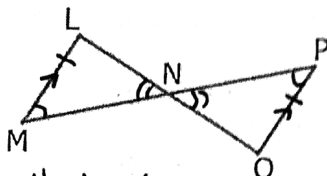


Triangle Congruence Proofs

Given: $\overline{ML} \parallel \overline{OP}$; $\overline{ML} \cong \overline{OP}$
 Prove: $\triangle MLN \cong \triangle PON$

Write a Paragraph Proof!

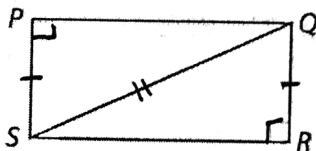


Plan:
ASA or AAS

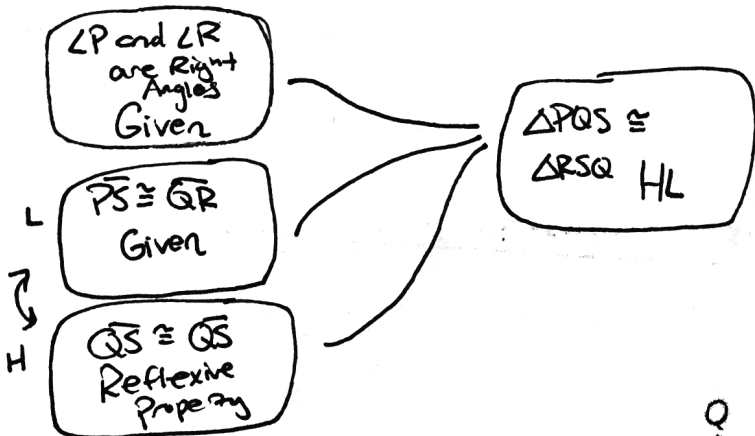
Given that $\overline{ML} \parallel \overline{OP}$, we know that ~~some~~ $\angle LMN \cong \angle OPN$ by the Alternate Interior Angles Theorem. Also, $\angle LNM \cong \angle ONP$ because they are vertical angles. Finally, we know that $\overline{LM} \cong \overline{PO}$ because it is given. Thus, $\triangle MLN \cong \triangle PON$ by AAS.

Given: $\angle P$ and $\angle R$ are right angles. $\overline{PS} \cong \overline{RQ}$
 Prove: $\triangle PQS \cong \triangle RSQ$

Write a Flowchart Proof!

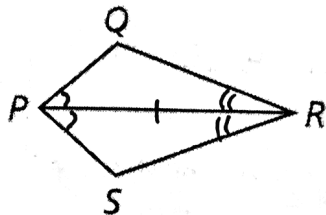


Plan: HL

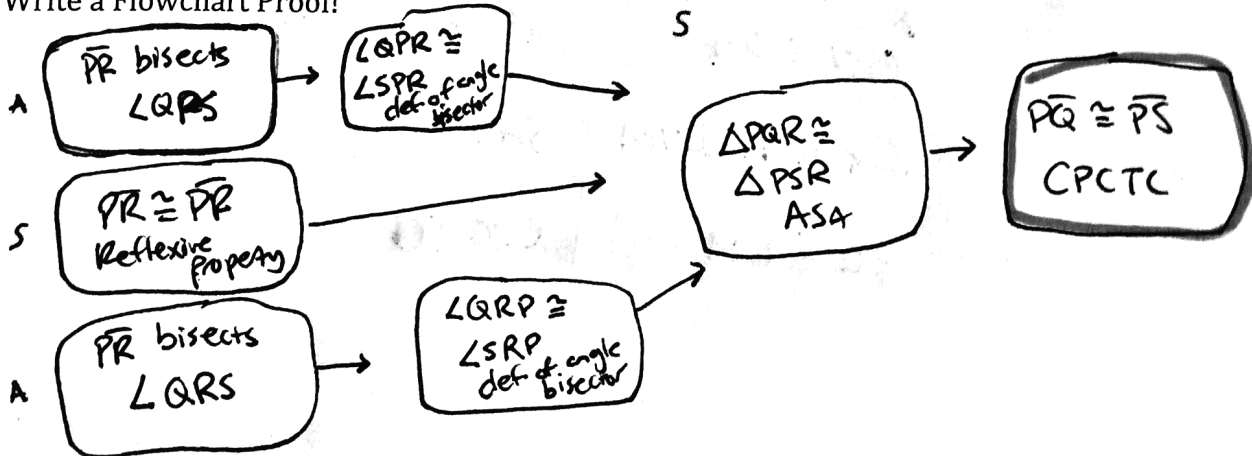


Given: \overline{PR} bisects $\angle QPS$ and $\angle QRS$.
 Prove: $\overline{PQ} \cong \overline{PS}$

Write a Flowchart Proof!

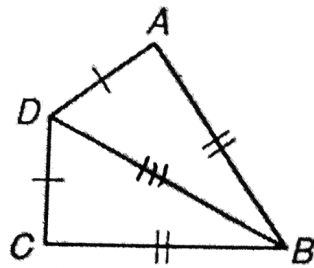


Plan:
ASA



Given: $\overline{AD} \cong \overline{CD}$, $\overline{AB} \cong \overline{CB}$

Prove: $\angle A \cong \angle C$



Plan:
SSS

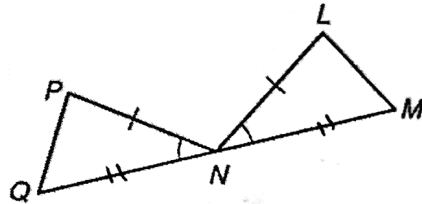
Write a Two Column Proof!

Statements	Reasons
$\overline{AD} \cong \overline{CD}$	Given
$\overline{AB} \cong \overline{CB}$	Given
$\overline{DB} \cong \overline{DB}$	Reflexive Property
$\triangle ABD \cong \triangle CBD$	SSS
$\angle A \cong \angle C$	CPCCTC

Given: $\angle PNQ \cong \angle LNM$, $\overline{PN} \cong \overline{LN}$,

N is the midpoint of \overline{QM} .

Prove: $\overline{PQ} \cong \overline{LM}$



Plan:
SAS

Write a Two Column Proof!

Statements	Reasons
$\overline{PN} \cong \overline{LN}$	Given
$\angle PNQ \cong \angle LNM$	Given
N is the midpoint of \overline{QM}	Given
$\overline{QN} \cong \overline{MN}$	Def of Midpoint
$\triangle PNQ \cong \triangle LNM$	SAS
$\overline{PQ} \cong \overline{LM}$	CPCCTC