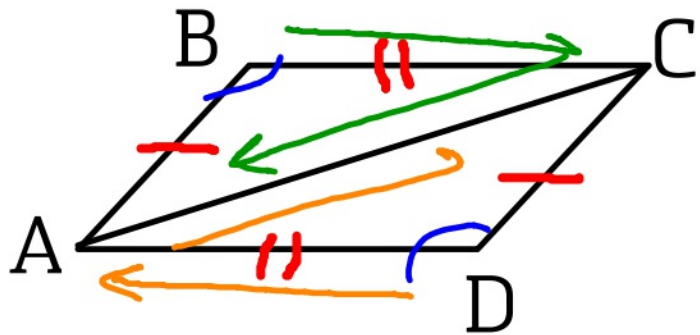


# Good morning, warm up in notes:

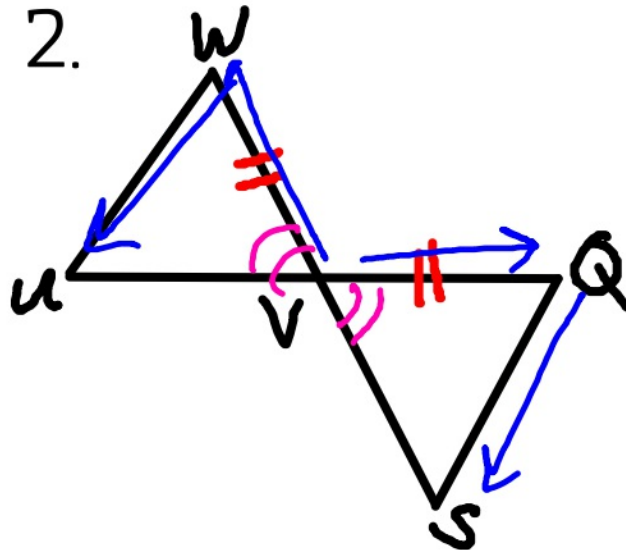
Draw the figures, then complete each statement (order matters)

1.



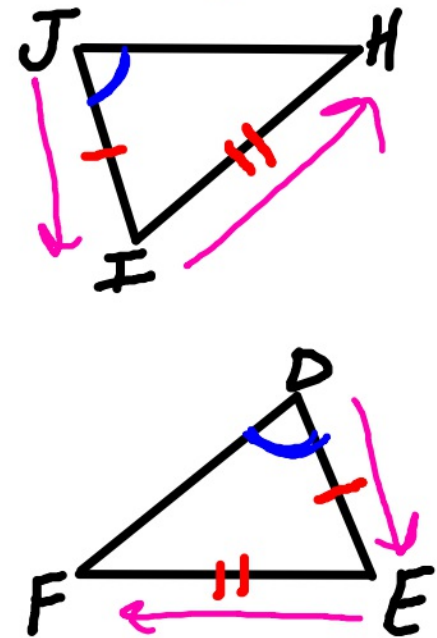
$$\triangle BCA \cong \triangle DAC$$

2.



$$\triangle VWU \cong \triangle VQS$$

3.



$$\triangle JIH \cong \triangle DEF$$

next assessment: Monday (tessellations due then too)  
 retakes in any DS but Wednesday  
 tutoring/retakes tomorrow 4-5p

## Assessments are being returned

Retake anything less than a 4

(only need to retake section(s) needed)

CO-A3

CO-A4

CO-B6

HW for the 3 new skills?

