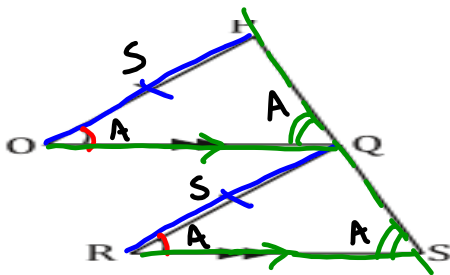


Goals

- Use two column and paragraph proofs to prove congruence in triangles.

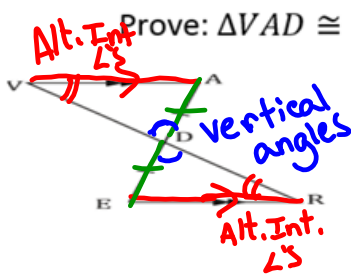
Let's add something

Prove: $\triangle POQ \cong \triangle QRS$



Statement	Reason
$\overline{OP} \cong \overline{RQ}$	Given
$\angle POQ \cong \angle QRS$	Given
$\overline{OQ} \parallel \overline{RS}$	Given
$\angle PQO \cong \angle QSR$	Corresponding \angle 's
$\triangle POQ \cong \triangle QRS$	AAS

Try it!



statement	Reason
$\overline{AD} \cong \overline{ED}$	Given
$\overline{VA} \parallel \overline{ER}$	Given
$\angle VDA \cong \angle RDE$	Vertical \angle 's Thm.
$\angle AVD \cong \angle ERD$	Alternate Interior Angles Thm.
$\Delta VAD \cong \Delta RED$	AAS

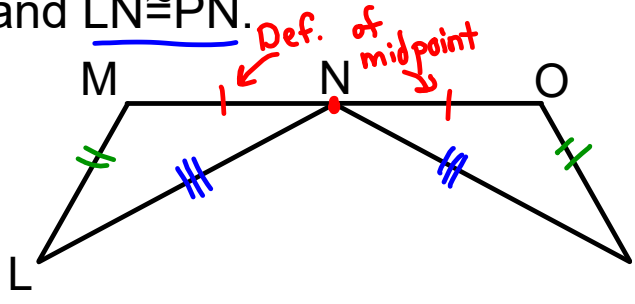
One more piece to add

Bisect - divide into two equal part

Midpoint - a point on a line segment that divides the line segment into two congruent segments

Class proofs

Given: N is the midpoint of \overline{MO} , $\overline{LM} \cong \overline{PO}$
and $\overline{LN} \cong \overline{PN}$.

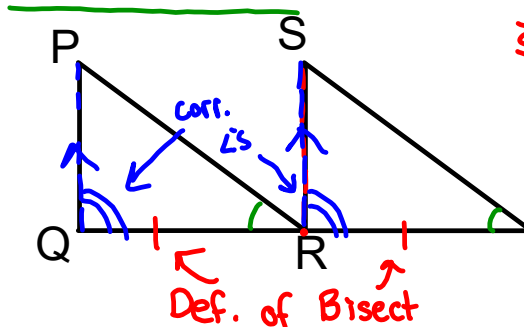


Prove: $\triangle LMN \cong \triangle PON$

Statement	Reason
N is the midpoint of \overline{MO}	Given
$\overline{LM} \cong \overline{PO}$	Given
$\overline{LN} \cong \overline{PN}$	Given
$\overline{MN} \cong \overline{ON}$	Def. of midpoint
$\triangle LMN \cong \triangle PON$	SSS

Class proofs

Given: \overline{SR} bisects \overline{QT} , $\overline{PQ} \parallel \overline{SR}$,
and $\angle PRQ \cong \angle STR$.



Prove: $\triangle PQR \cong \triangle SRT$

Statement	Reason
\overline{SR} bisects \overline{QT}	Given
$\overline{PQ} \parallel \overline{SR}$	Given
$\angle PRQ \cong \angle STR$	Given
$\overline{QR} \cong \overline{RT}$	Def. of Bisect
$\angle PQR \cong \angle SRT$	Corresponding \angle 's
$\triangle PQR \cong \triangle SRT$	ASA

YOUR TURN!!!!

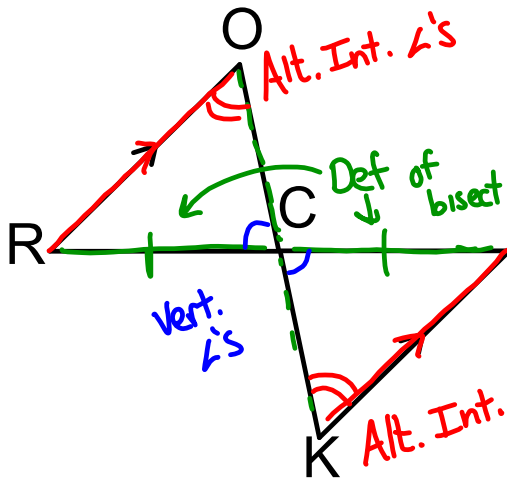
13 and 15

Sticky note check

NEXT

Given: $\overline{RO} \parallel \overline{KS}$ and \overline{OK} bisects \overline{RS} .

Prove: $\triangle ROC \cong \triangle SKC$



statement	Reason
$\overline{RO} \parallel \overline{KS}$	Given
\overline{OK} bisects \overline{RS}	Given
$\angle RCO \cong \angle SCK$	Vertical angles thm.
$\angle ROC \cong \angle SKC$	Alt. Int. \angle 's thm.
$\overline{RC} \cong \overline{SC}$	Def. of bisect
$\triangle ROC \cong \triangle SKC$	AAS