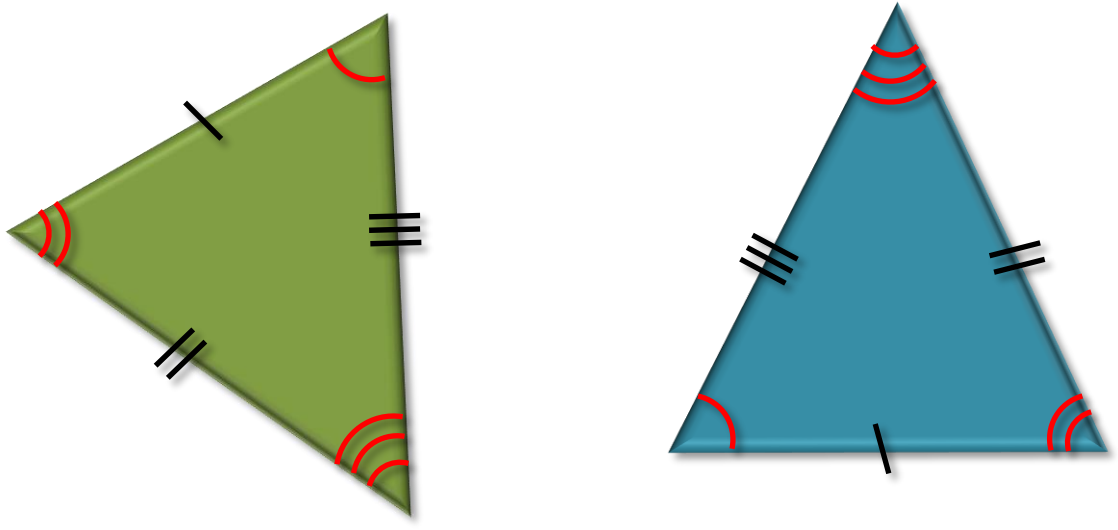
Proving Triangle Congruence by SAS, SSS, and HL

Sections 5.3 & 5.5

Congruent Triangles

- Triangles with the exact same size and shape.
  - All angles and sides have congruent measurements

