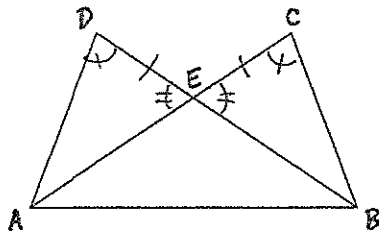


Triangle Congruence and Proof Group Test

1. Tricky Triangles! If possible, use the given information to complete the congruence statement and tell which congruence shortcut supports the congruence statement. If the triangles cannot be shown to be congruent from the information given, write "cannot be determined."

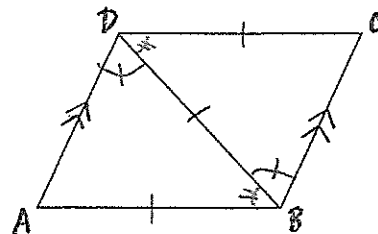
a. $\angle D \cong \angle C, \overline{DE} \cong \overline{CE}$

$\triangle AED \cong \triangle BEC$ by ASA



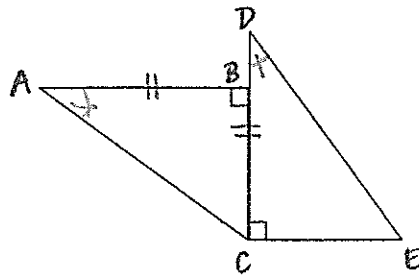
b. $\overline{AD} \parallel \overline{BC}, \overline{AB} \cong \overline{DC}$

$\triangle ADB \cong \triangle CBD$ by ASA or SAS



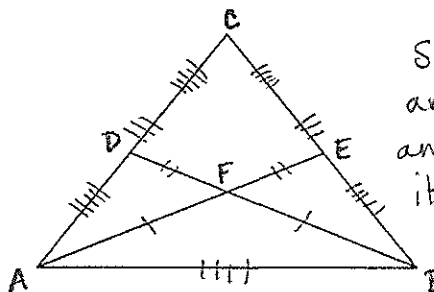
c. $\overline{AB} \perp \overline{CD}, \overline{AB} \cong \overline{CD}, \overline{EC} \perp \overline{CD}, \angle A \cong \angle D$

$\triangle ABC \cong \triangle DCE$ by ASA



d. $\overline{AC} \cong \overline{BC}, \overline{BD}$ and \overline{AE} are medians

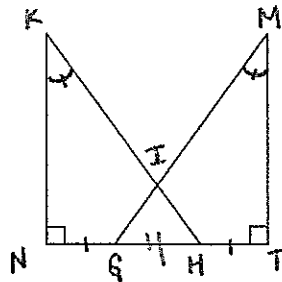
$\triangle ABD \cong \triangle BAE$ by SSS



Since D & E are midpoints and $\overline{AC} \cong \overline{BC}$, it creates 4 equal segments

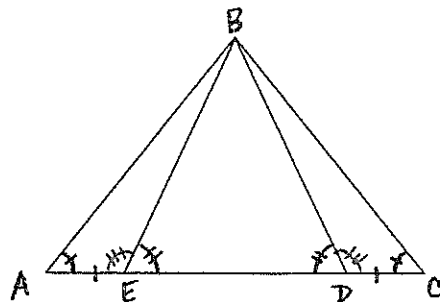
e. Given the diagram:

$\triangle KNH \cong \triangle MTG$ by AAS

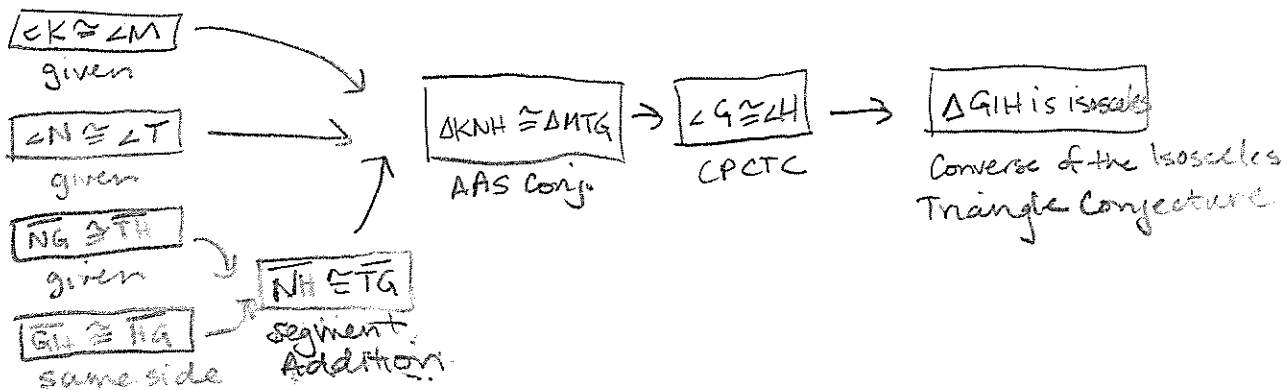


f. Given the diagram:

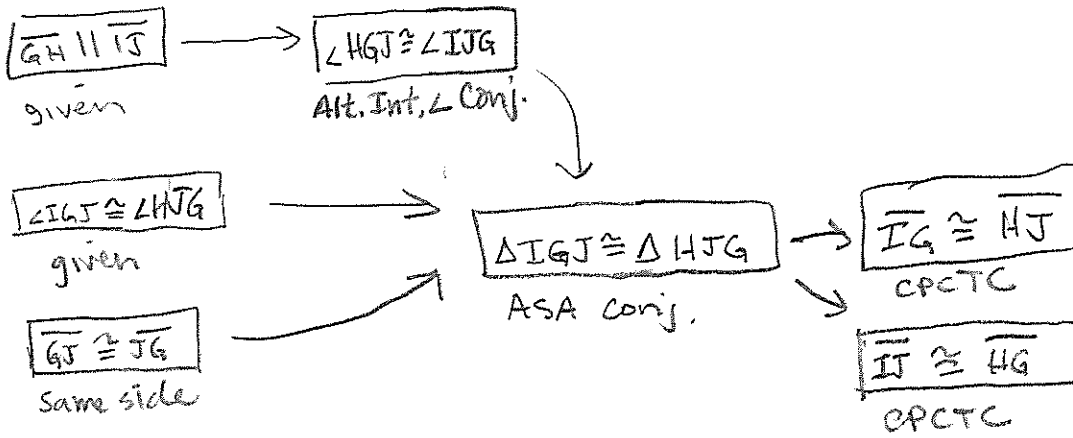
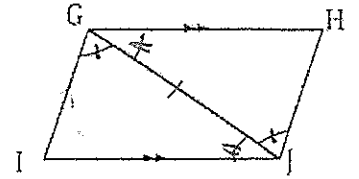
$\triangle AEB \cong \triangle CDB$ by ASA



2. Refer to the figure in problem #1e and prove triangle GIH is isosceles.



3. Given the figure at right, $\overline{GH} \parallel \overline{IJ}$, and $\angle IGJ \cong \angle HJG$.
Prove the opposite sides of $IGHJ$ are congruent.



4. Given the figure at right, prove $\overline{ST} \cong \overline{RQ}$.