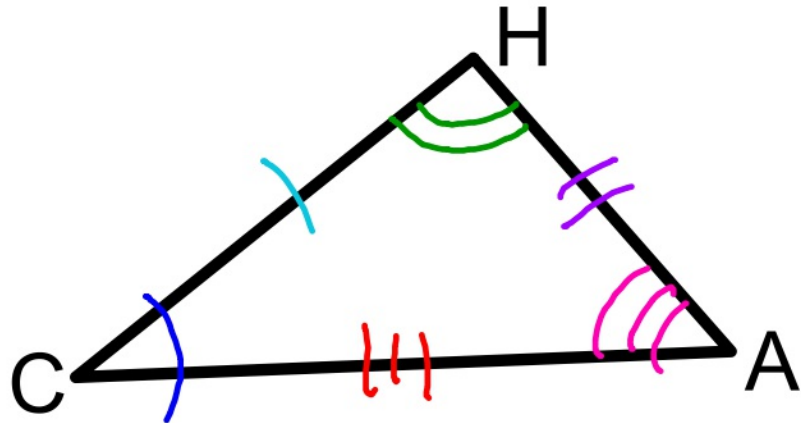
'Transformations Practice'

hw handout

["Sequencing Rigid Motions"  
video notes

# Triangle Congruence

# NOTES



Suppose these are congruent.  
What else can we say?

$$\triangle CHA \cong ? \triangle TNG$$

$$\angle C \cong \angle T$$

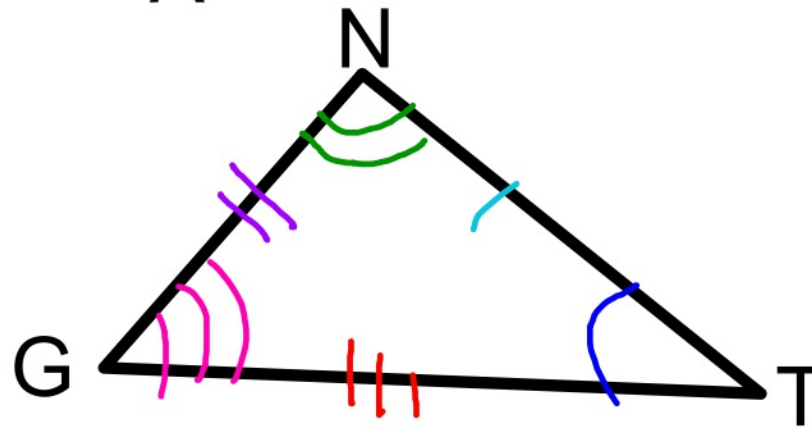
$$\angle H \cong \angle N$$

$$\angle A \cong \angle G$$

$$\overline{CH} \cong \overline{TN}$$

$$\overline{HA} \cong \overline{NG}$$

$$\overline{AC} \cong \overline{GT}$$



6 pairs

# Corresponding Parts of Congruent Triangles Are Congruent CPCTC



Ship of  
Thesens

If the overall shapes are identical, then so are the individual matching pieces.

Central question:

How can we apply our knowledge of triangles and our logical deduction skills to prove triangles congruent?

Why study triangle congruence?

- develop ability to construct sound arguments using proof, logic, and reasoning
- noticing patterns in triangles to generalize observations for other shapes