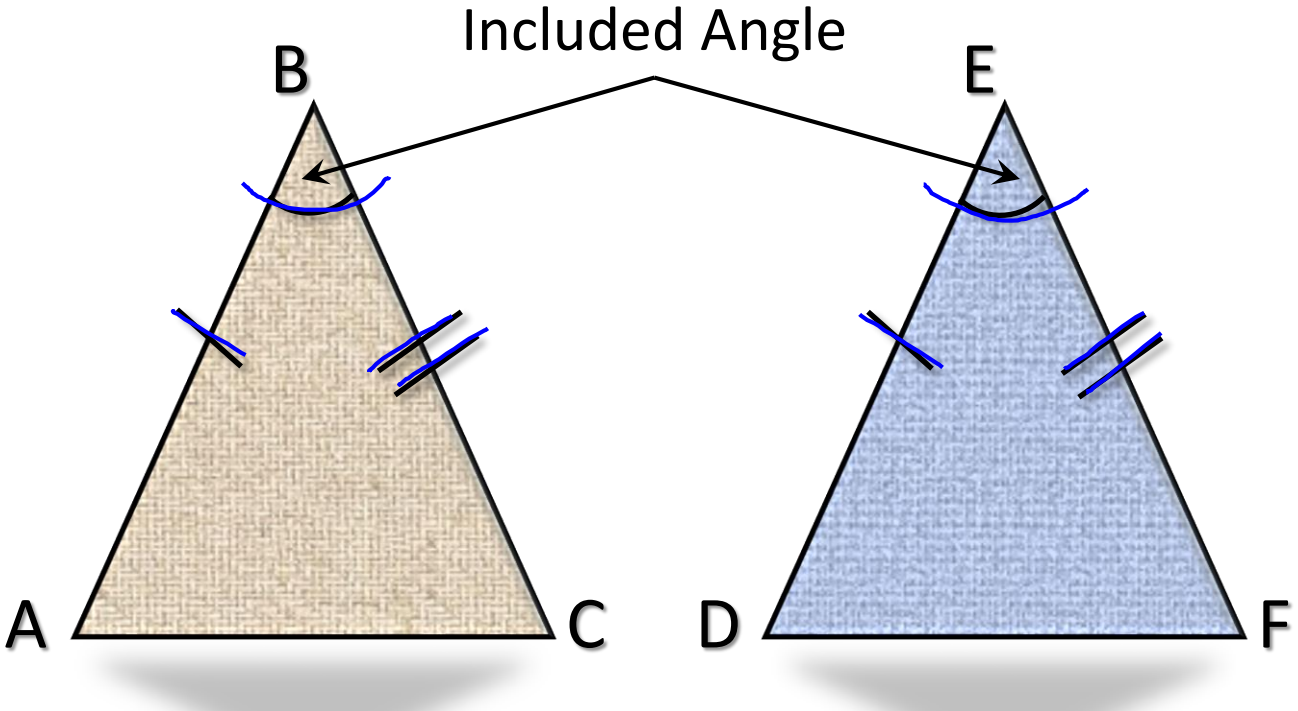


Notes for Foldable

SAS Theorem

If two corresponding sides and the **included** angles of two triangles are congruent, then the triangles are congruent.

