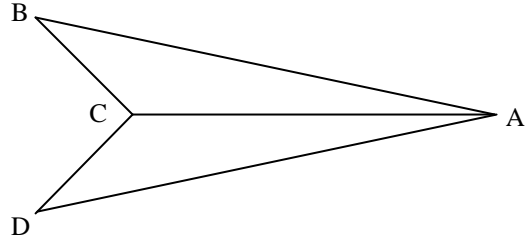


Name: \_\_\_\_\_  
Period: \_\_\_\_\_ Date: \_\_\_\_\_

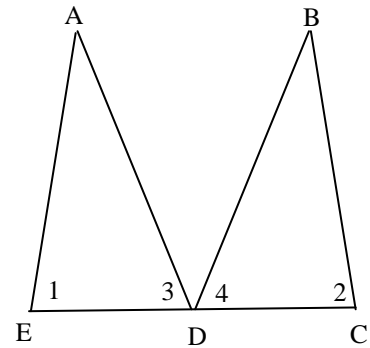
HC3 – U4L2  
Congruent Triangles 1

On a separate sheet of paper prove each of the following statements.

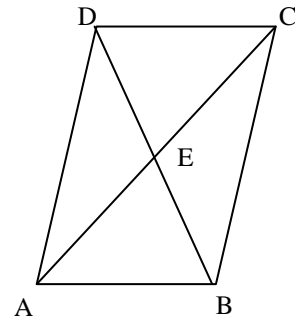
1. Given:  $\overline{AB} \cong \overline{AD}$ ,  $\overline{CB} \cong \overline{CD}$ .  
Prove:  $\triangle ABC \cong \triangle ADC$ .



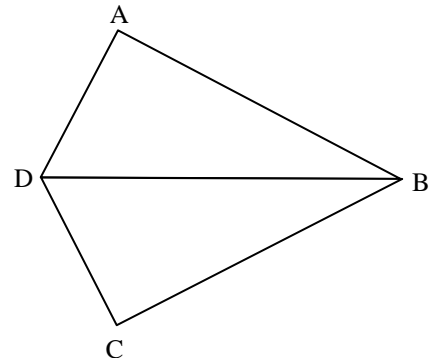
2. Given:  $\angle 1 \cong \angle 2$ , D is the midpoint of  $\overline{EC}$ ,  $\angle 3 \cong \angle 4$ .  
Prove:  $\triangle AED \cong \triangle BCD$ .



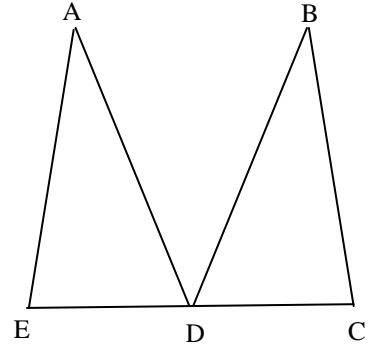
3. If  $\overline{DB}$  and  $\overline{AC}$  bisect each other at E, prove that  $\triangle AEB \cong \triangle CED$ .



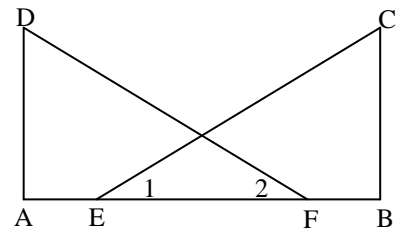
4. Given:  $\overline{DB}$  bisects  $\angle ADC$ .  $\overline{BD}$  bisects  $\angle ABC$ .  
Prove:  $\triangle ADB \cong \triangle CDB$ .



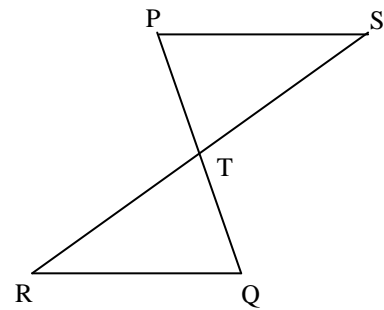
5. Given:  $\overline{AE} \cong \overline{BC}$ ,  $\angle E \cong \angle C$ , D is the midpoint of  $\overline{EC}$ .  
 Prove:  $\triangle ADE \cong \triangle BDC$ .



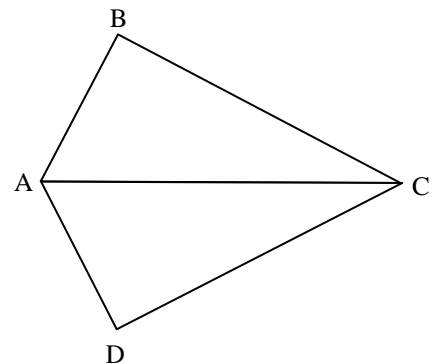
6. Given:  $\overline{AEFB}$ ,  $\overline{CE} \cong \overline{DF}$ ,  $\angle 1 \cong \angle 2$ ,  $\overline{AE} \cong \overline{BF}$ .  
 Prove:  $\triangle AFD \cong \triangle BEC$ .



