

Triangle Congruence Postulates & Theorems

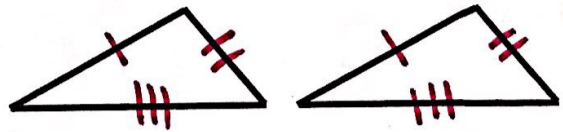
Congruent Triangles:

- corresponding sides are congruent
- corresponding angles are congruent
- **Corresponding Parts of Congruent Triangles are Congruent**
C.P.C.T.C.



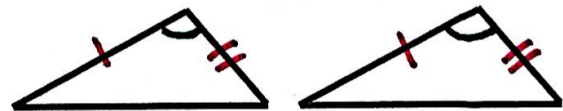
Side - Side - Side (SSS) Congruence Postulate

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



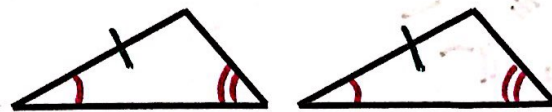
Angle - Side - Angle (ASA) Congruence Postulate

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



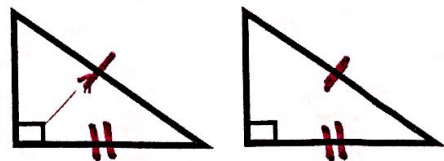
Angle - Angle - Side (AAS) Congruence Theorem

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 Theorem

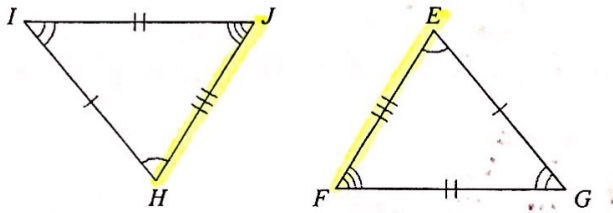
In a right triangle, the hypotenuse and one leg is congruent to the hypotenuse and leg of another right triangle



Congruent Triangles

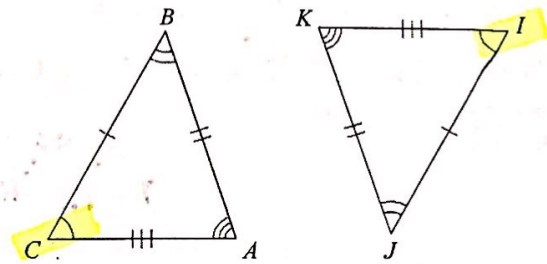
Complete each congruence statement by naming the corresponding angle or side.

1) $\triangle HIJ \cong \triangle EGF$



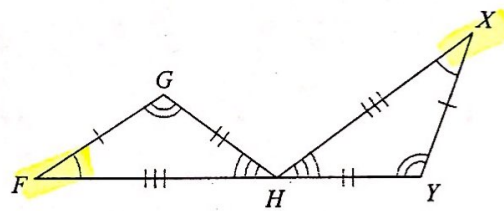
$\overline{JH} \cong ? \overline{FE}$

2) $\triangle CBA \cong \triangle IJK$



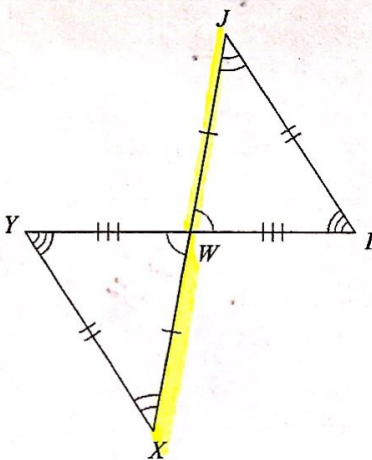
$\angle C \cong ? \angle I$

4) $\triangle FGH \cong \triangle XYH$



$\angle F \cong ? \angle X$

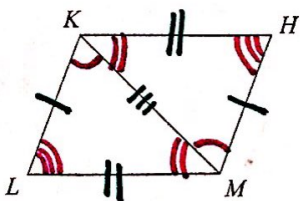
3) $\triangle WXY \cong \triangle WJI$



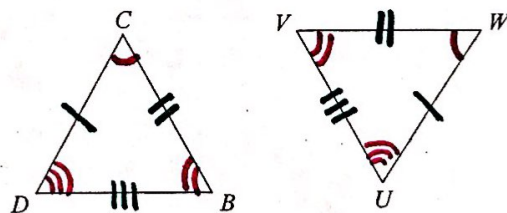
$\overline{WX} \cong ? \overline{WJ}$

Mark the angles and sides of each pair of triangles to indicate that they are congruent.