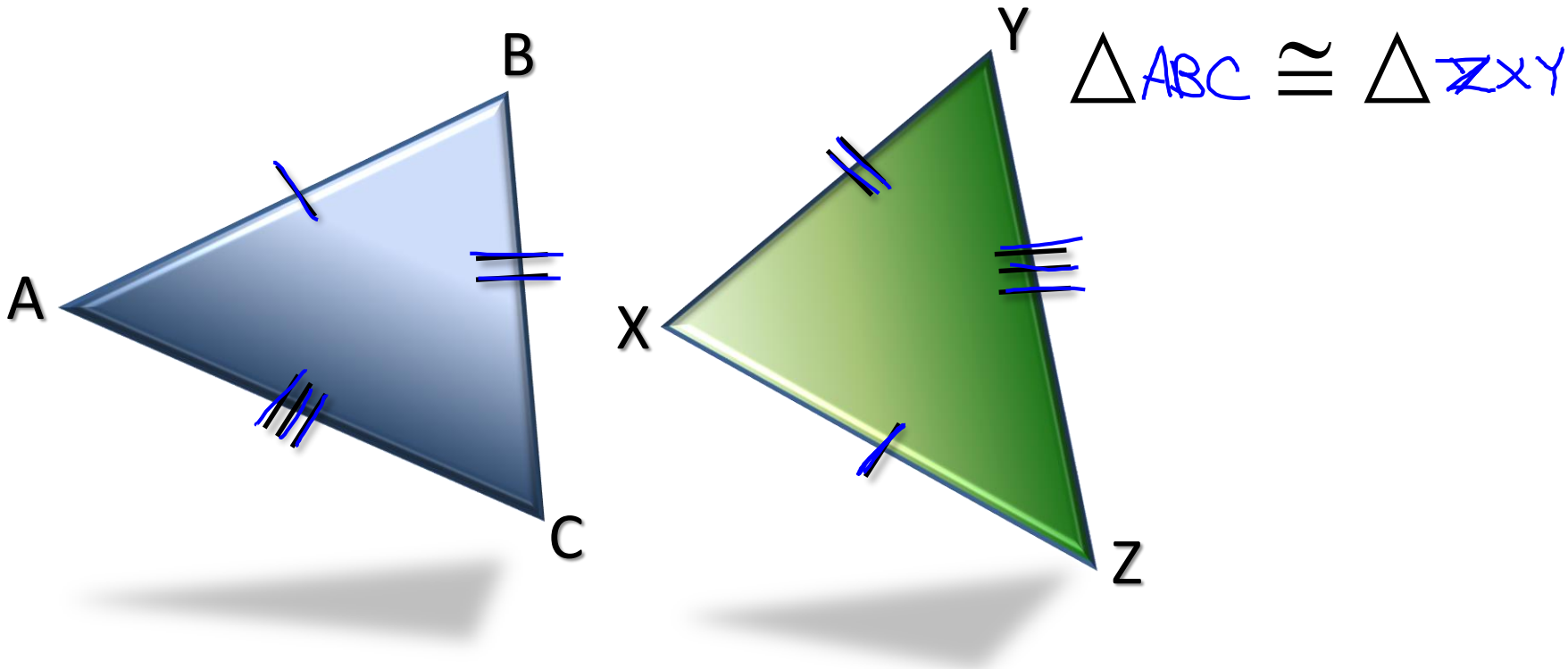
$\triangle ABC \cong \triangle DEF$



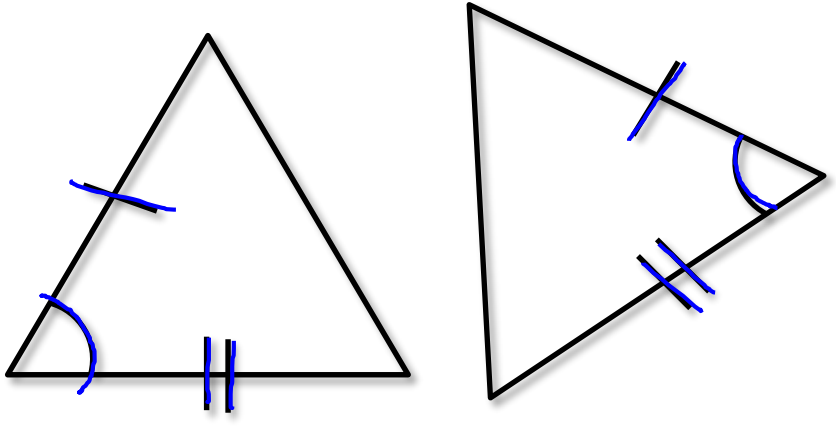
Notes for Foldable

SSS Theorem

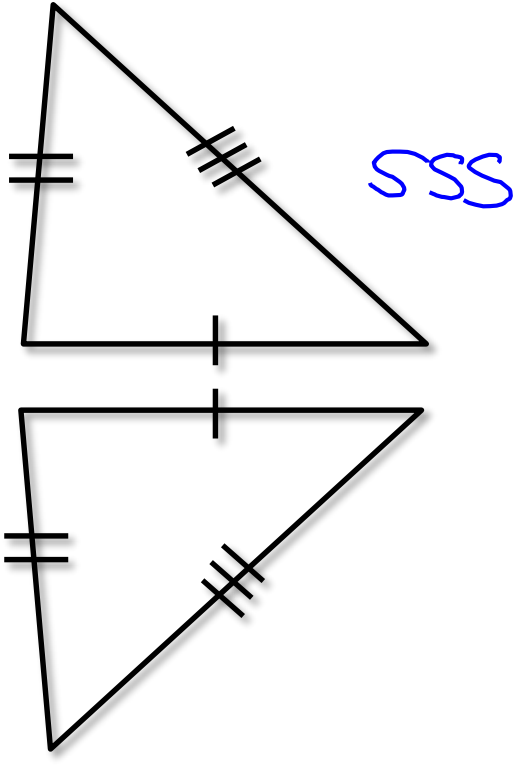
If the corresponding sides of two triangles are congruent, then the triangles are congruent.



Name the theorem that makes each triangle congruent if possible.

