

Section 4.2, 4.3

Name: Notes

Triangle
Congruence

Date: _____ Period: _____

Essential Question

What information must I know to prove two triangles are congruent?

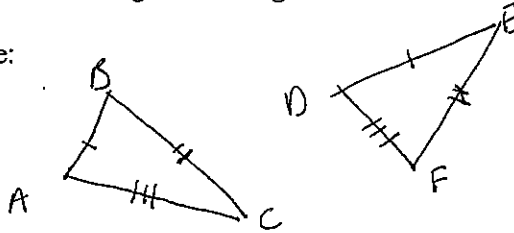
- ① SSS
- ② SAS
- ③ ASA
- ④ AAS
- NOT SSA or AAA

Side-Side-Side

SSS

If three sides of one triangle are congruent to the three sides of another triangle, then the two triangles are congruent.

Picture:



$$\begin{aligned} \overline{AB} &\cong \overline{DE} \\ \overline{BC} &\cong \overline{EF} \\ \overline{CA} &\cong \overline{FD} \end{aligned}$$

$$\implies \triangle ABC \cong \triangle DEF$$

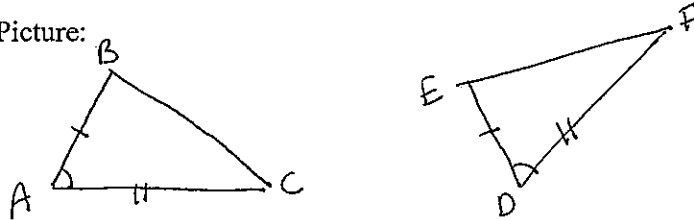
Side-Angle-Side

SAS

Included means adjacent or touching

If two sides and the included angle of one triangle are congruent to two sides and the included angle of another triangle, then the two triangles are congruent.

Picture:



$$\begin{aligned} \overline{CA} &\cong \overline{FD} \\ \angle A &\cong \angle D \\ \overline{AB} &\cong \overline{DE} \end{aligned}$$

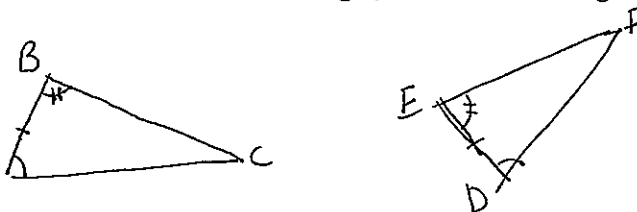
$$\implies \triangle ABC \cong \triangle DEF$$

Angle-Side-Angle

ASA

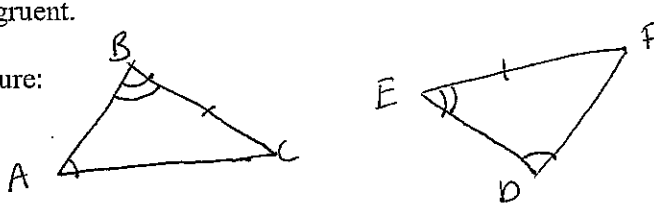
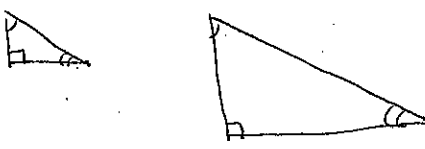
If two angles and the included side of one triangle are congruent to two angles and the included side of another triangle, then the two triangles are congruent.

Picture:



$$\begin{aligned} \angle A &\cong \angle D \\ \overline{AB} &\cong \overline{DE} \\ \angle B &\cong \angle E \end{aligned}$$

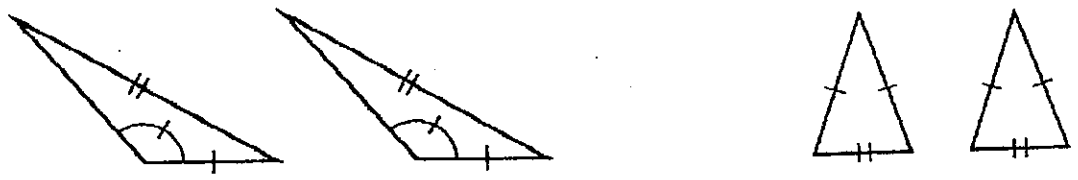
$$\implies \triangle ABC \cong \triangle DEF$$

<p>Angle-Angle-Side</p> <p>AAS</p>	<p>If (two angles) and the (non-included side) of one triangle are congruent to two angles and the non-included side of another triangle, then the two triangles are congruent.</p> <p>Picture:</p>  <p> $\angle A \cong \angle D$ $\angle B \cong \angle E$ $\overline{BC} \cong \overline{EF}$ </p> <p>$\Rightarrow \triangle ABC \cong \triangle DEF$</p>
<p>Side-Side-Angle</p> <p>No Such Thing</p>	<p>Does Not Work</p>
<p>Angle-Angle-Angle</p> <p>No Such Thing</p>	 <p>Not the Same</p>

NAME THAT POSTULATE when possible



SAS - yes.



~~SSA~~ No such thing

