

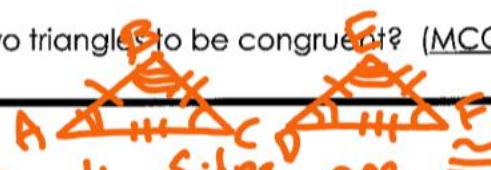
Name: \_\_\_\_\_ Date: \_\_\_\_\_

### Triangle Congruence Postulates

Today's Question: What does it mean for two triangles to be congruent? (MCC9-12.G.SRT5, MCC9-12.G.CO.7-8)

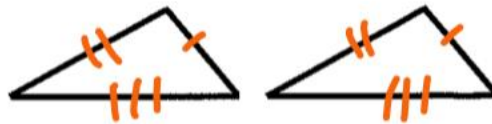
#### Congruent Triangles

- All 3 pairs of corresponding sides are  $\cong$
- All 3 pairs of corresponding angles are  $\cong$



#### Side - Side - Side (SSS) Congruence Postulate

three sides of one triangle are congruent to three sides of a second triangle



#### Side - Angle - Side (SAS) Congruence Postulate

two sides and the included angle of one triangle are congruent to two sides and the included angle of a second triangle



#### Angle - Side - Angle (ASA) Congruence Postulate

two angles and the included side of one triangle are congruent to two angles and the included side of a second triangle



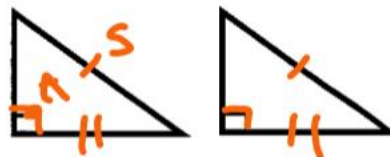
#### Angle - Angle - Side (AAS) Congruence Postulate

two angles and a non-included side of one triangle are congruent to two angles and a non-included side of a second triangle



#### Hypotenuse - Leg (HL) Congruence Postulate

In a right triangle, the hypotenuse and one leg is congruent to the hypotenuse and leg of another right triangle

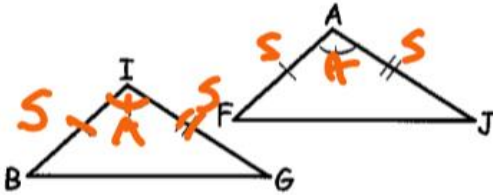


**Practice**

In each problem, determine if each pair of triangles is congruent by SSS, SAS, ASA, or AAS. If they are, complete the congruence statement too. If none of these methods work based on the information given, write "none". If congruent, finish the congruence statement.

