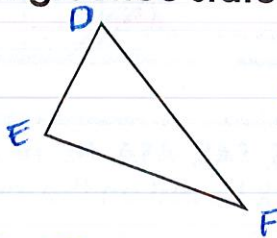
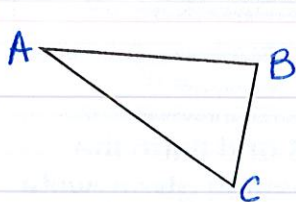


Triangle Congruence

Congruent Triangles

- Congruent triangles have Congruent sides and congruent angles
- The parts of congruent triangles that "match" are called Corresponding Parts.

In a congruence statement, ORDER MATTERS!!!!



$$\triangle ABC \cong \triangle FED$$

CPCTC: Congruent Parts of Congruent Triangles Are Congruent

$$\angle A \cong \angle F$$

$$\angle B \cong \angle E$$

$$\angle C \cong \angle D$$

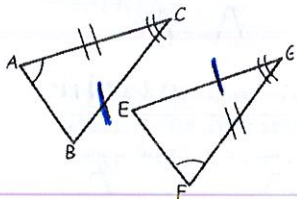
$$\overline{AB} \cong \overline{FE}$$

$$\overline{BC} \cong \overline{ED}$$

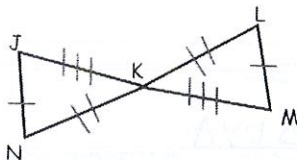
$$\overline{AC} \cong \overline{FD}$$

Examples: Complete the congruence statement.

1. $\triangle BCA \cong \triangle EGF$
 $\triangle CAB \cong \triangle GFE$



2. $\triangle MKL \cong \triangle JKN$



3. If $\triangle ABC \cong \triangle DEF$,
then $\angle C \cong \angle F$

4. If $\triangle CAT \cong \triangle DOG$,
then $AC \cong OD$

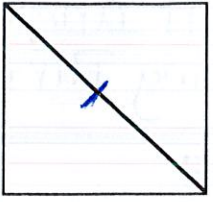
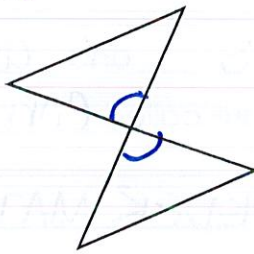
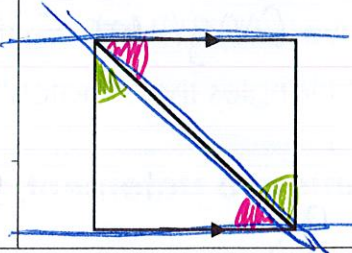
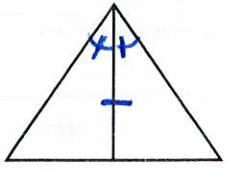
Five Ways to Prove Triangles Are Congruent

<p><u>SSS</u> Side-Side-Side</p>	<p><u>SAS</u> Side-Angle-Side</p>	<p><u>ASA</u> Angle-Side-Angle</p>	<p><u>AAS</u> Angle-Angle-Side</p>	<p><u>HL</u> Hypotenuse-Leg</p>
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What DOESN'T WORK?

Donkey Rule
SSA

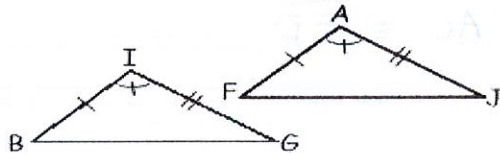
Four Markings YOU can add if they aren't already marked:

<p>If they share a side, we call it <u>Reflexive</u>.</p> 	<p>If you see <u>Vertical Angles</u> you can mark them.</p> 	<p>Look for <u>Alternate Interior Angles</u></p> 	<p>If two triangles make up a <u>Big Δ</u>, then mark <u>Opp <</u> and <u>Shared side</u></p> 
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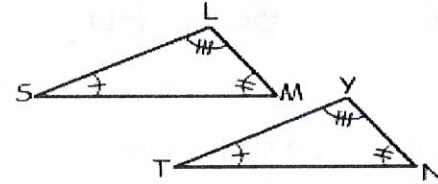
Practice

Determine if each pair of triangles is congruent by *SSS*, *SAS*, *ASA*, *HL*, or *AAS* and finish the congruence statement. If none of these methods work based on the information given, write "none" and write X on the statement blank.

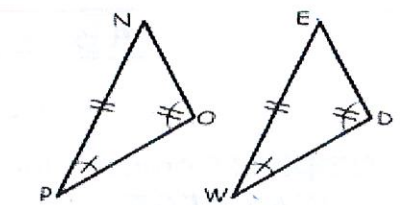
1. SAS
 $\triangle BIG \cong \triangle FAJ$



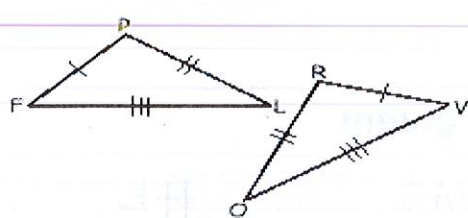
2. None
 $\triangle SML \cong \triangle YTN$



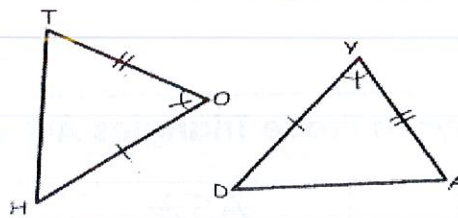
3. AAS
 $\triangle OPN \cong \triangle DWE$



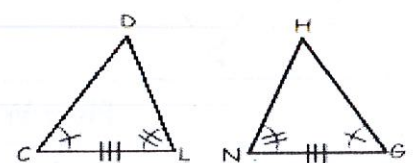
4. SSS
 $\triangle FLP \cong \triangle VOR$



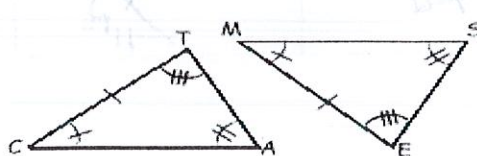
5. SAS
 $\triangle HOT \cong \triangle DYA$



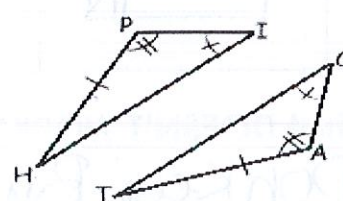
6. ASA
 $\triangle CLD \cong \triangle GNH$



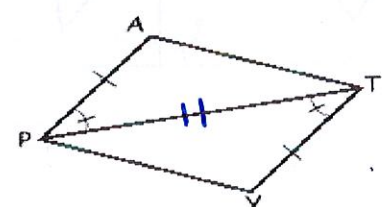
7. ASA
 $\triangle CAT \cong \triangle MSE$



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



9. SAS
 $\triangle PAT \cong \triangle TYP$



* AAS