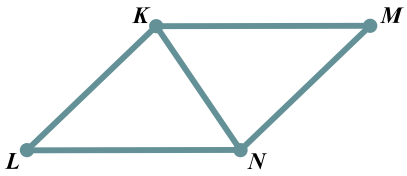
LET'S MAKE A PROOF (SAMPLE RESPONSES)

Complete each two-column proof.

Proof 1

Given: $\overline{KM} \parallel \overline{LN}$
$\overline{KL} \parallel \overline{MN}$

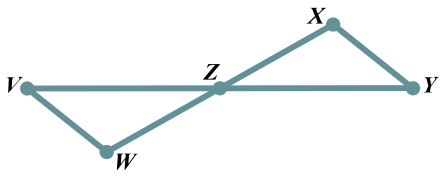
Prove: $\Delta KLN \cong \Delta NMK$



Statement	Reason
$\overline{KM} \parallel \overline{LN}$	Given
$\angle LNK \cong \angle MKN$	Alternate Interior Angles Theorem
$\overline{KL} \parallel \overline{MN}$	Given
$\angle LKN \cong \angle MNK$	Alternate Interior Angles Theorem
$\overline{KN} \cong \overline{NK}$	Reflexive Property of Congruence
$\Delta KLN \cong \Delta NMK$	ASA Congruence Theorem

Proof 2

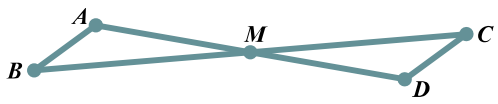
Given: $\angle V \cong \angle Y$
$\overline{VY}$ *bisects* $\overline{WX}$ *at* Z
Prove: $\Delta VWZ \cong \Delta YXZ$



Statement	Reason
$\angle V \cong \angle Y$	Given
$\overline{VY}$ *bisects* $\overline{WX}$ *at* Z	Given
$\overline{WZ} \cong \overline{XZ}$	Definition of Segment Bisector
$\angle WZV \cong \angle XZY$	Vertical Angles Congruence Theorem
$\Delta VWZ \cong \Delta YXZ$	AAS Congruence Theorem

Proof 3

Given: M *is the midpoint of* $\overline{AD}$
M *is the midpoint of* $\overline{BC}$
Prove: $\Delta ABM \cong \Delta DCM$



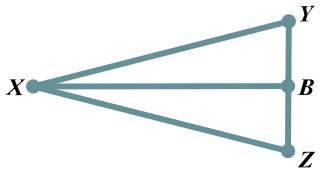
Statement	Reason
M *is the midpoint of* $\overline{AD}$	Given
$\overline{AM} \cong \overline{DM}$	Definition of Midpoint
M *is the midpoint of* $\overline{BC}$	Given
$\overline{BM} \cong \overline{CM}$	Definition of Midpoint
$\angle AMB \cong \angle DMC$	Vertical Angles Congruence Theorem
$\Delta ABM \cong \Delta DCM$	SAS Congruence Theorem

Proof 4

Given: $\overline{BX}$ *bisects* $\overline{YZ}$ *at* B

$\overline{XY} \cong \overline{XZ}$

Prove: $\Delta XBY \cong \Delta XBZ$



Statement	Reason
$\overline{BX}$ *bisects* $\overline{YZ}$ *at* B	Given
$\overline{BY} \cong \overline{BZ}$	Definition of Segment Bisector
$\overline{XY} \cong \overline{XZ}$	Given
$\overline{XB} \cong \overline{XB}$	Reflexive Property of Congruence
$\Delta XBY \cong \Delta XBZ$	SSS Congruence Theorem