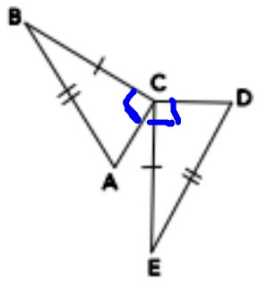
Congruence Postulates Review

What triangles are congruent and by which postulate?



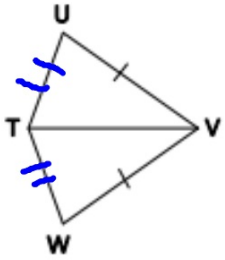
By HL

$\overline{BC} \perp \overline{CA}$

$\overline{CE} \perp \overline{CD}$

$\triangle ABC \cong \triangle DEC$

What additional information is needed to prove that the triangles are congruent by **SSS**?

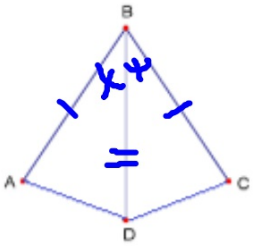


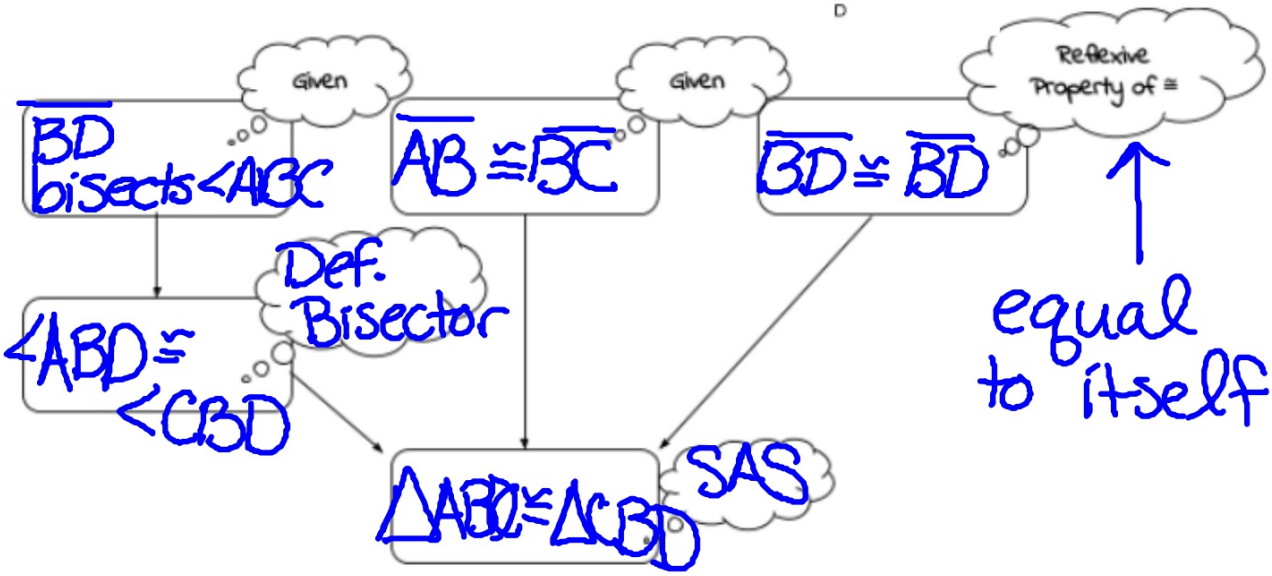
Introduction to Congruence Proofs

Goal: To prove two triangles are congruent so that we can assume further information about them.
Examine the figure and the given information to decide if you will use SSS, SAS, ASA, or AAS.

