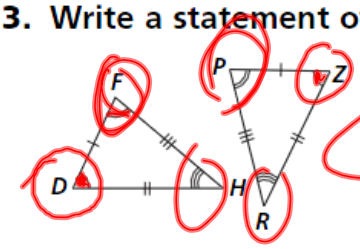
Lesson Quiz — Lesson 4-1

In Exercises 1 and 2, quadrilateral *WASH* ≅ quadrilateral *NOTE*.

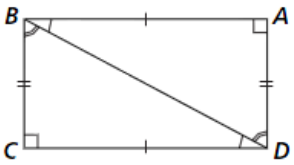
1. List the congruent corresponding parts.

2. $m\angle O = m\angle T = 90$ and $m\angle H = 36$. Find $m\angle N$.

3. Write a statement of triangle congruence.



4. Write a statement of triangle congruence.



5. Explain your reasoning in Exercise 4 above.

Δ ≅ means what?

Triangle congruence

all corresponding parts are ≅

- all corresp. sides ≅
- all corresp ∠'s ≅

$\Delta \cong$ means what?

- all 3 sides are $\cong$

$\Delta \cong$ means what?

- all 3 sides are $\cong$
- all 3 $\angle$'s are $\cong$

$\Delta \cong$ means what?

- all 3 sides are $\cong$ ***SSS***
- all 3 $\angle$'s are $\cong$

$\Delta \cong$ means what?

- all 3 sides are $\cong$ ***SSS***
- all 3 $\angle$'s are $\cong$ ***AAA***

$\Delta \cong$ means what?

$\Delta \cong$ means what?

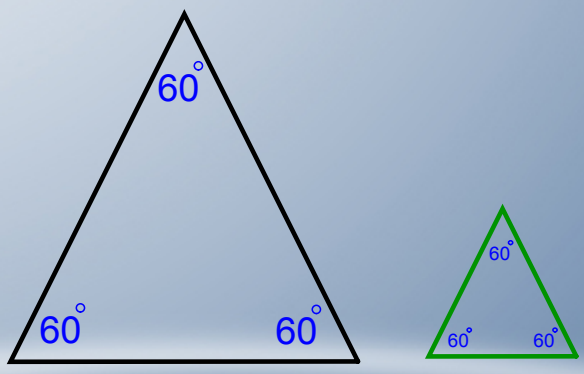
SSS and ***AAA***

$\Delta \cong$ means what?

...is *AAA* sufficient?

$\Delta \cong$ means what?

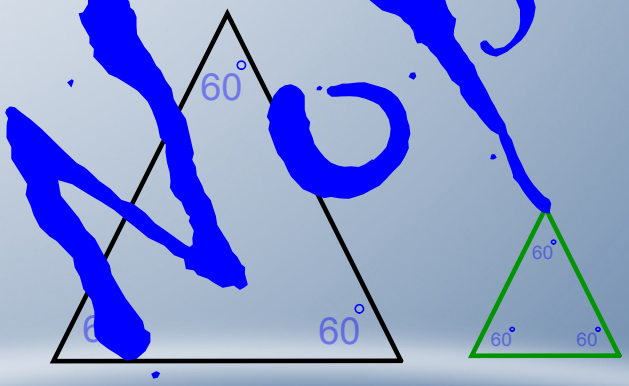
...is *AAA* sufficient?



$\Delta \cong$ means what?

...is *AAA* sufficient?

Nope!

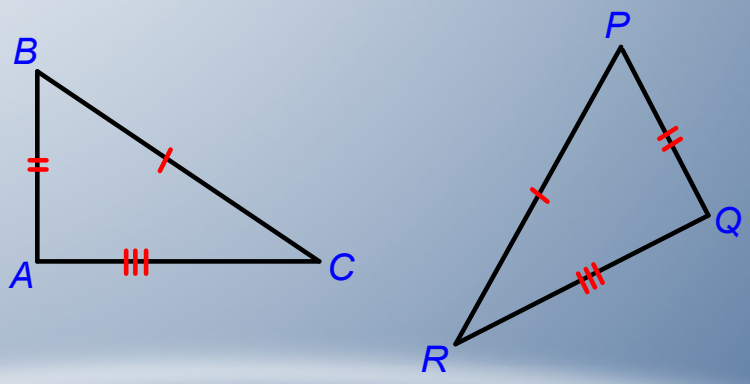


$\Delta \cong$ means what?