5) $\triangle KML \cong \triangle MKH$

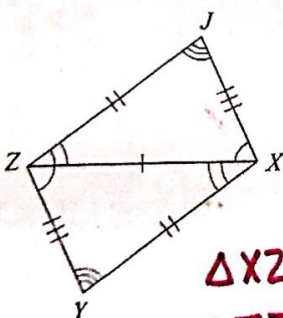


6) $\triangle CBD \cong \triangle WVU$



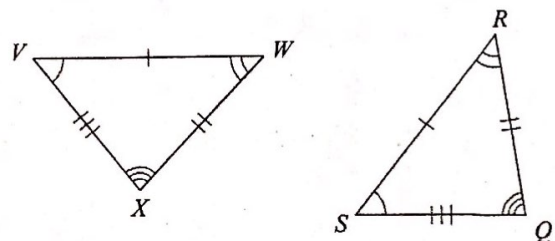
Write a statement that indicates that the triangles in each pair are congruent.

7)



$\triangle XZJ \cong \triangle ZXY$
 $\triangle ZJX \cong \triangle XZY$

8)

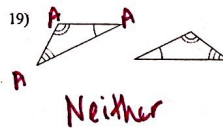
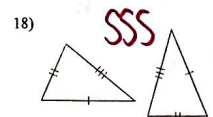
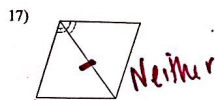
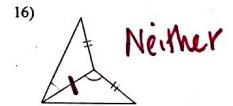
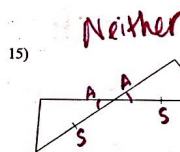
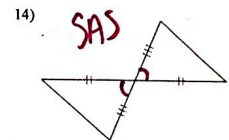
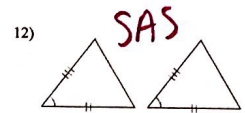
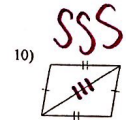
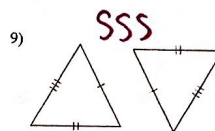
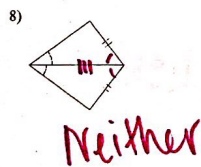
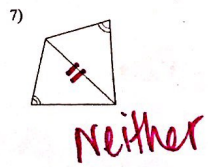
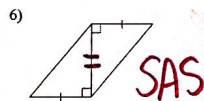
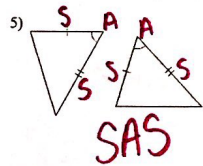
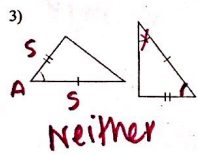
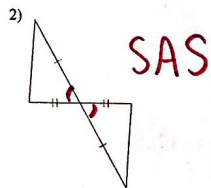


$\triangle VXW \cong \triangle SQR$

Triangle Congruence: **SSS** and **SAS**

Side-Side-Side and Side-Angle-Side

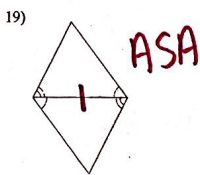
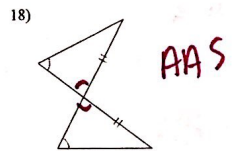
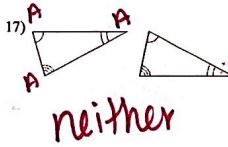
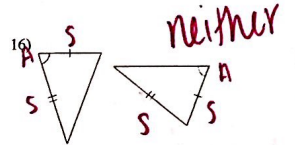
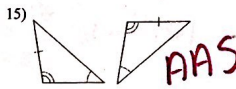
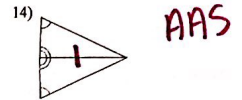
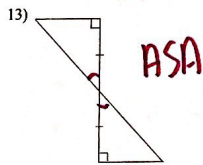
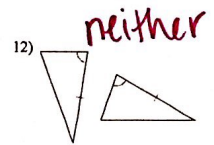
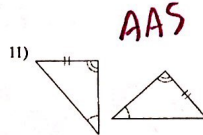
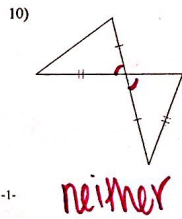
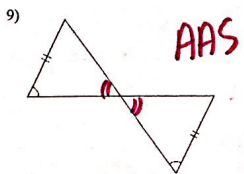
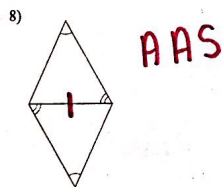
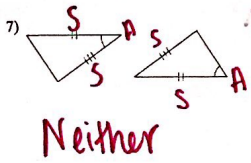
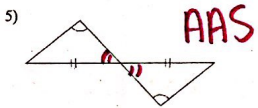
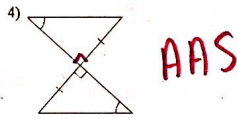
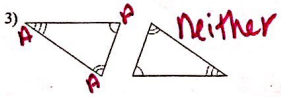
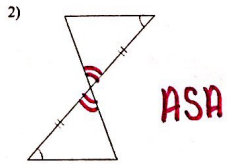
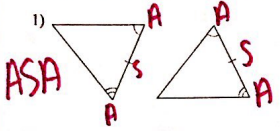
State if the two triangles are congruent. If they are, state how you know.



Triangle Congruence: ASA and AAS

Angle-Side-Angle and Angle-Angle-Side

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



Triangle Congruence: **HL**

Hypotenuse-Leg

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

