

**Using Congruent Triangles**

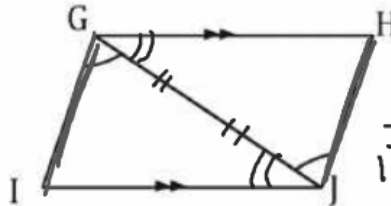
CPCTC

Corresponding Parts of Congruent Triangles are Congruent

$\cong \Delta$   
SAS AAS  
~~SSS~~ ~~HL~~

ASA

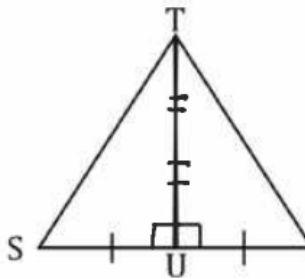
Given:  $\overline{GH} \parallel \overline{IJ}$ ,  $\angle IGJ \cong \angle HJG$



Prove:  $\overline{IG} \cong \overline{HJ}$

Statement	Reason
1) $\overline{GI} \parallel \overline{HJ}$ $\angle IGJ \cong \angle HJG$	1) Given
2) $\overline{GJ} \cong \overline{JG}$	2) Reflexive prop
3) $\angle HJG \cong \angle IGJ$	3) Alternate Interior $\angle$ s
4) $\Delta GJG \cong \Delta JGH$	4) ASA
5) $\overline{IG} \cong \overline{HJ}$	5) CPCTC

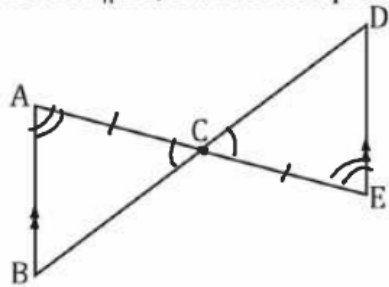
Given:  $\overline{SU} \cong \overline{UV}$



Prove:  $\overline{ST} \cong \overline{VT}$

Statement	Reason
1) $\overline{SU} \cong \overline{UV}$	1) Given
2) $\overline{TU} \cong \overline{TU}$	2) Reflexive Prop
3) $\angle SUT \cong \angle VUT$	3) All right $\angle$ 's are $\cong$ .
4) $\Delta SUT \cong \Delta VUT$	4) SAS
5) $\overline{ST} \cong \overline{VT}$	5) CPCTC

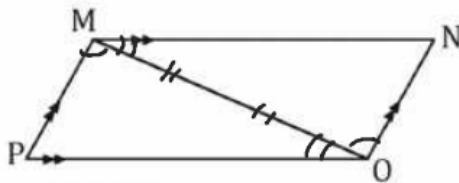
Given:  $\overline{AB} \parallel \overline{DE}$ , C is the midpoint of  $\overline{AE}$



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

Statement	Reason
1) $\overline{AB} \parallel \overline{DE}$ C is midpt of $\overline{AE}$	1) Given
2) $\overline{AC} \cong \overline{EC}$	2) Definition of midpt
3) $\angle ACB \cong \angle ECD$	3) Vertical $\angle$ 's
4) $\angle A \cong \angle E$	4) Alternate Int $\angle$ 's
5) $\triangle ACB \cong \triangle ECD$	5) ASA
6) $\overline{BC} \cong \overline{DC}$	6) CPCTC

Given:  $PM \parallel NO$ ,  $MN \parallel PO$ ,



Prove:  $PM \cong ON$

Statement	Reason
1) $\overline{PM} \parallel \overline{NO}$ ; $\overline{MN} \parallel \overline{PO}$	1) Given
2) $\angle PMO \cong \angle MON$	2) Alternate Interior $\angle$ 's
3) $\overline{MO} \cong \overline{MO}$	3) Reflexive prop
4) $\angle NMO \cong \angle POM$	4) Alternate Interior $\angle$ 's
5) $\triangle NMO \cong \triangle POM$	5) ASA
6) $\overline{PM} \cong \overline{ON}$	6) CPCTC