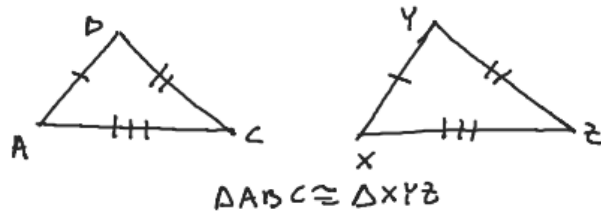


Congruent Triangles

1) Corresponding Sides are congruent



$\overline{AB} \cong \overline{XY}$
 $\overline{BC} \cong \overline{YZ}$
 $\overline{AC} \cong \overline{XZ}$

$\angle A \cong \angle X$
 $\angle B \cong \angle Y$
 $\angle C \cong \angle Z$

2) Corresponding Angles are \cong .

Side-Side-Side (SSS)

3 pairs of corresponding Sides congruent



Side-Angle-Side (SAS)

2 pairs of corresponding Sides \cong and an Included Angle \cong .



Angle-Side-Angle (ASA)

2 pairs of corresponding \angle 's \cong and an Included side \cong .



Angle-Angle-Side (AAS)

2 pairs of corresponding \angle 's \cong and a pair of Non-Included sides \cong .



$\cong \Delta$
~~AA~~
~~SSS~~
~~SAS~~

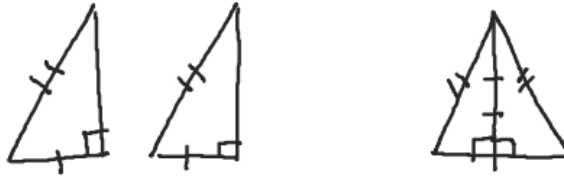
$\cong \Delta$
~~SSS~~
~~SAS~~
~~ASA~~
~~AAS~~

~~NO~~
~~AA~~
~~ASS~~

Right Δ

Hypotenuse-Leg

If Hypotenuse
are \cong and a pair
of corresponding legs
are \cong then Δ 's are \cong



Midpoint



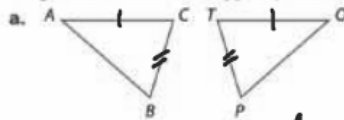
$\overline{AM} \cong \overline{BM}$

Bisector - a point,
line, or segment that
cuts something in half

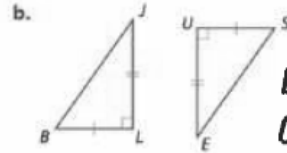
Reflexive Property

Something is \cong
to itself.

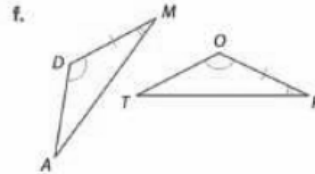
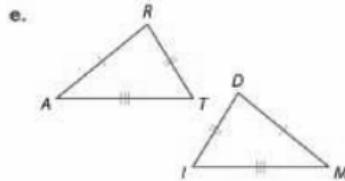
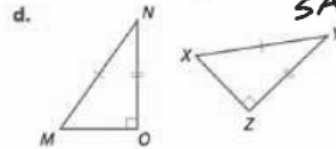
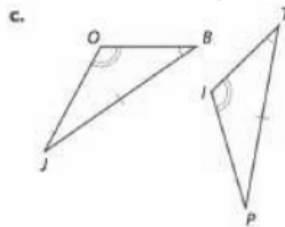
Examine each of the following pairs of triangles and their markings showing congruence of corresponding angles and sides. In each case, decide whether the information given by the markings ensures that the triangles are congruent. If the triangles are congruent, write a congruence relation showing the correspondence between vertices. Cite an appropriate congruence theorem to support your conclusion.



Not enough info



$\Delta LOJ \cong \Delta USE$
USE SAS



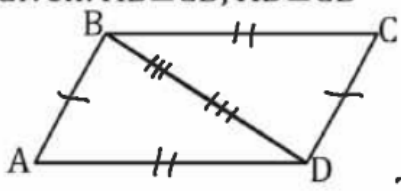
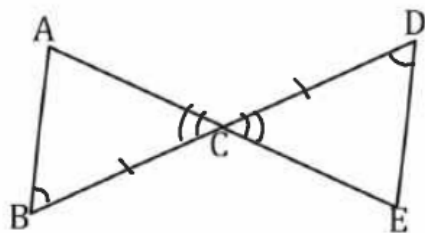
SSS
SAS
ASA
AAS
HL

c) $\Delta JOB \cong \Delta PIT$ AAS
d) $\Delta OMN \cong \Delta ZXY$ HL

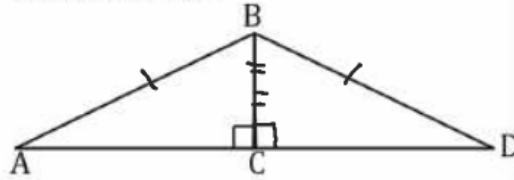
e) $\Delta ART \cong \Delta MDI$
SSS

f) $\Delta ADM \cong \Delta TOP$
ASA

SSS SAS ASA AAS HL

	<p>Given: $\overline{AB} \cong \overline{CD}$, $\overline{AD} \cong \overline{CB}$</p>  <p>Prove: $\triangle ABD \cong \triangle CBD$</p>	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">Statement</th> <th style="text-align: left;">Reason</th> </tr> </thead> <tbody> <tr> <td>1) $\overline{AB} \cong \overline{CD}$ $\overline{AD} \cong \overline{CB}$</td> <td>1) Given</td> </tr> <tr> <td>2) $\overline{BD} \cong \overline{BD}$</td> <td>2) Reflexive prop.</td> </tr> <tr> <td>3) $\triangle ABD \cong \triangle CBD$</td> <td>3) SSS</td> </tr> </tbody> </table>	Statement	Reason	1) $\overline{AB} \cong \overline{CD}$ $\overline{AD} \cong \overline{CB}$	1) Given	2) $\overline{BD} \cong \overline{BD}$	2) Reflexive prop.	3) $\triangle ABD \cong \triangle CBD$	3) SSS		
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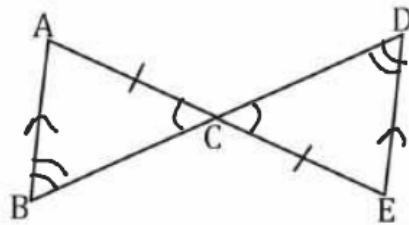
Given: $\overline{AB} \cong \overline{BD}$



Prove: $\triangle ABC \cong \triangle BCD$

Statement	Reason
1) $\overline{AB} \cong \overline{BD}$	1) Given
2) $\overline{BC} \cong \overline{BC}$	2) Reflexive prop.
3) $\triangle ABC \cong \triangle BCD$	3) HL

Given $\overline{AB} \parallel \overline{ED}$, $\overline{AC} \cong \overline{EC}$



Prove: $\triangle ABC \cong \triangle EDC$

Statement	Reason
1) $\overline{AB} \parallel \overline{ED}$ $\overline{AC} \cong \overline{EC}$	1) Given
2) $\angle ACB \cong \angle ECD$	2) Vertical \angle 's
3) $\angle B \cong \angle D$	3) Alternate Interior \angle 's