Geometry

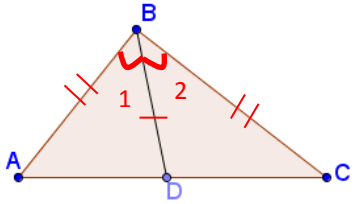
Unit One B: Two-Column Proofs #1 - Fill in the Blanks (IC12)

Name: _____

Date: _____ Period: _____

1. Given: $\overline{BD}$ bisects $\angle ABC$; $\overline{AB} \cong \overline{CB}$

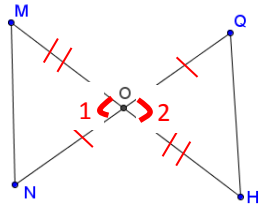
Prove: $\Delta ABD \cong \Delta CBD$



Statements	Reasons
1. $\overline{BD}$ bisects $\angle ABC$	1. Given
2. $\angle 1 \cong \angle 2$	2. Definition of angle bisector
3. $\overline{AB} \cong \overline{CB}$	3. Given
4. $\overline{BD} \cong \overline{BD}$	4. Reflexive Prop.
5. $\Delta ABD \cong \Delta CBD$	5. SAS

2. Given: $\overline{MH}$ and $\overline{NQ}$ bisect each other

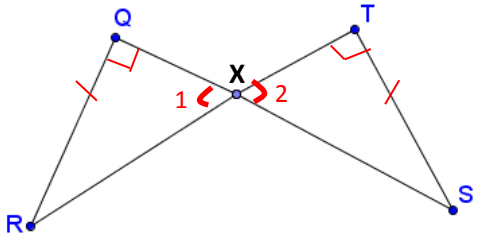
Prove: $\Delta MNO \cong \Delta HQO$



Statements	Reasons
1. $\overline{MH}$ and $\overline{NQ}$ bisect each other	1. Given
2. $\overline{NO} \cong \overline{QO}$	2. Def. of bisector
3. $\overline{MO} \cong \overline{HO}$	3. Definition of bisector
4. $\angle NOM \cong \angle QOH$	4. Vert. $\angle$'s thm
5. $\Delta MNO \cong \Delta HQO$	5. SAS

3. Given: $\overline{XQ} \perp \overline{RQ}; \overline{XT} \perp \overline{ST}$, $\overline{RQ} \cong \overline{ST}$

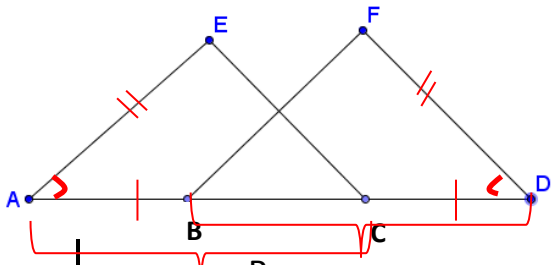
Prove: $\Delta RXQ \cong \Delta SXT$



Statements	Reasons
1. $\overline{XQ} \perp \overline{RQ}; \overline{XT} \perp \overline{ST}$	1. Given
2. $\angle RQX$ & $\angle STX$ right angles	2. Def. of $\perp$
3. $\angle RQX \cong \angle STX$	3. *All right $\angle$'s* are $\cong$
4. $\overline{RQ} \cong \overline{ST}$	4. Given
5. $\angle 1 \cong \angle 2$	5. Vert. $\angle$'s *thm*
6. $\Delta RXQ \cong \Delta SXT$	6. AAS

4. Given: $\overline{AB} \cong \overline{CD}; \overline{AE} \cong \overline{FD}$; $\angle A \cong \angle D$

Prove: $\Delta ACE \cong \Delta DBF$



Statements	Reasons
1. $\angle A \cong \angle D$	1. Given
2. $\overline{AE} \cong \overline{FD}$	2. Given
3. $\overline{AB} \cong \overline{CD}$	3. Given
4. $\overline{AC} \cong \overline{BD}$	4. Overlapping Segments Theorem
5. $\Delta ACE \cong \Delta DBF$	5. SAS