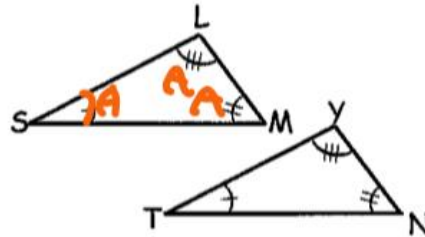
SAS

1.  $\triangle BIG \cong \triangle FAJ$



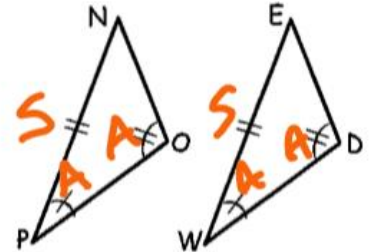
NEI

2.  $\triangle SML \cong \triangle \underline{\hspace{2cm}}$



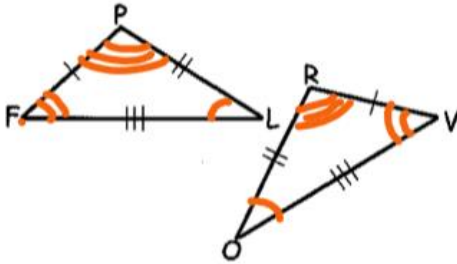
AAS

3.  $\triangle OPN \cong \triangle DWE$



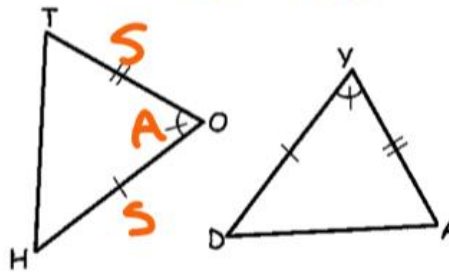
SSS

4.  $\triangle FLP \cong \triangle VOR$



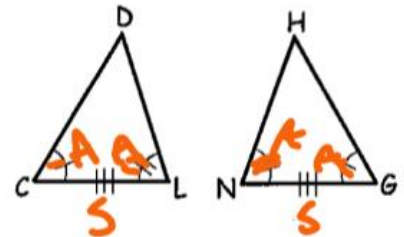
SAS

5.  $\triangle HOT \cong \triangle DYA$



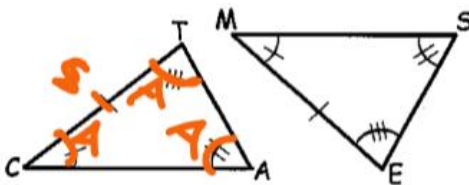
ASA

6.  $\triangle CLD \cong \triangle GNH$



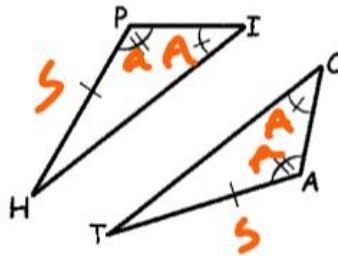
AAS or ASA

7.  $\triangle CAT \cong \triangle MSE$



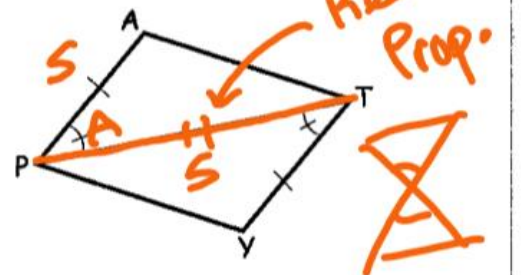
AAS

8.  $\triangle HIP \cong \triangle TCA$



SAS

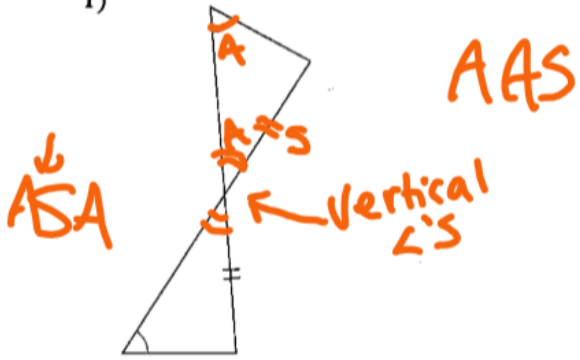
9.  $\triangle PAT \cong \triangle TIP$



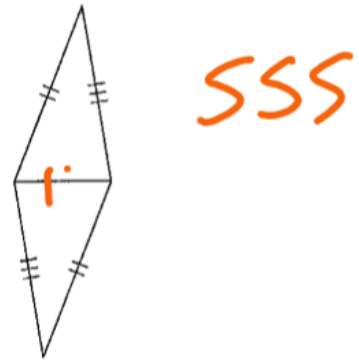
Triangle Congruence: SSS, SAS, ASA, AAS, HL

Determine if the two triangles are congruent. If they are, state how you know.

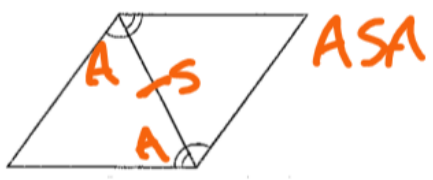
1)



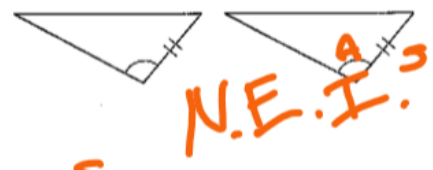
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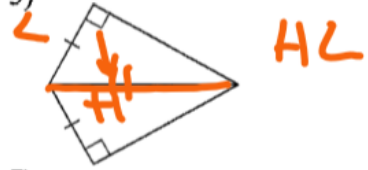
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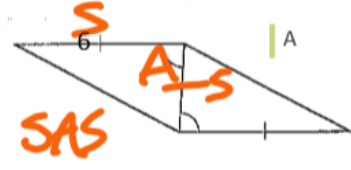
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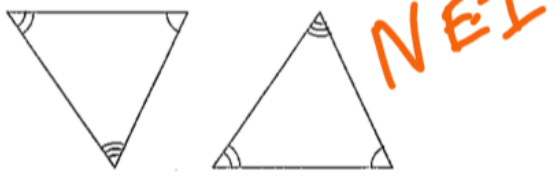
5)



