

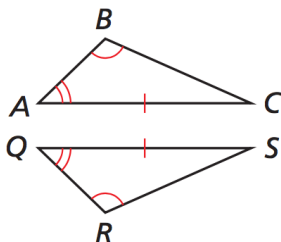
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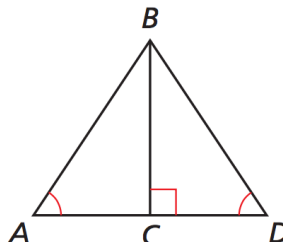
5.6 Proving Triangle Congruence by ASA and AAS

In Exercises 1-4, decide whether enough information is given to prove that the triangles are congruent. If so, state the theorem you would use.

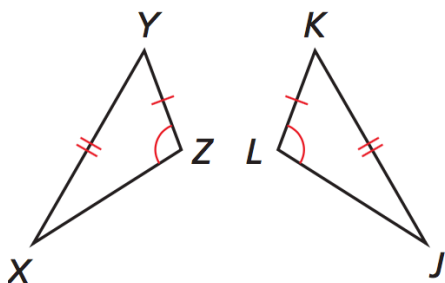
1. $\triangle ABC, \triangle QRS$



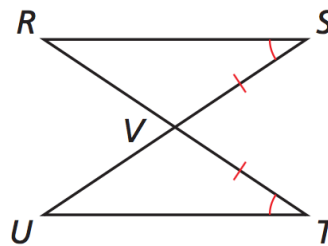
2. $\triangle ABC, \triangle DBC$



3. $\triangle XYZ, \triangle JKL$



4. $\triangle RSV, \triangle UTV$



In Exercises 5-8, decide whether you can use the given information to prove that $\triangle ABC \cong \triangle DEF$. Explain your reasoning.

5. $\angle A \cong \angle D, \angle C \cong \angle F, \overline{AC} \cong \overline{DF}$

6. $\angle C \cong \angle F, \overline{AB} \cong \overline{DE}, \overline{BC} \cong \overline{EF}$

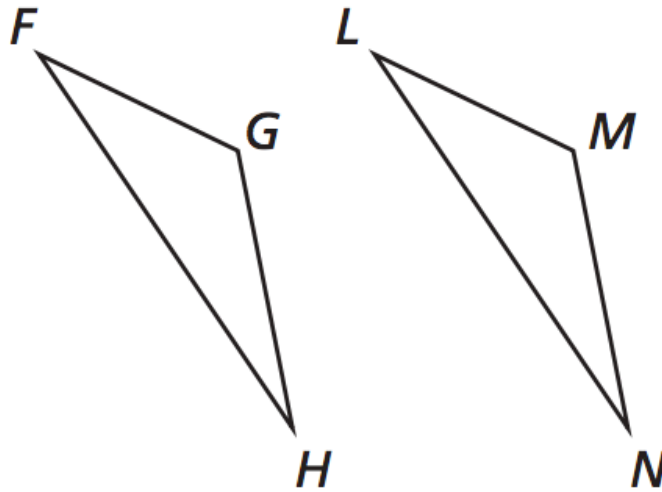
7. $\angle B \cong \angle E, \angle C \cong \angle F, \overline{AC} \cong \overline{DE}$

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8. $\angle A \cong \angle D, \angle B \cong \angle E, \overline{BC} \cong \overline{EF}$

9. State the third congruence statement that is needed to prove that $\triangle FGH \cong \triangle LMN$ using the given theorems.



Given $\overline{GH} \cong \overline{MN}, \angle G \cong \angle M, \underline{\hspace{1cm}} \cong \underline{\hspace{1cm}}$

Use the AAS Congruence Theorem (Thm. 5.11).

Given $\overline{FG} \cong \overline{LM}, \angle G \cong \angle M, \underline{\hspace{1cm}} \cong \underline{\hspace{1cm}}$

Use the ASA Congruence Theorem (Thm. 5.10).