...is ***SSS*** sufficient?

$\Delta \cong$ means what?

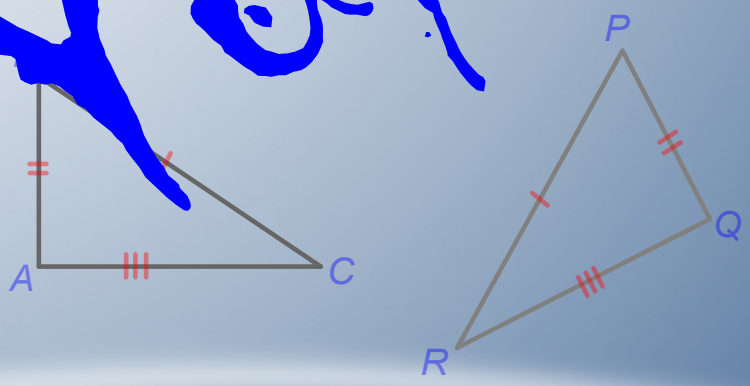
...is *SSS* sufficient?



$\Delta \cong$ means what?

...is *SSS* sufficient?

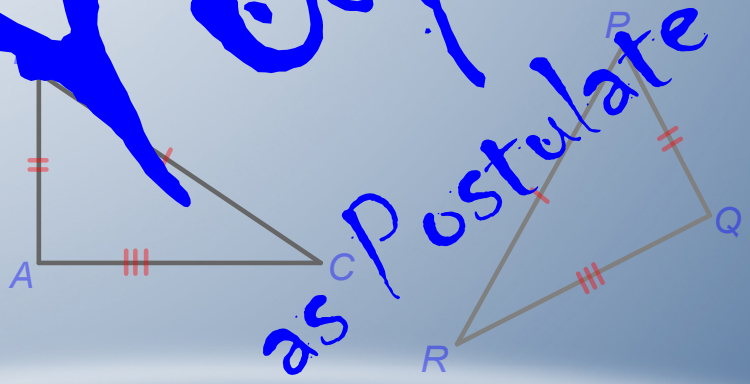
Yup!



Δ ≅ means what?

...is *SSS* sufficient?

Yep! ...as Postulate 4-1 ...

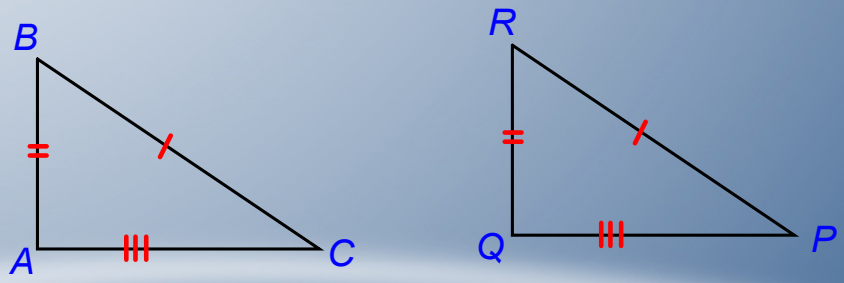


Postulate 4-1 Side-Side-Side (SSS) Postulate

If the 3 sides of one Δ

are ≅ to the 3 sides of another Δ

Then the 2 Δ's are ≅.



