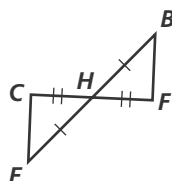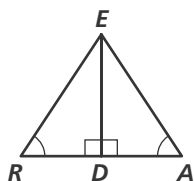# Reteaching 4-3

Triangles Congruent by AAS and ASA

OBJECTIVE: Proving two triangles congruent by the ASA Postulate and the AAS Theorem

MATERIALS: Ruler, protractor

Example

Tell whether the ASA Postulate or the AAS Theorem can be applied directly to prove the triangles congruent.

a. Because $\angle RDE$ and $\angle ADE$ are right angles, they are congruent. $\overline{ED} \cong \overline{ED}$ by the Reflexive Property of $\cong$, and it is given that $\angle R \cong \angle A$. Therefore, $\triangle RDE \cong \triangle ADE$ by the AAS Theorem.

b. It is given that $\overline{CH} \cong \overline{FH}$ and $\overline{EH} \cong \overline{BH}$. Because $\angle CHE$ and $\angle FHB$ are vertical angles, they are congruent. Therefore, $\triangle CHE \cong \triangle FHB$ by the ASA Postulate.
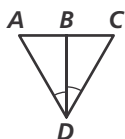
Exercises

Indicate congruences.

1. Copy the top figure at the right. Mark the figure with the angle congruence and side congruence symbols that you would need to prove the triangles congruent by the ASA Postulate.

2. Copy the second figure shown. Mark the figure with the angle congruence and side congruence symbols that you would need to prove the triangles congruent by the AAS Theorem.

3. Draw two triangles that are congruent by either the ASA Postulate or the AAS Theorem.
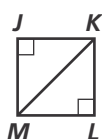

What additional information would you need to prove each pair of triangles congruent by the stated postulate or theorem?
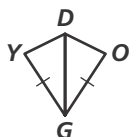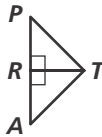
4. ASA

5. AAS

6. SAS

7. SSS

8. AAS

9. ASA