6)



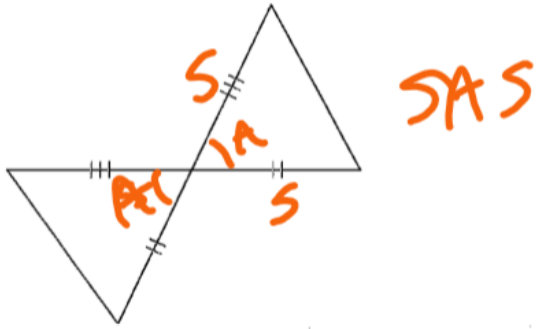
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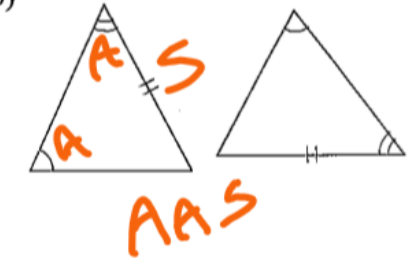
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9)



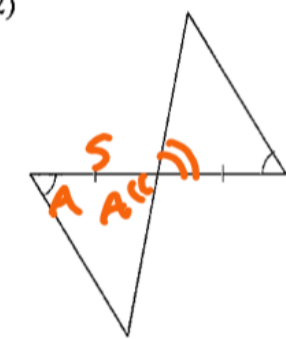
10)



11)

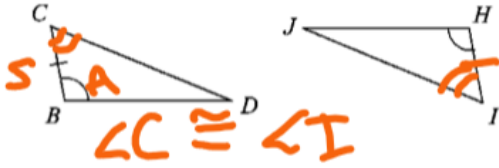


12)

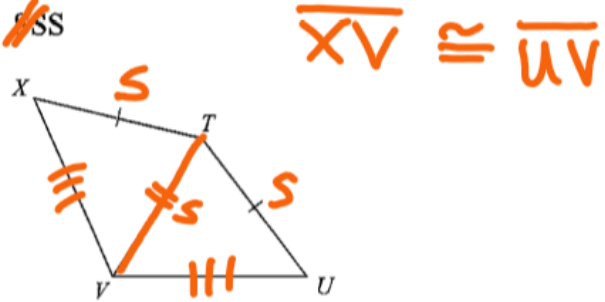


State what additional information is required in order to know that the triangles are congruent for the reason given.

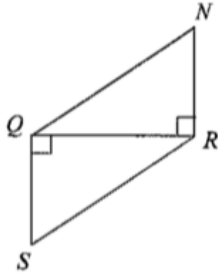
13) ~~ASA~~



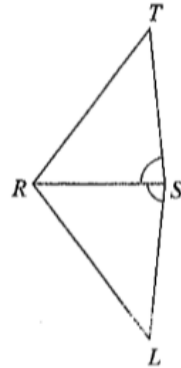
14) ~~SS~~



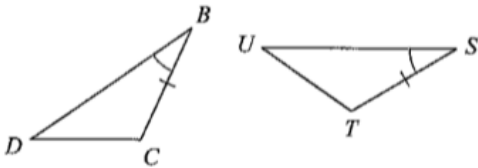
15) HL



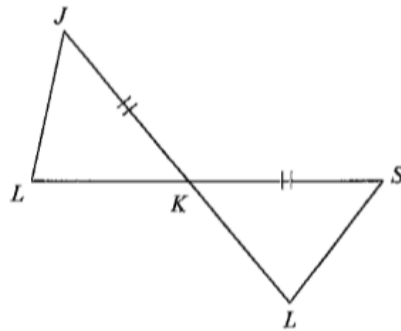
16) AAS



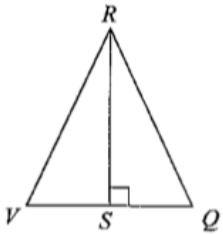
17) ASA



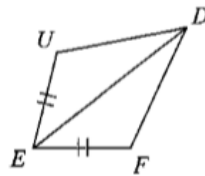
18) SAS



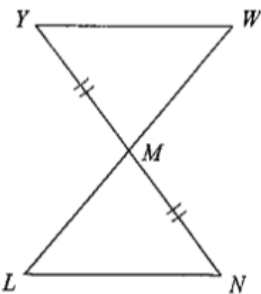
19) HL



20) SAS



21) AAS



22) HL