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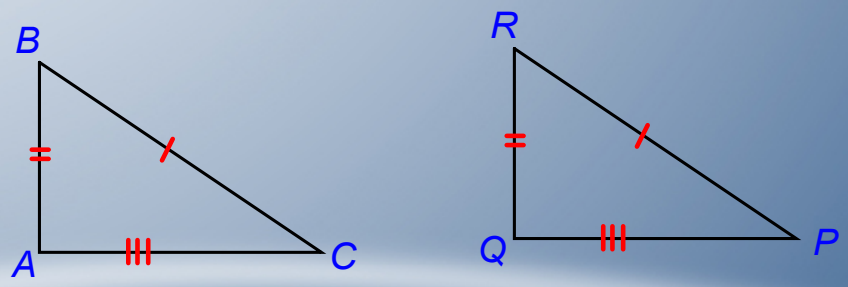


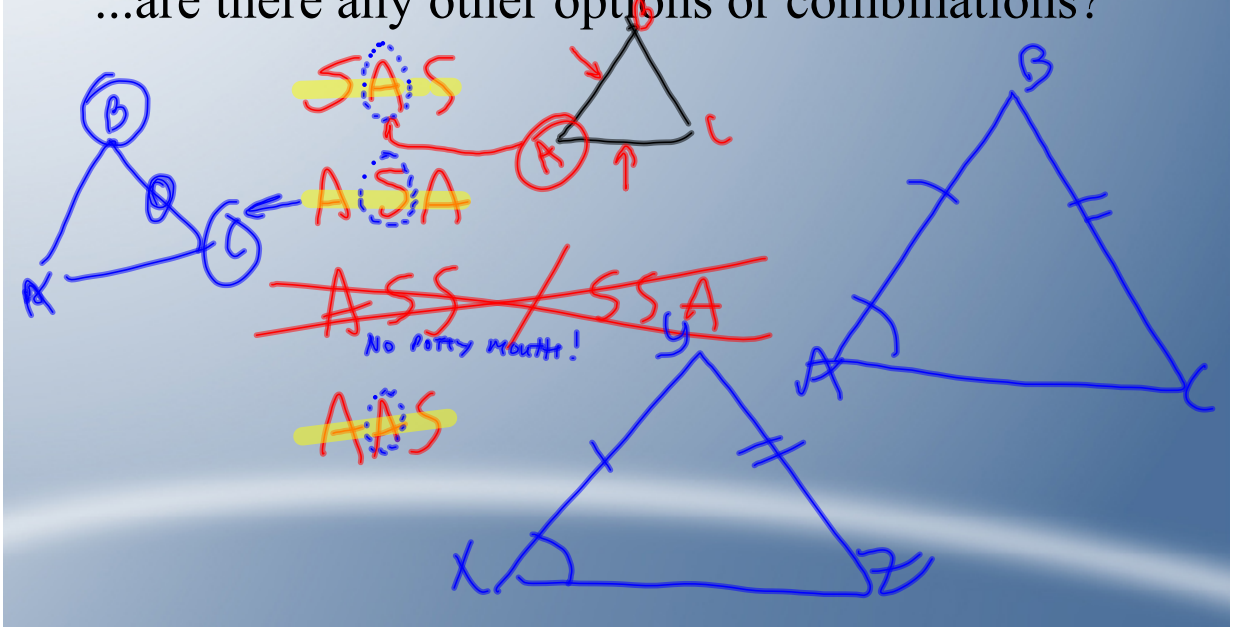
AAA doesn't work...

AAA doesn't work...
SSS works...

AAA doesn't work...
SSS works...

Included

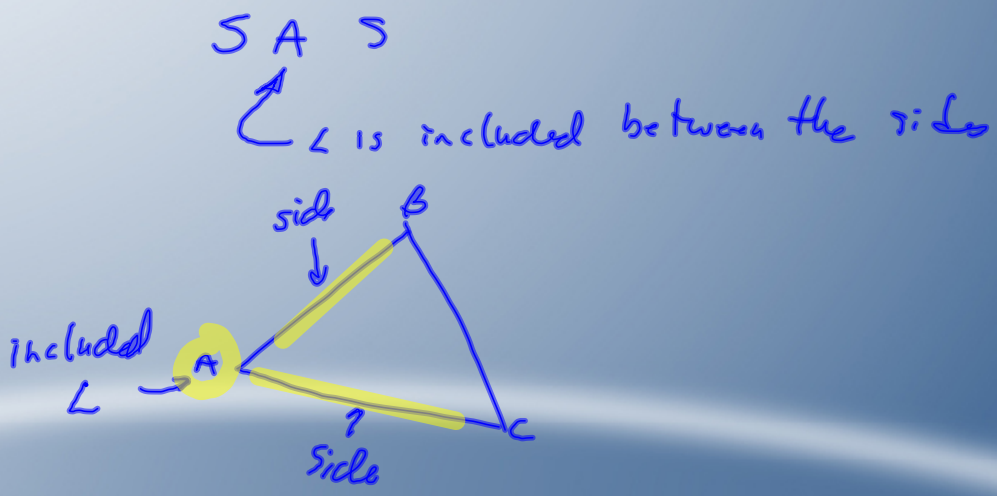
...are there any other options or combinations?