# Developing Proof

Starting with given evidence

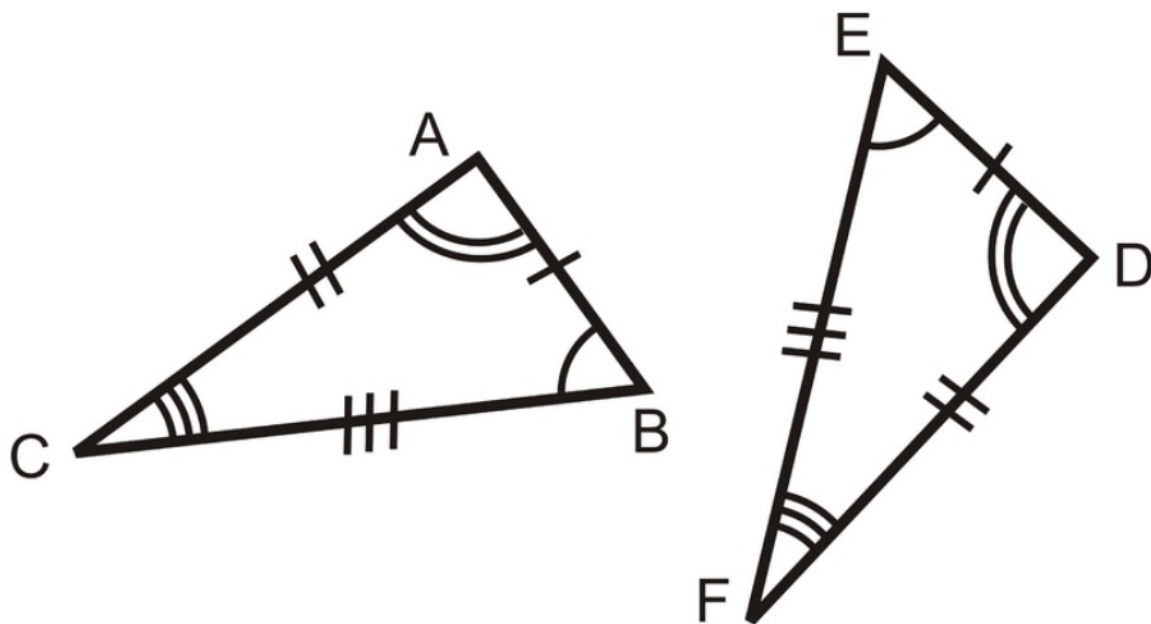
making observations

Identifying patterns

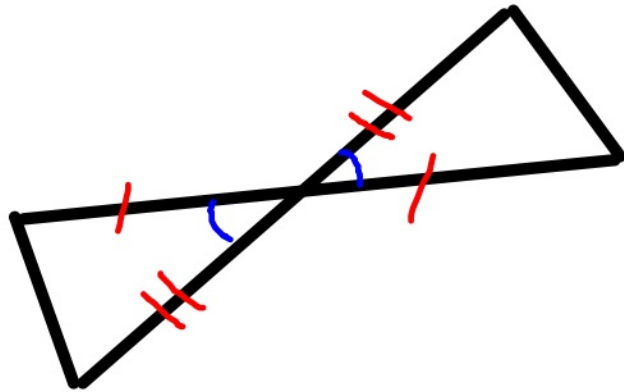
Crafting a sound argument



3 pairs of congruent sides  
3 pairs of congruent angles



Are these congruent?

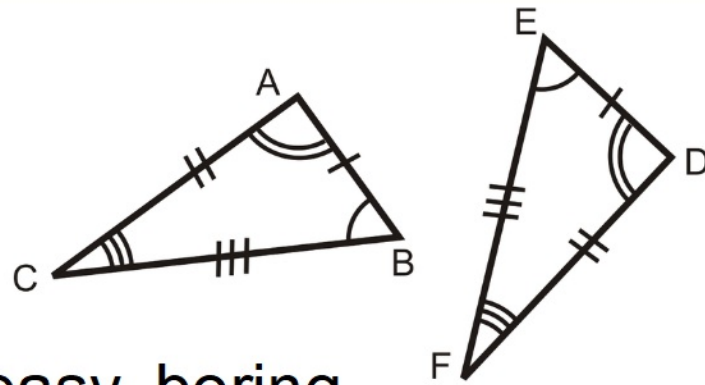


4 shortcuts exist  
to prove triangles congruent  
with only limited information

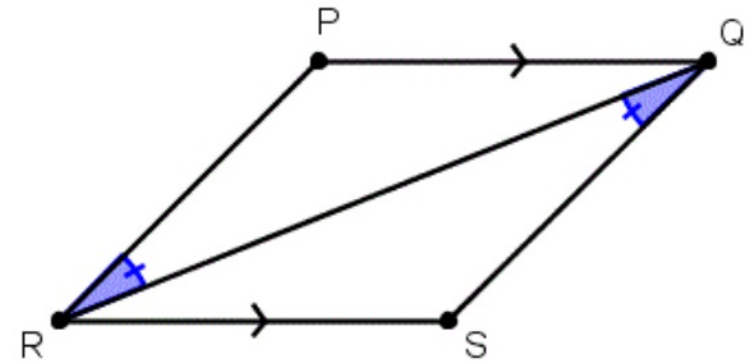
These are called 'congruence criteria'  
Analogy: legal precedent