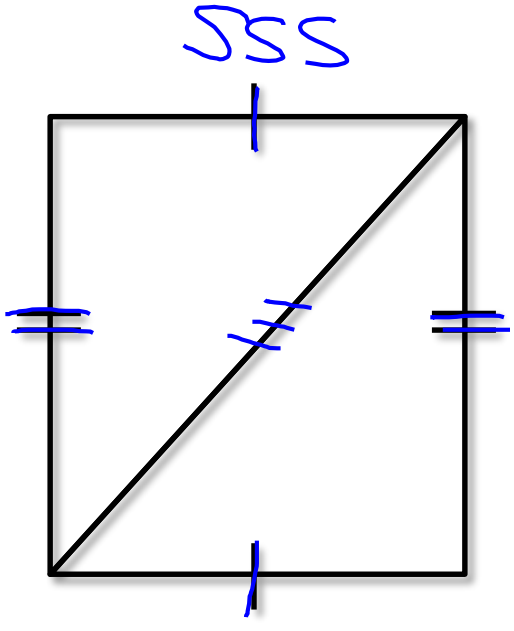


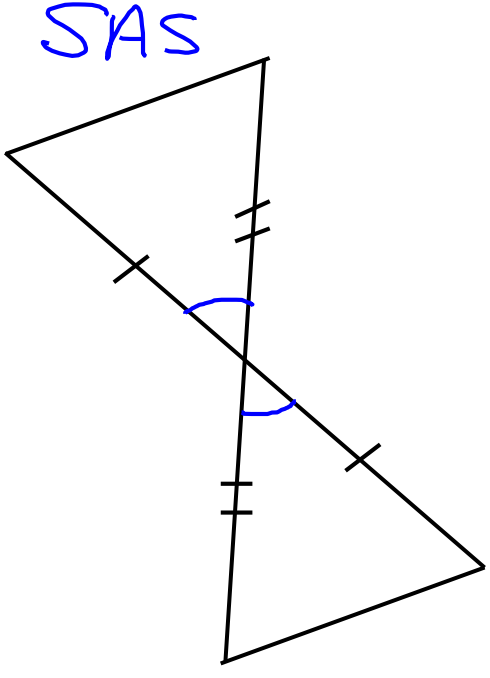
SAS

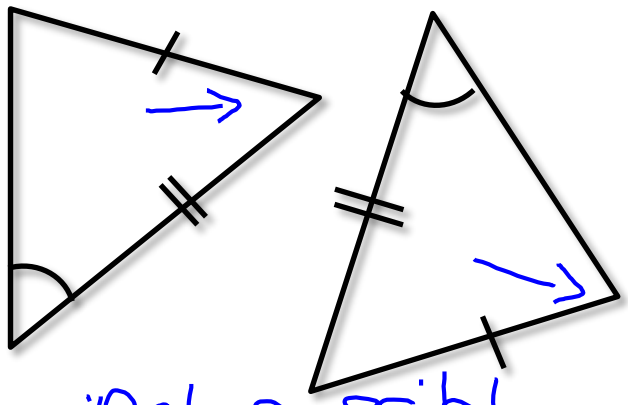


SSS

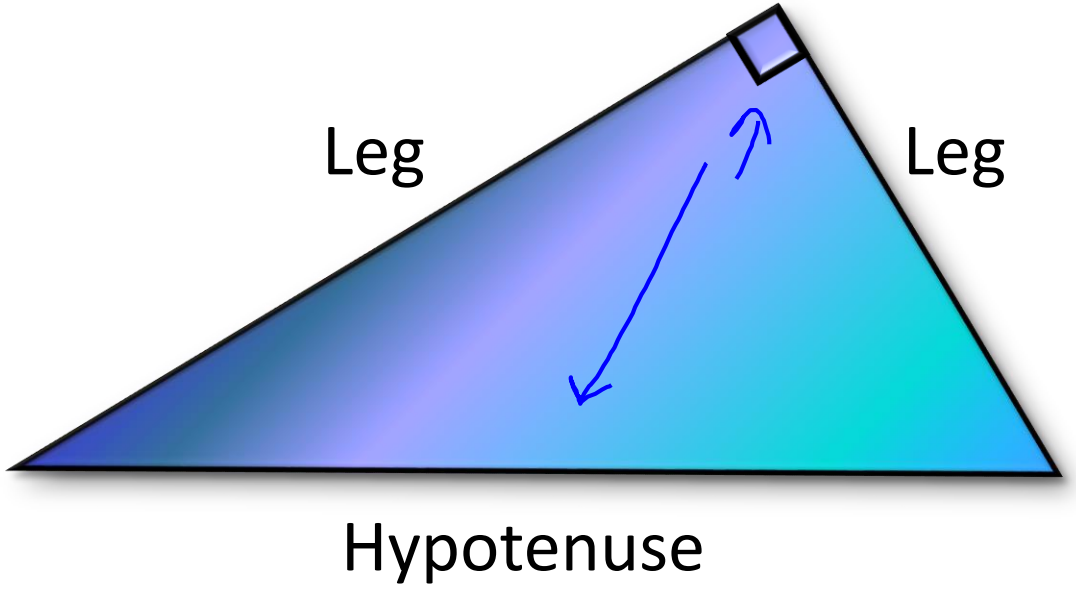
Name the theorem that makes each triangle congruent if possible.







