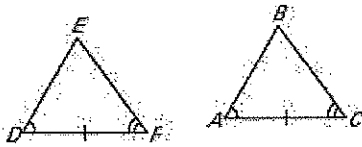


5.3 Prove Triangles Congruent by ASA and AAS

ANGLE-SIDE-ANGLE Congruence Postulate (ASA)

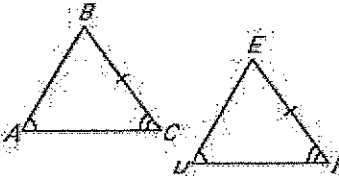
If two angles and the included side of one triangle are congruent to two angles and the included side of a second triangle, then the two triangles are congruent.



If Angle $\angle A \cong$ _____
 Side $\overline{AC} \cong$ _____
 Angle $\angle C \cong$ _____,
 Then _____ \cong _____

ANGLE-ANGLE-SIDE Congruence Theorem (AAS)

If two angles and a non-included side of one triangle are congruent to two angles and the corresponding non-included side of a second triangle, then the two triangles are congruent.



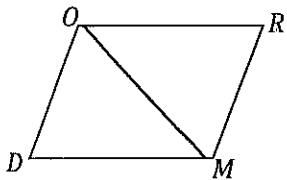
If Angle $\angle A \cong$ _____
 Angle $\angle C \cong$ _____
 Side $\overline{BC} \cong$ _____,
 Then _____ \cong _____

Example 1: Can the triangles be proven congruent with the information given in the diagram? If so, write a congruence statement and state the postulates/theorems used to reach your conclusion.

<p>a.</p>	<p>b.</p>	<p>c.</p>
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Example 2: Proving Triangles similar using ASA and AAS

1. Given: $\angle D \cong \angle R$; $\overline{OR} \parallel \overline{DM}$
 Prove: $\triangle DOM \cong \triangle RMO$



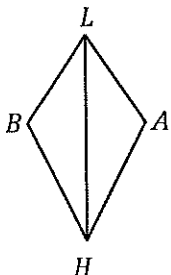
Statements

1.

Reasons

1.

2. Given: $\angle BHL \cong \angle AHL$;
 \overline{LH} bisects $\angle BLA$
 Prove: $\triangle BLH \cong \triangle ALH$



Statements

1. $\angle BHL \cong \angle AHL$; \overline{LH} bisects $\angle BLA$

Reasons

1.

Skills Practice

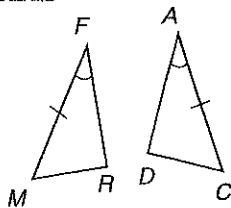
ASA and AAS

Write a congruence statement for each pair of triangles represented.

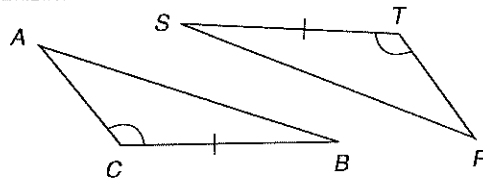
- In $\triangle ABC$ and $\triangle ZXR$, $\angle C \cong \angle X$, $\angle A \cong \angle Z$, and $\overline{AB} \cong \overline{ZR}$.
- In $\triangle DEF$ and $\triangle BGO$, $\angle D \cong \angle B$, $\angle E \cong \angle O$, and $\overline{DE} \cong \overline{BO}$.
- In $\triangle TRI$ and $\triangle GAN$, $\angle T \cong \angle A$, $\overline{TI} \cong \overline{AG}$, and $\overline{TR} \cong \overline{AN}$.
- In $\triangle ZIP$ and $\triangle LOS$, $\angle P \cong \angle O$, $\angle I \cong \angle L$, and $\overline{PI} \cong \overline{OL}$.

Name the additional congruent parts needed so that the triangles are congruent by the postulate or theorem indicated.

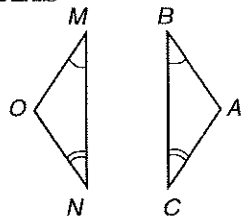
5. AAS



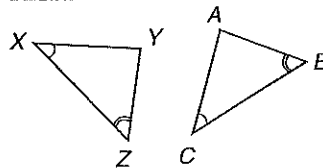
6. ASA



7. AAS

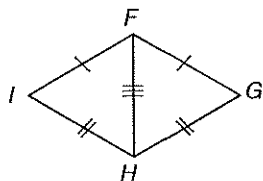


8. ASA

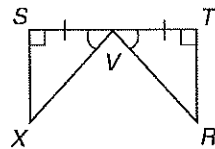


Determine whether each pair of triangles is congruent by SSS, SAS, ASA, or AAS. If it is not possible to prove that they are congruent, write not possible.

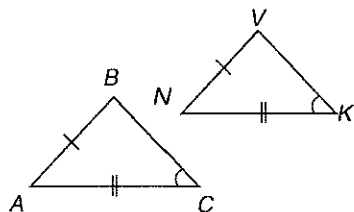
9.



10.



11.



12.