Defn: **Included**

"Contained between"

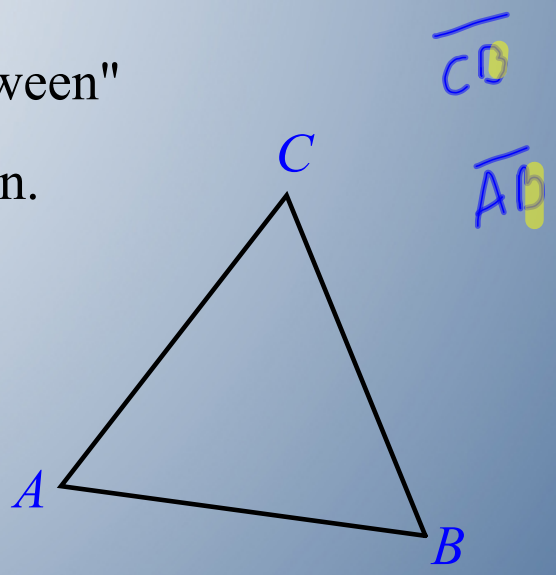
Implies location.



Defn: **Included**

"Contained between"

Implies location.



Which sides ***include*** $\angle B$?

1 In $\triangle VGB$, which sides include $\angle B$?

A $\overline{VG}$

B $\overline{VB}$

C $\overline{GB}$

D none

2 In $\triangle STN$, which $\angle$ is included between sides $\overline{NS}$ and $\overline{TN}$?

A $\angle S$

B $\angle T$

C $\angle N$

D none

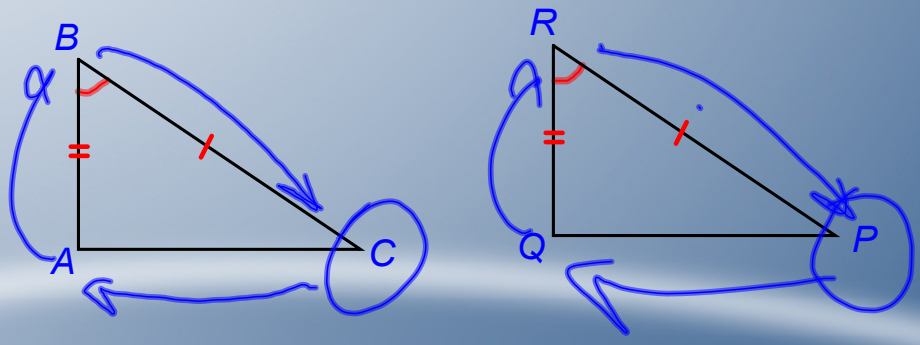
Postulate 4-2 Side-Angle-Side (SAS) Postulate

If 2 sides & the included ∠ of one Δ

are ≅ to the 2 corresponding sides & included ∠ of another Δ

Then the 2 Δ's are ≅.