easy, boring,  
nothing to figure out



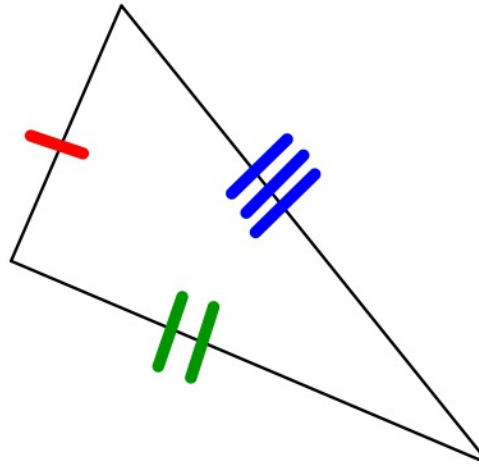
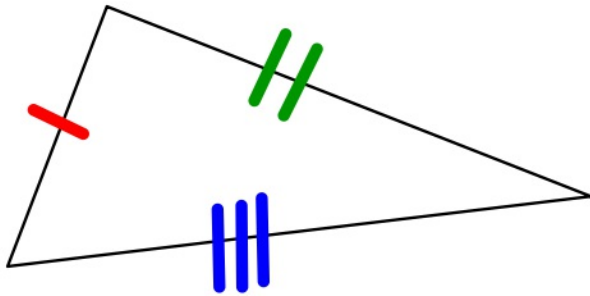
not everything is  
given

