

5.6 Proving Triangles Congruent by AAS & ASA CYU

Use when you get it right all by yourself

S Use when you did it all by yourself, but made a silly mistake

H Use when you could do it alone with a little help from teacher or peer

G Use when you completed the problem in a group

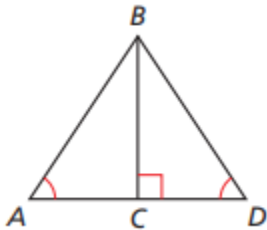
X Use when a question was attempted but wrong (get help)

N Use when a question was not even attempted

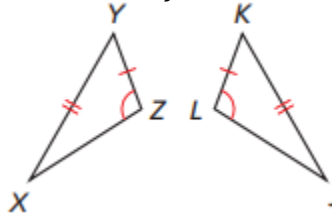
CONCEPTS	BASIC	INTERMEDIATE	ADVANCED
AAS Congruence Theorem	1 – 3, 7, 8	4, 9	6, 9
ASA Congruence Theorem	1 – 3, 7, 8	5, 9	6, 9
Proofs		10, 11, 12	10, 11, 12

Decide whether enough information is given to prove that the triangles are congruent. If so, state the theorem you would use.

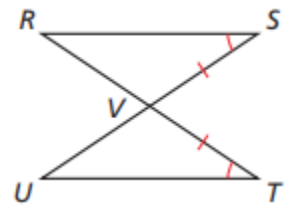
1. $\triangle ABC$ & $\triangle DBC$



2. $\triangle XYZ$ & $\triangle JKL$



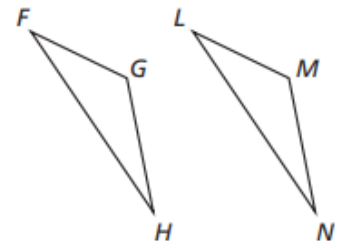
3. $\triangle RSV$ & $\triangle UTV$



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

4. Use the AAS Congruent Theorem. $\overline{GH} \cong \overline{MN}$, $\angle G \cong \angle M$, _____ \cong _____

5. Use the ASA Congruent Theorem. $\overline{FG} \cong \overline{LM}$, $\angle G \cong \angle M$, _____ \cong _____



Decide whether you can use the given information to prove that $\triangle ABC \cong \triangle DEF$. Explain your reasoning.

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

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

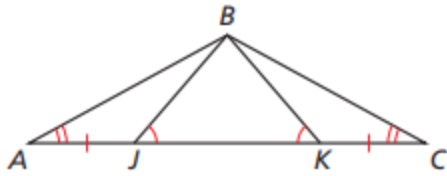
Error Analysis: Describe and correct the error.

8. $\triangle JKL \cong \triangle FHG$ by the ASA Congruence Theorem.

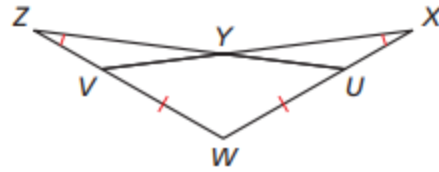
9. $\triangle QRS \cong \triangle VWX$ by the AAS Congruence Theorem.

Use a two-column proof to prove that the triangles are congruent using the ASA or AAS Congruent Theorems.

10. **Given** $\overline{AJ} \cong \overline{KC}$, $\angle BJK \cong \angle BKJ$, $\angle A \cong \angle C$
Prove $\triangle ABK \cong \triangle CBJ$



11. **Given** $\overline{VW} \cong \overline{UW}$, $\angle X \cong \angle Z$
Prove $\triangle XWV \cong \triangle ZWU$



12. **MODELING WITH MATHEMATICS** When a light ray from an object meets a mirror, it is reflected back to your eye. For example, in the diagram, a light ray from point C is reflected at point D and travels back to point A. The *law of reflection* states that the angle of incidence, $\angle CDB$, is congruent to the angle of reflection, $\angle ADB$.

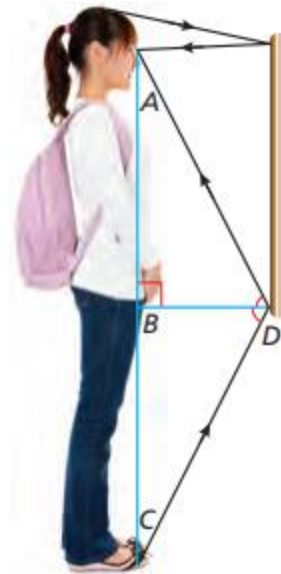
- a) Prove that $\triangle ABD$ is congruent to $\triangle CBD$.

Given $\angle CDB \cong \angle ADB$,
 $\overline{DB} \perp \overline{AC}$

Prove $\triangle ABD \cong \triangle CBD$

- b) Verify that $\triangle ACD$ is isosceles.

- c) Does moving away from the mirror have any effect on the amount of his or her reflection a person sees? Explain.



CYU Reflection: How far can you go: basic, intermediate, or advanced?

Rate your mastery level!

How confident are you with the skills this CYU covered? Circle the score you would give yourself.

● — ● — ● — ● — ● — ● — ●

1	2	3	4	5	6	7	8
Basic		Intermediate			Advanced		Solved ALL!