$\Delta CAB \cong \Delta PQR$

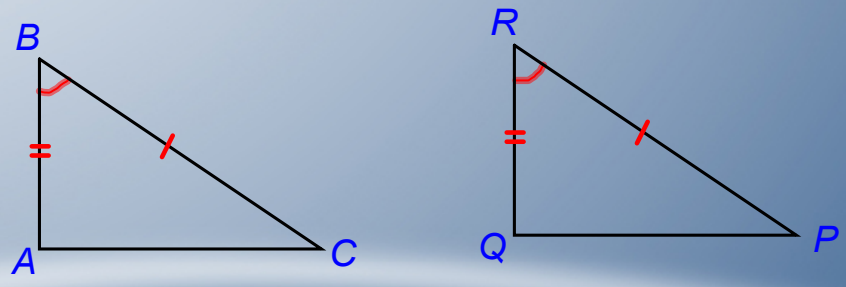


Postulate 4-2 Side-Angle-Side (SAS) Postulate

If 2 sides & the included ∠ of one Δ

are ≅ to the 2 corresponding sides & included ∠ of another Δ

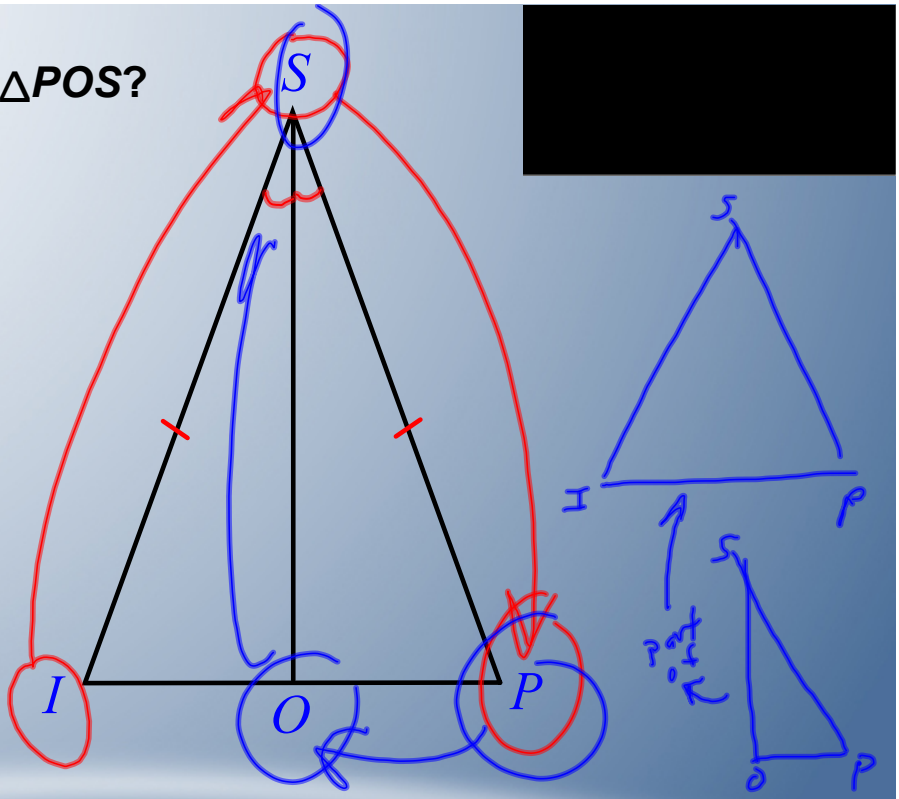
Then the 2 Δ's are ≅.



3 Is $\triangle ISP = \triangle POS$?

Yes

No

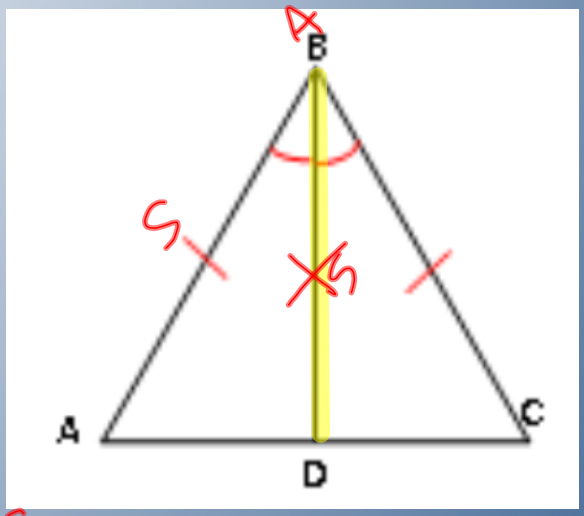


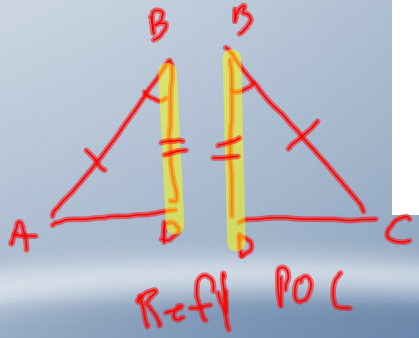
4 **Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.**

