

Math 3

Name \_\_\_\_\_

Proving Triangles Congruent

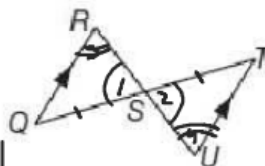
Period \_\_\_\_\_

Prove each of the following:

Given:  $S$  is the midpoint of  $\overline{QT}$ .  
 $\overline{QR} \parallel \overline{TU}$

Prove  $\triangle QSR \cong \triangle TSU$

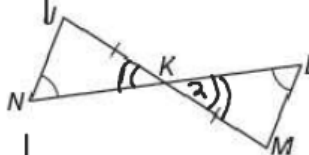
SSS   ASA  
SAS   HL  
AAS



Statement	Reason
1) $S$ is midpt of $\overline{QT}$ $\overline{QR} \parallel \overline{TU}$	1) Given
2) $\angle 1 \cong \angle 2$	2) Vertical $\angle$ 's $\cong$ .
3) $\angle 3 \cong \angle 4$	3) Alternate Interior $\angle$ 's
4) $\overline{QS} \cong \overline{TS}$	4) Def of midpt

Given:  $\angle N \cong \angle L$   
 $\overline{JK} \cong \overline{MK}$

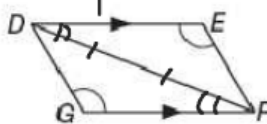
Prove:  $\triangle JKN \cong \triangle MKL$



Statement	Reason
1) $\angle N \cong \angle L$ $\overline{JK} \cong \overline{MK}$	1) Given
2) $\angle 1 \cong \angle 2$	2) Vertical $\angle$ 's $\cong$
3) $\triangle JKN \cong \triangle MKL$	3) AAS

Given:  $\overline{DE} \parallel \overline{FG}$   
 $\angle E \cong \angle G$

Prove:  $\triangle DFG \cong \triangle FDE$



Statement	Reason
1) $\overline{DE} \parallel \overline{FG}$ $\angle E \cong \angle G$	1) Given
2) $\overline{DF} \cong \overline{DF}$	2) Reflexive prop.
3) $\angle EDF \cong \angle GFD$	3) Alternate Int $\angle$ 's $\cong$
	4) AAS