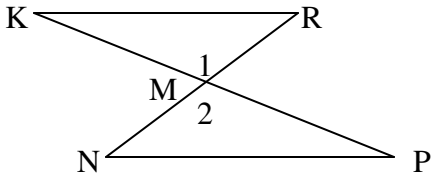
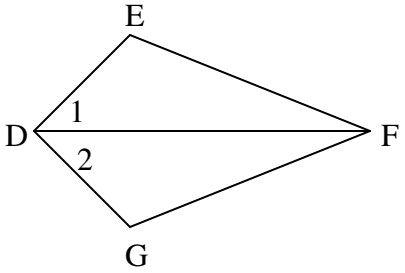
Proofs for Congruent Triangles

Given: $\angle 1 \cong \angle R$; $\angle 2 \cong \angle N$; $\overline{MR} \cong \overline{MN}$
Prove: $\overline{KR} \cong \overline{PN}$



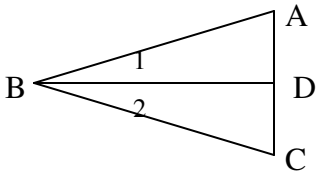
Statements	Reasons
1) $\angle 1 \cong \angle R$; $\angle 2 \cong \angle N$; $\overline{MR} \cong \overline{MN}$	
2) $\angle 1 \cong \angle 2$	
3) $\angle R \cong \angle N$	
4) $\Delta RKM \cong \Delta NPM$	
5) $\overline{KR} \cong \overline{PN}$	

Given: $\overrightarrow{DF}$ bisects $\angle EDG$; $\overline{DE} \cong \overline{DG}$
Prove: $\angle E \cong \angle G$



Statements	Reasons
1) $\overrightarrow{DF}$ bisects $\angle EDG$; $\overline{DE} \cong \overline{DG}$	
2) $\angle 1 \cong \angle 2$	
3) $\overline{DF} \cong \overline{DF}$	
4) $\Delta DEF \cong \Delta DGF$	
5) $\angle E \cong \angle G$	

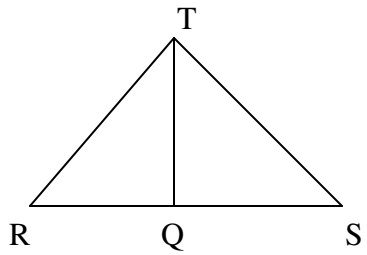
Given: $\overline{AB} \cong \overline{CB}$; $\angle 1 \cong \angle 2$
Prove: $\overline{BD}$ bisects $\overline{AC}$



Statements	Reasons
1) $\overline{AB} \cong \overline{CB}$; $\angle 1 \cong \angle 2$	
2) $\overline{BD} \cong \overline{BD}$	
3) $\Delta BDA \cong \Delta BDC$	
4) $\overline{DA} \cong \overline{DC}$	
5) D is the midpoint of $\overline{AC}$	
6) $\overline{BD}$ bisects $\overline{AC}$	

Given: $\overline{RQ} \cong \overline{QS}$; $\overline{RT} \cong \overline{TS}$

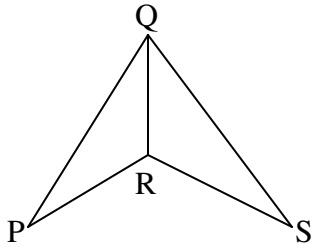
Prove: $\overline{TQ} \perp \overline{RS}$



Statements	Reasons
1) $\overline{RQ} \cong \overline{QS}$; $\overline{RT} \cong \overline{TS}$	
2) $\overline{TQ} \cong \overline{TQ}$	
3) $\Delta RQT \cong \Delta SQT$	
4) $< RQT \cong < SQT$	
5) $\overline{TQ} \perp \overline{RS}$	

Given: $\overline{PR} \cong \overline{SR}$; $\overline{PQ} \cong \overline{SQ}$

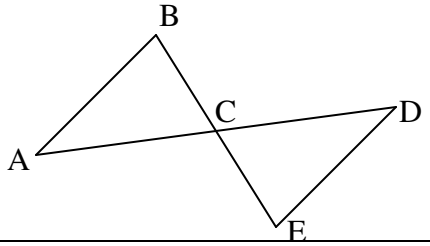
Prove: $< P \cong < S$



Statements	Reasons
1) $\overline{PR} \cong \overline{SR}$; $\overline{PQ} \cong \overline{SQ}$	
2) $\overline{QR} \cong \overline{QR}$	
3) $\Delta PQR \cong \Delta SQR$	
4) $< P \cong < S$	

Given: C is the midpoint of $\overline{AD}$; $< A \cong < D$

Prove: $\overline{BC} \cong \overline{EC}$



Statements	Reasons
1) C is the midpoint of $\overline{AD}$; $< A \cong < D$	
2) $\overline{AC} \cong \overline{CD}$	
3) $< ACB \cong < DCE$	
4) $\Delta ABC \cong \Delta DEC$	
5) $\overline{BC} \cong \overline{EC}$	