A ~~SSS~~

B SAS

C not possible



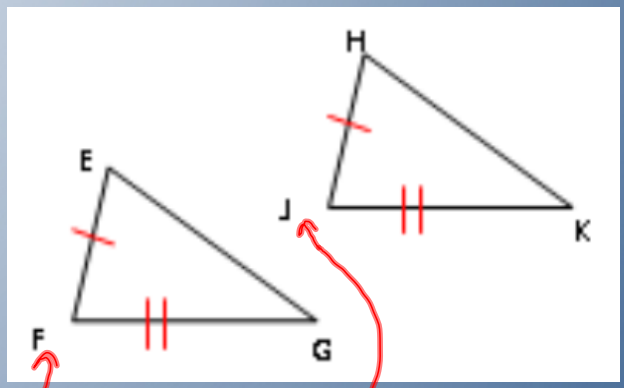


5 **Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.**

A SSS

B SAS

C not possible



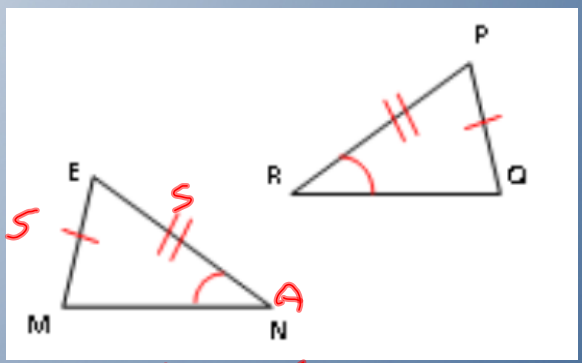
Don't know if ≅
can't prove ≅

6 **Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.**

A SSS

B SAS

C not possible



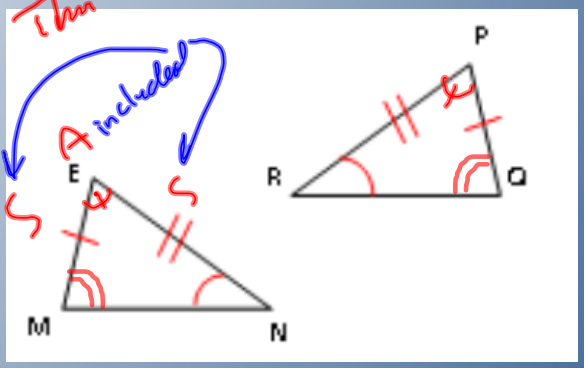
~~A S S~~ ... opps

7 **Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.**

A SSS

B SAS

C not possible

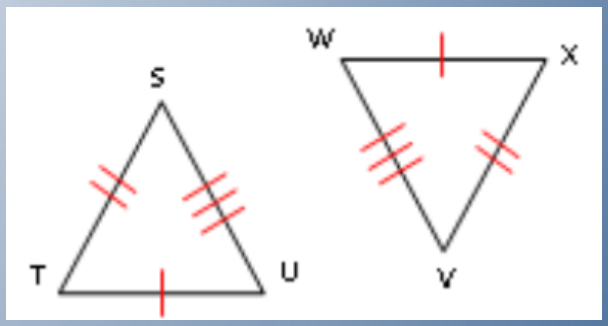


8 **Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.**

A SSS

B SAS

C not possible

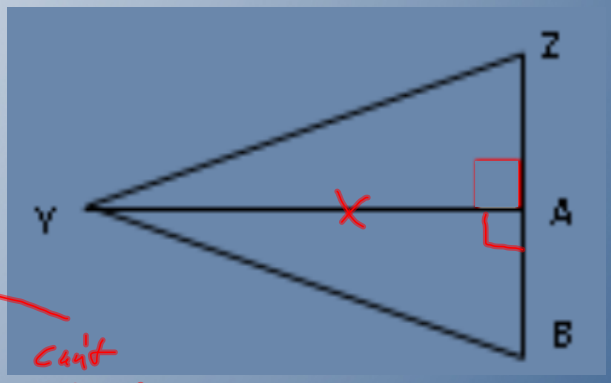


9 **Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.**

A SSS

B SAS

C not possible