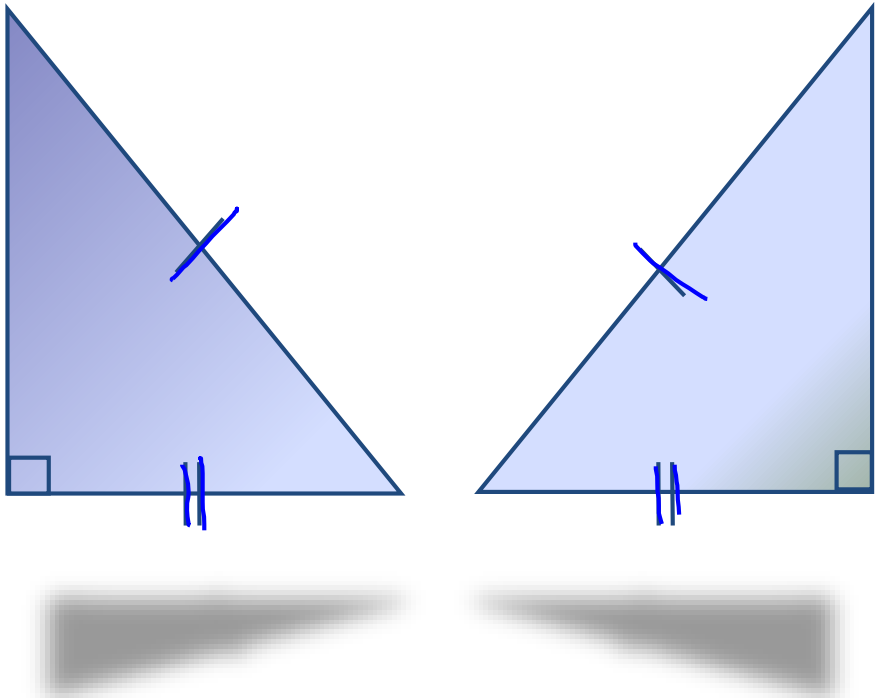
Right Triangle Anatomy



Notes for Foldable

HL Theorem

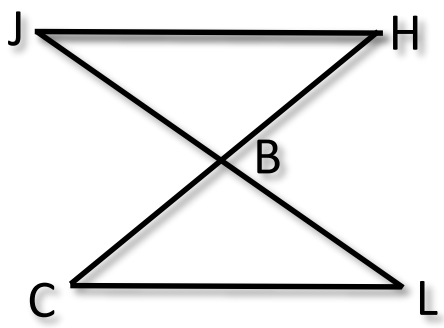
If the hypotenuse and leg of one right triangle are congruent to the corresponding parts of another right triangle, then the two triangles are congruent.



Lessons 5.3 & 5.5 Day 2

Given: $\overline{JL}$ bisects $\overline{HC}$, $\overline{HC}$ bisects $\overline{JL}$

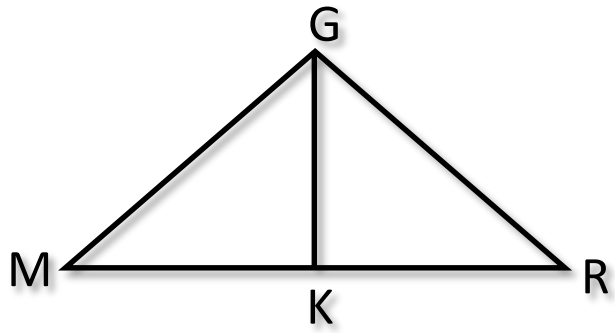
Prove: $\Delta JHB \cong \Delta LCB$



Statements	Reasons

Given: $\overline{GM} \cong \overline{GR}$, $\overline{GK}$ bisects $\overline{MR}$

Prove: $\Delta MGK \cong \Delta RGK$



Statements	Reasons

p.249 (3-17); p.266 (3-10, 13-15)