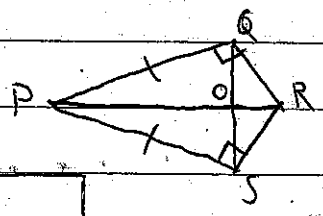
Proof 1.7

Joey Hale

Given: $\overline{PQ} \perp \overline{QR}$, $\overline{PS} \perp \overline{SR}$, $\overline{PQ} \cong \overline{PS}$

Prove: O is the midpoint of $\overline{QS}$



$\overline{PQ} \perp \overline{QR}$, $\overline{PS} \perp \overline{SR}$, $\overline{PQ} \cong \overline{PS}$	Given
$\angle PQR$, $\angle PSR$ are right $\angle$'s	def. of perp. lines
$\triangle PQR$, $\triangle PSR$ are right $\triangle$'s	def. of right $\triangle$
$\overline{PR} \cong \overline{PR}$	reflexive prop.
$\triangle PQR \cong \triangle PSR$	HL $\cong$
$\overline{QR} \cong \overline{SR}$	CPCTC
$\overline{OR} \cong \overline{OR}$	reflexive prop.
$\angle PRQ \cong \angle PRS$	CPCTC
$\triangle QOR \cong \triangle SOR$	SAS $\cong$
$\overline{QO} \cong \overline{SO}$	CPCTC
O is the midpoint of $\overline{QS}$	def. of md. pt.