

Main Ideas/Questions

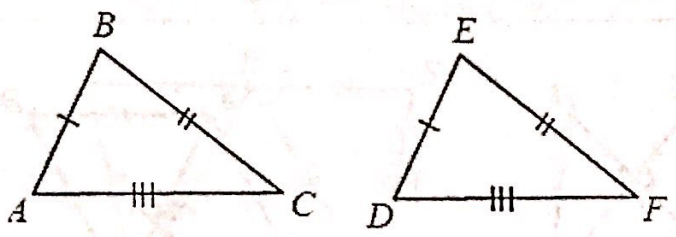
TRIANGLE CONGRUENCE: SSS & SAS

Notes 4.2

If all **corresponding angles** and **sides** of two triangles are **congruent**, then the triangles are **congruent**. However, you can prove triangles are congruent using fewer parts

SIDE-SIDE-SIDE (SSS)

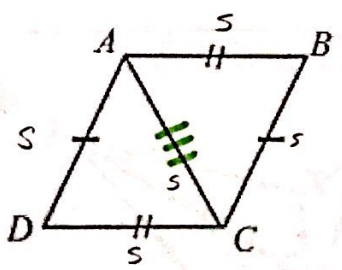
If three sides of one triangle are congruent to three sides of another triangle, then the triangles are congruent.



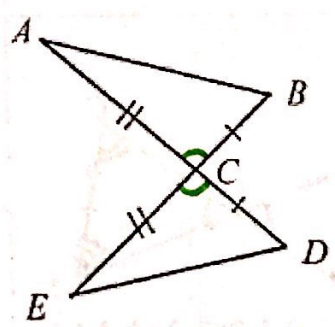
If $\overline{AB} \cong \overline{DE}$ (Side)
 $\overline{BC} \cong \overline{EF}$ (Side)
 $\overline{CA} \cong \overline{FD}$ (Side)

Then, $\triangle ABC \cong \triangle DEF$

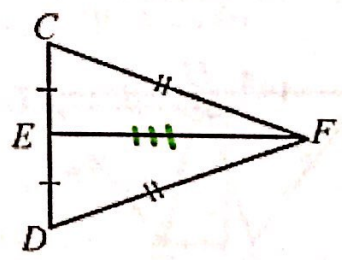
Directions: State whether the triangles could be congruent by SSS. If so, write a congruency statement.



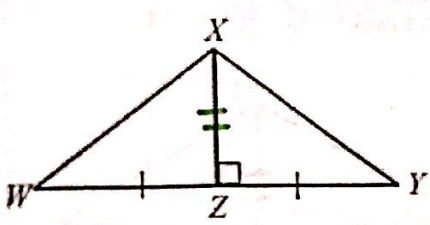
Yes $\triangle ABC \cong \triangle CDA$
by SSS



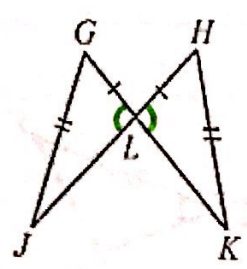
Not SSS



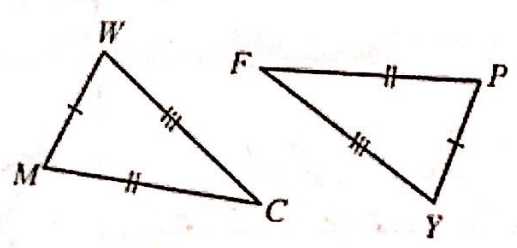
Yes $\triangle CEF \cong \triangle DEF$
by SSS



Not SSS



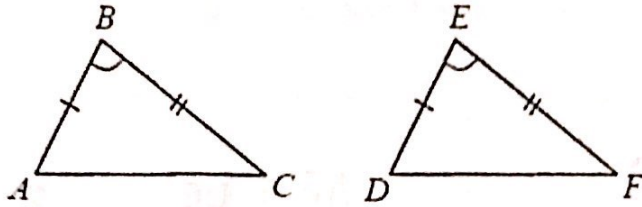
Not SSS



Yes $\triangle WMC \cong \triangle YPF$
by SSS

SIDE-ANGLE-SIDE (SAS)

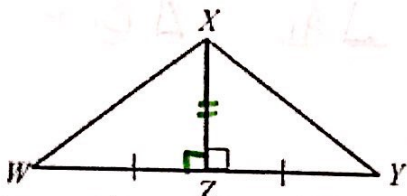
If two sides and the included angle of one triangle is congruent to two sides and the included angle of another triangle, then the triangles are congruent.



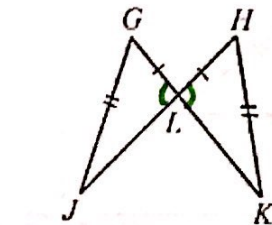
$$\begin{aligned} \text{If } \overline{AB} &\cong \overline{DE} && \text{(Side)} \\ \angle B &\cong \angle E && \text{(Angle)} \\ \overline{BC} &\cong \overline{EF} && \text{(Side)} \end{aligned}$$

Then, $\triangle ABC \cong \triangle DEF$

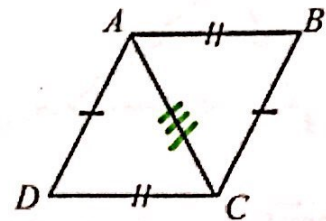
Directions: State whether the triangles could be congruent by SAS. If so, write a congruency statement.



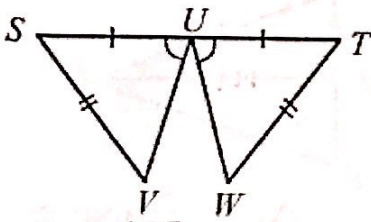
Yes $\triangle WZX \cong \triangle YZX$
by SAS



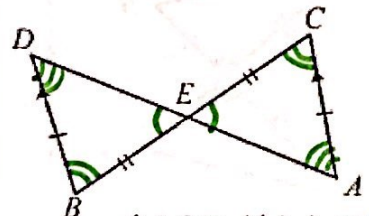
Not SAS



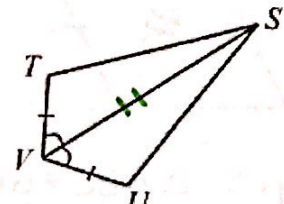
Not SAS



Not SAS

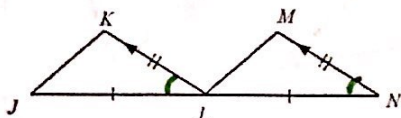


Yes $\triangle DBE \cong \triangle ACE$
by SAS

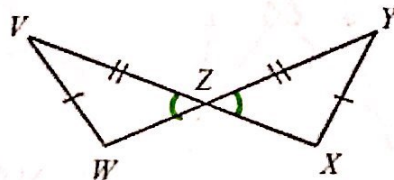


Not SAS

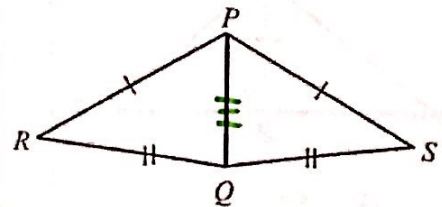
Directions: State whether the triangles could be congruent by SSS or SAS. If so, write a congruency statement.



Yes $\triangle JKL \cong \triangle LNM$
by SAS



Not \cong



Yes $\triangle PRQ \cong \triangle PSQ$
by SSS