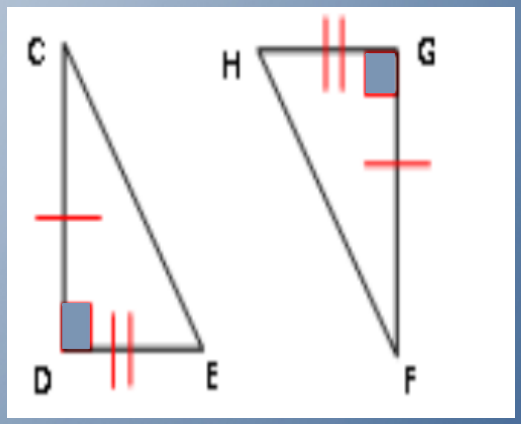
Can't prove sides ≅

10 **Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.**

A SSS

B SAS

C not possible



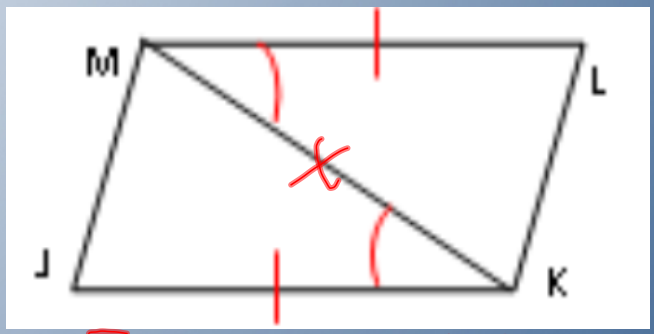
$\triangle CDE \cong \triangle FGH$

11 Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.

A SSS

B SAS

C not possible



$\overline{KM} \cong \overline{KM}$ Refl POC

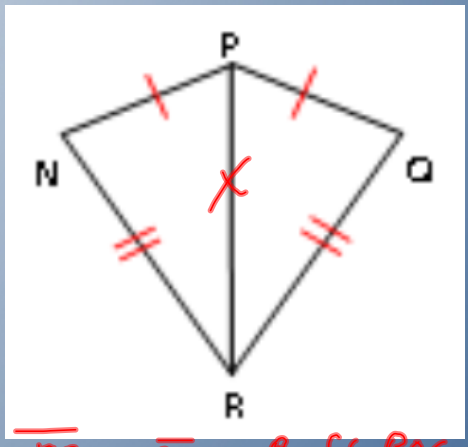
SAS

12 Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.

A SSS

B SAS

C not possible



$\overline{PR} \cong \overline{PR}$ Refl Poc

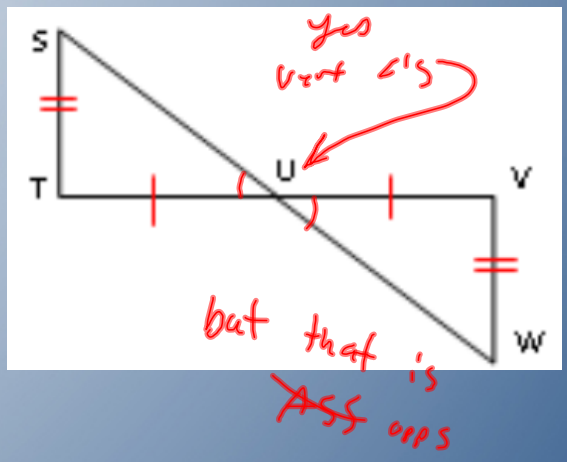
SSS

13 Decide whether you can use the SSS or SAS postulate to prove the triangles congruent.

A SSS

B SAS

C not possible



L4-2 HW Problems

Pg 189 #1-4, 7-30,
33, 36, 38, 41,
44-47