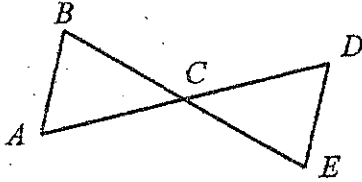


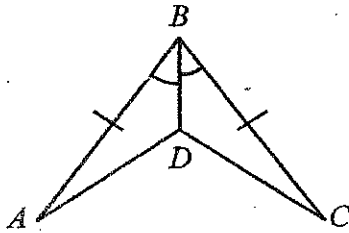
Geometry Chapter 4 PROOFS

Name: _____ Date: _____

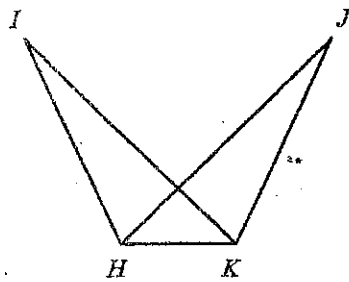
1. $\overline{AC} \cong \overline{DC}$ and $\overline{BC} \cong \overline{CE}$. Write a paragraph proof to show that $\triangle ABC \cong \triangle DEC$.



2. $\triangle ADB \cong \triangle CDB$. Write SSS or SAS as the reason.



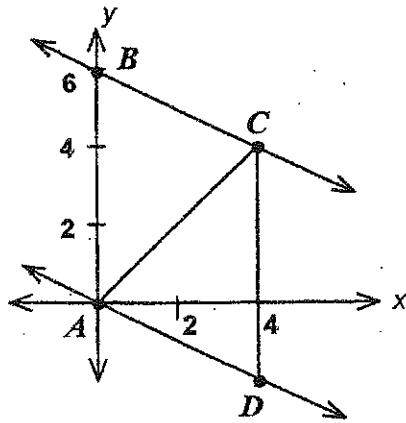
3. Refer to the figure and information given below. Give a congruence statement for two triangles in the figure and name the congruence postulate that proves the congruence.



$$\overline{IK} \cong \overline{JH} \quad \overline{HI} \cong \overline{KJ}$$

4. From the information given, can you prove the two triangles congruent? Explain.
 $\triangle QRS$ and $\triangle TUV$ with $\overline{QR} \cong \overline{TU}$, $\overline{QS} \cong \overline{TV}$, $\angle R \cong \angle U$

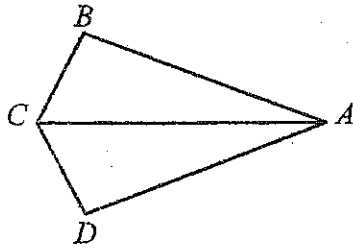
5. Given that $\overline{BC} \parallel \overline{AD}$, prove that $\triangle ABC \cong \triangle CDA$.



6. Write a two-column proof.

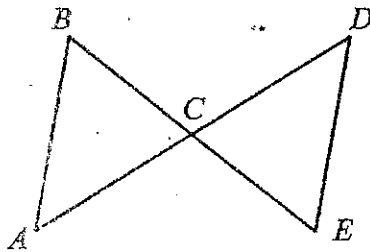
Given: $\overline{CB} \cong \overline{CD}$; $\angle BCA \cong \angle DCA$

Prove: $\overline{BA} \cong \overline{DA}$

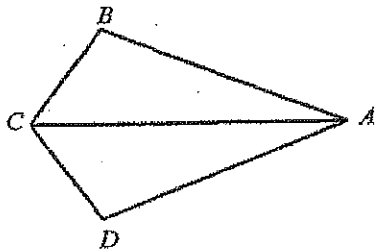


7. Given: $\overline{BC} \cong \overline{EC}$ and $\overline{AC} \cong \overline{DC}$

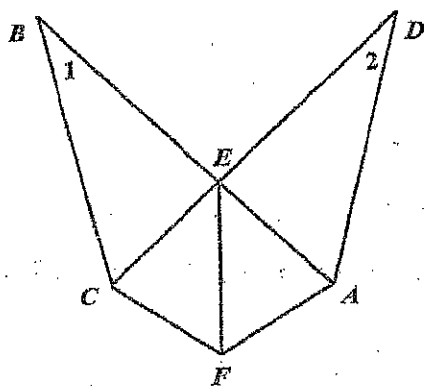
Prove: $\overline{BA} \cong \overline{ED}$



8. Write a two-column proof:
 Given: $\angle BAC \cong \angle DAC$, $\angle DCA \cong \angle BCA$
 Prove: $\overline{BC} \cong \overline{CD}$

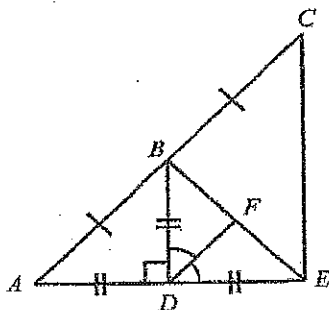


9. Given: $\overline{BC} \cong \overline{DA}$, $\angle 1 \cong \angle 2$, and $\overline{CF} \cong \overline{AF}$
 Prove: $\triangle CEF \cong \triangle AEF$

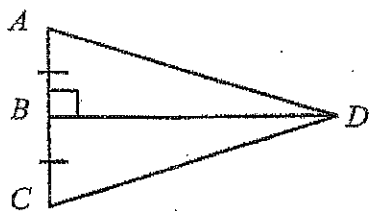


10. Complete each statement. Explain why it is true.

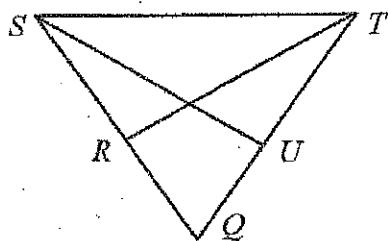
- a. $\overline{BF} \cong$?
 b. $\angle BDE \cong$?



11. Is $\triangle ABD \cong \triangle CBD$ by HL? If so, state the leg that allows the use of HL.



12. Given: $\overline{SR} \perp \overline{RT}$; $\overline{TU} \perp \overline{US}$; $\overline{SR} \cong \overline{TU}$
Prove: $\triangle TRS \cong \triangle SUT$



13. Given that $\angle EAC \cong \angle ECA$, what else do you need to be able to prove that $\overline{BA} \cong \overline{DC}$? Outline your proof with the needed information.

