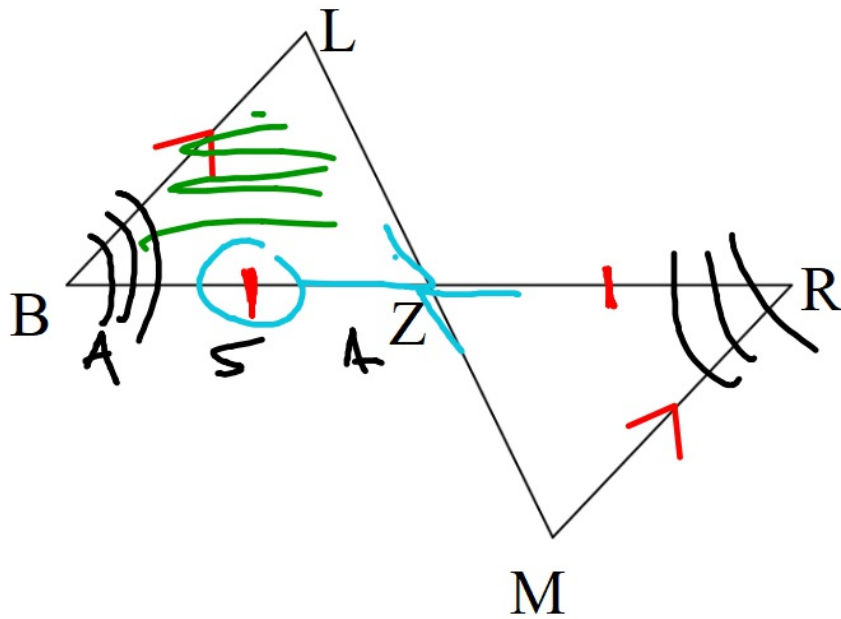
$$\overline{LZ} \cong \overline{MZ} \text{ (CPCTC)}$$

Q.E.D.



Your turn :)

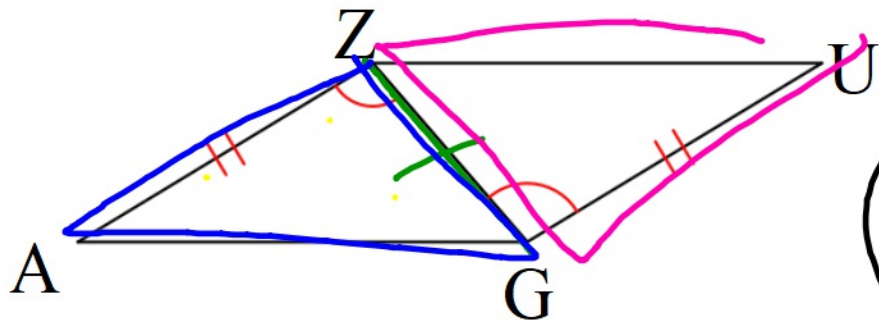
GIVEN: $\overline{BZ} \cong \overline{RZ}$, $\overline{BL} \parallel \overline{RM}$
PROVE: $\overline{LZ} \cong \overline{MZ}$



Where can you find evidence?

- vertical \angle 's
- shared sides
- parallel lines/angles.

We are given $\overline{BZ} \cong \overline{RZ}$, and $\overline{BL} \parallel \overline{RM}$. We wish to prove $\overline{LZ} \cong \overline{MZ}$. We observe that $\angle LZB \cong \angle MZR$ because they are vertical angles. We can also observe that $\angle B \cong \angle R$ because they are alternate interior angles of parallel lines. Therefore, $\triangle BZL \cong \triangle RZM$ by ASA criteria. Finally, by CPCTC, we can say that $\overline{LZ} \cong \overline{MZ}$.



GIVEN: $\overline{AZ} \cong \overline{UG}$, $\angle AZG \cong \angle UGZ$
 PROVE: $\overline{AG} \cong \overline{UZ}$

We're given _____.

We observe $\overline{ZG} \cong \overline{GZ}$ (reflexive prop.)

Therefore $\triangle AZG \cong \triangle UGZ$ by SAS.

Thus, $\overline{AG} \cong \overline{UZ}$ by C.P.C.T.C.

What's on Monday's assessment:

new (CO-B7: Congruent Triangles
CO-B8: Congruence Criteria

old (CO-B6: Sequencing Rigid Motions
CO-A5: Describing Transformations