Ex 1) Given: $\overline{AB} \cong \overline{BC}$, $\overline{BD}$ bisects $\angle ABC$

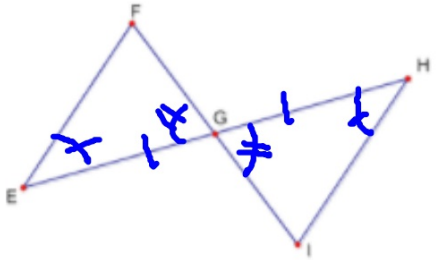
Prove: $\Delta ABD \cong \Delta CBD$

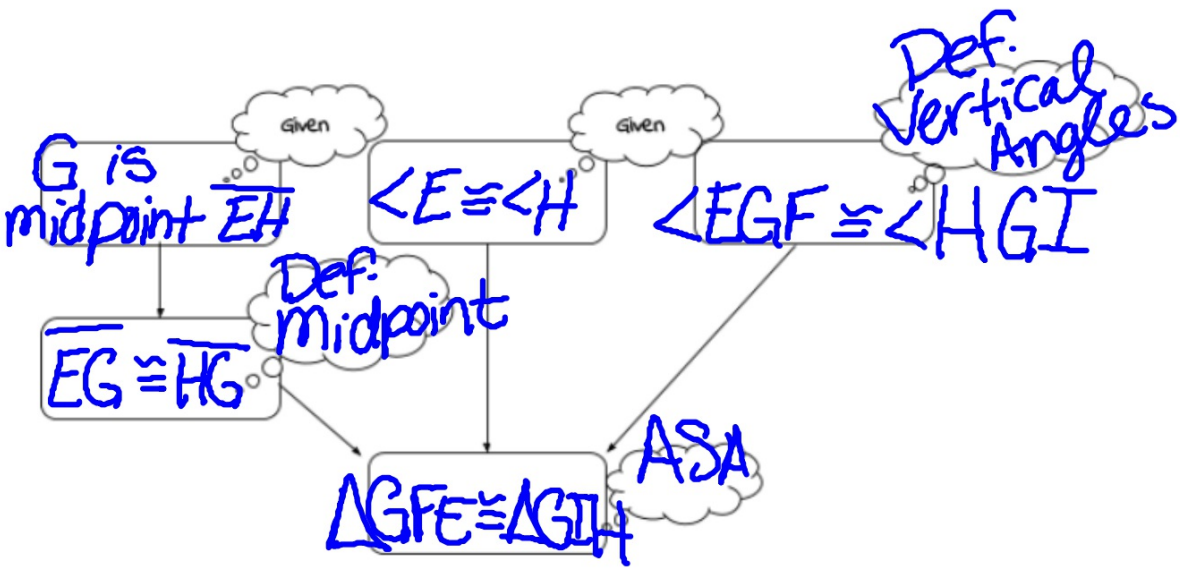




Ex 2) Given: $\angle E \cong \angle H$, G is the midpoint of $\overline{EH}$

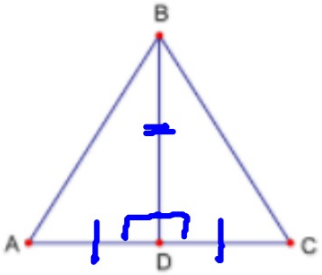
Prove: $\Delta GFE \cong \Delta GIH$





Ex 3) Given: D is the midpoint of $\overline{AC}$, $\overline{AC} \perp \overline{BD}$

Prove: $\Delta ABD \cong \Delta CBD$



Given

$\overline{AC} \perp \overline{BD}$

def. $\perp$ lines

$\angle BDA$ & $\angle BDC = 90°$

Given

D is midpoint $\overline{AC}$

Reflexive Property $\cong$

$\overline{BD} \cong \overline{BD}$

def. $\cong$

$\angle BDA \cong \angle BDC$

def. midpoint

$\overline{AD} \cong \overline{CD}$

SAS

$\Delta ABD \cong \Delta CBD$

Ex 4) Given: $\overline{AB} \parallel \overline{CD}$, $\overline{AB} \cong \overline{CD}$

Prove: $\Delta ABE \cong \Delta CDE$