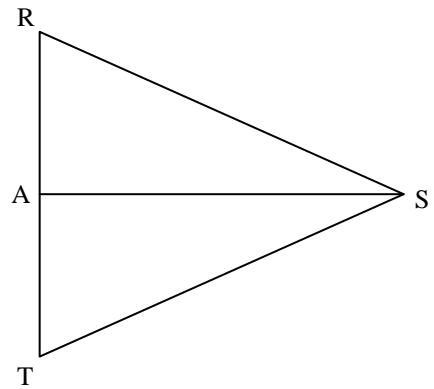
7. Given: T is the midpoint of  $\overline{PQ}$ ,  $\overline{PQ}$  bisects  $\overline{RS}$ ,  $\overline{RQ} \cong \overline{SP}$ .  
 Prove:  $\triangle RTQ \cong \triangle STP$ .



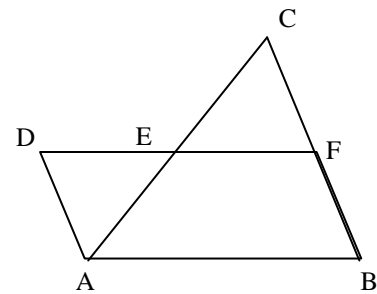
8. Given:  $\overline{AB} \cong \overline{AD}$ ,  $\overline{AC}$  bisects  $\angle BAD$ .  
 Prove:  $\triangle ABC \cong \triangle ADC$ .



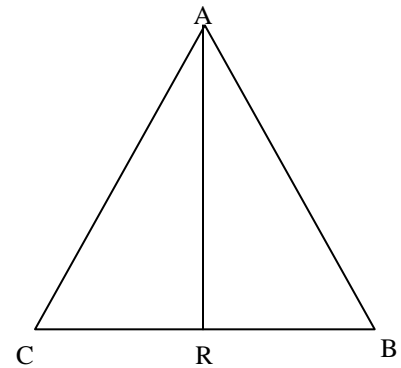
9. Given:  $\overline{AS} \perp \overline{RT}$ , A is the midpoint of  $\overline{RT}$ .  
 Prove:  $\triangle RAS \cong \triangle TAS$ .



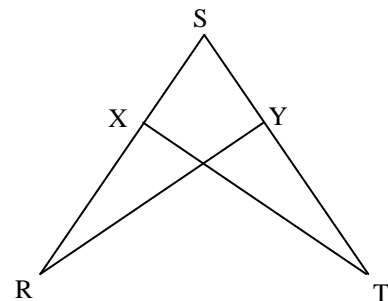
10. Given:  $\overline{AC}$  and  $\overline{DF}$  bisect each other at E,  $\overline{AD} \cong \overline{CF}$ .  
 Prove:  $\triangle DEA \cong \triangle FEC$



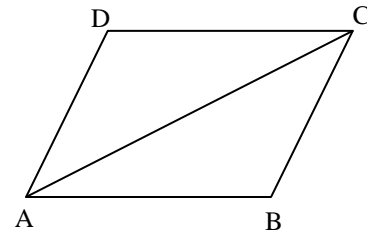
11. Given:  $\overline{AR} \perp \overline{CB}$ ,  $\overline{AR}$  bisects  $\angle CAB$ .  
 Prove:  $\triangle ACR \cong \triangle ABR$



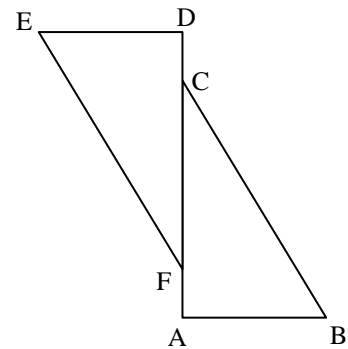
12. Given:  $\overline{SXR}$ ,  $\overline{SYT}$ ,  $\overline{SX} \cong \overline{SY}$ ,  $\overline{XR} \cong \overline{YT}$ .  
 Prove:  $\triangle RSY \cong \triangle TSX$ .



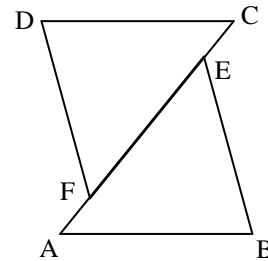
13. If both pairs of opposite sides of quadrilateral ABCD are congruent, prove that  $\triangle ABC \cong \triangle CDA$ .



14. Given:  $\overline{DCFA}$ ,  $\angle E \cong \angle B$ ,  $\overline{ED} \cong \overline{AB}$ ,  $\overline{FD} \perp \overline{DE}$ ,  $\overline{CA} \perp \overline{AB}$ .  
Prove:  $\triangle DEF \cong \triangle ABC$ .



15. Given:  $\overline{AFEC}$ ,  $\overline{DC} \cong \overline{BA}$ ,  $\overline{DF} \cong \overline{BE}$ , and  $\overline{CE} \cong \overline{AF}$ .  
Prove:  $\triangle AEB \cong \triangle CFD$ .



16. Given:  $\angle BAC \cong \angle BCA$ ,  $\overline{CD}$  bisects  $\angle BCA$ ,  $\overline{AE}$  bisects  $\angle BAC$ .  
Prove:  $\triangle ADC \cong \triangle CEA$ .