clues need to be found

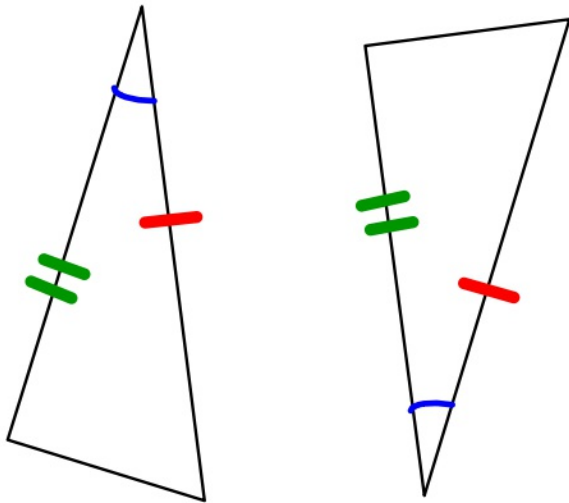


## SSS (Side-Side-Side Criteria)

If three pairs of sides match, the triangles are congruent



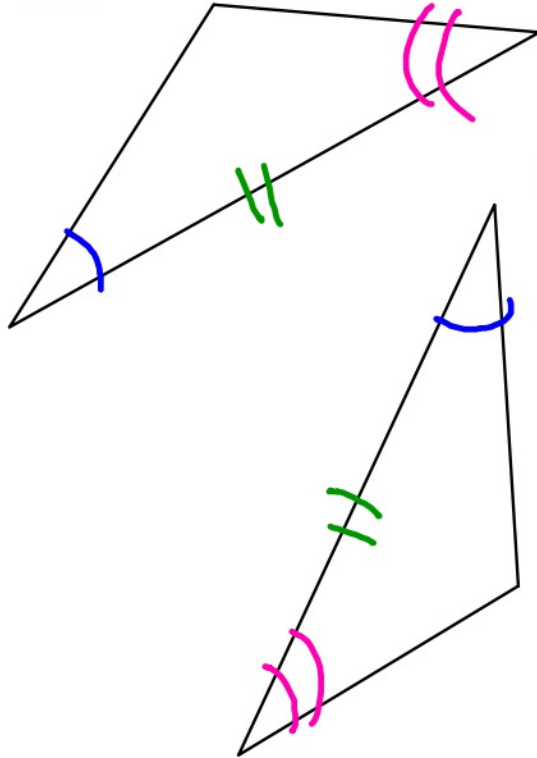
## SAS (Side-Angle-Side Criteria



If two pairs of sides and the included angles between them are congruent, then the triangles are congruent.

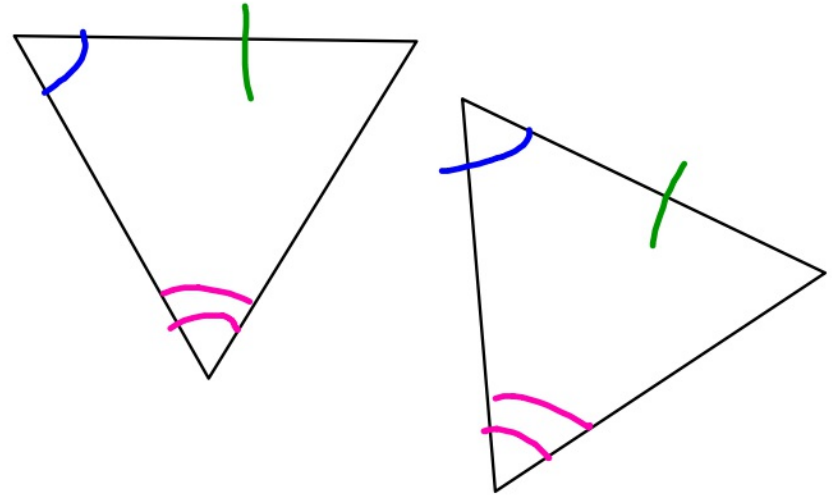


ASA



Side  
in  
between  
2 angles

AAS

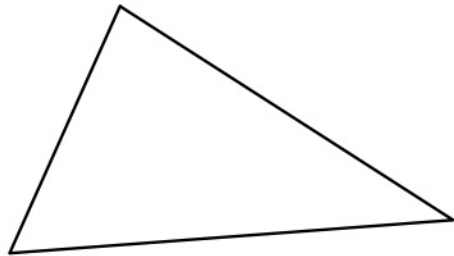
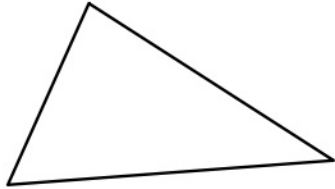


Side  
NOT between

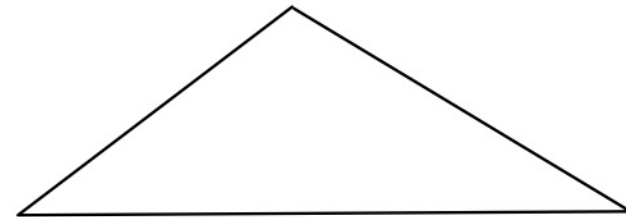
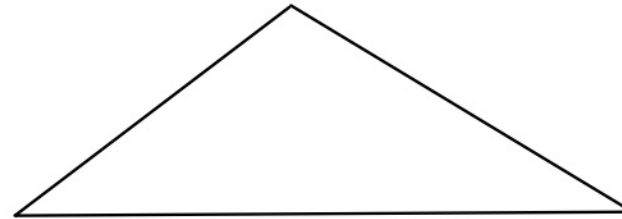
What doesn't work?



AAA



SSA





HW:

p. 146: #6-11

continue  
tessellation  
work