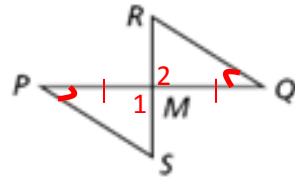


Geometry

Unit One B: Proof Workshop #1 (IC14/15)

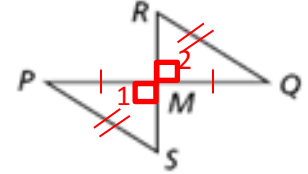
1. Given:  $M$  is the midpt of  $\overline{PQ}$   
 $\angle P \cong \angle Q$

Prove:  $\triangle SMP \cong \triangle RMQ$



2. Given:  $\overline{RS}$  is  $\perp$  bisector of  $\overline{PQ}$   
 $\overline{SP} \cong \overline{RQ}$

Prove:  $\triangle SMP \cong \triangle RMQ$



Statements	Reasons
1) $M$ is the midpt of $\overline{PQ}$	1) Given
2) $\overline{PM} \cong \overline{QM}$	2) Def of midpt
3) $\angle P \cong \angle Q$	3) Given
4) $\angle 1 \cong \angle 2$	4) Vert $\angle$ 's thm
5) $\triangle SMP \cong \triangle RMQ$	5) ASA

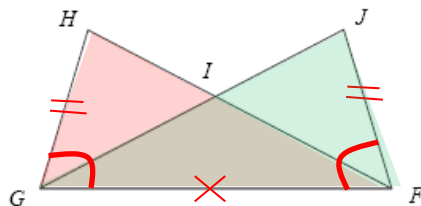
Statements	Reasons
1) $\overline{RS}$ is $\perp$ bisector of	1) Given
2) $\angle 1$ and $\angle 2$ are right $\angle$ 's	2) Def of $\perp$ bisector
3) $\angle 1 \cong \angle 2$ are right $\angle$ 's	3) All right $\angle$ 's $\cong$
4) $\overline{PM} \cong \overline{QM}$	4) Def of bisector
5) $\overline{SP} \cong \overline{RQ}$	5) Given
6) $\triangle SMP \cong \triangle RMQ$	6) HL

Name: \_\_\_\_\_

Date: \_\_\_\_\_ Period: \_\_\_\_\_

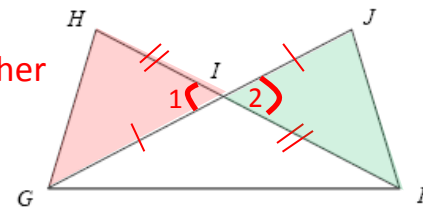
3. Given:  $\overline{HG} \cong \overline{JF}$   
 $\angle HGF \cong \angle JFG$

Prove:  $\triangle HGF \cong \triangle JFG$



4. Given:  $\overline{HF} \cong \overline{JG}$  bisect each other

Prove:  $\triangle HGI \cong \triangle FJI$

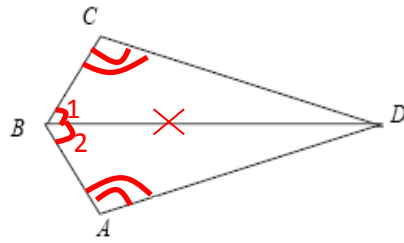


Statements	Reasons
1) $\overline{HG} \cong \overline{JF}$	1) Given
2) $\angle HGF \cong \angle JFG$	2) Given
3) $\overline{GF} \cong \overline{GF}$	3) Reflexive Prop
4) $\triangle HGF \cong \triangle JFG$	4) SAS

Statements	Reasons
1) $\overline{HF} \cong \overline{JG}$ bisect each other	1) Given
2) $\overline{HI} \cong \overline{FI}$	2) Def of seg bisector
3) $\overline{GI} \cong \overline{JI}$	3) Def of seg bisector
4) $\angle 1 \cong \angle 2$	4) Vert $\angle$ 's thm
5) $\triangle HGI \cong \triangle FJI$	5) SAS

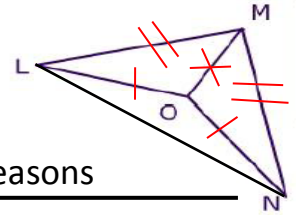
5. Given:  $\overline{BD}$  bisect  $\angle CBA$   
 $\angle C \cong \angle A$

Prove:  $\triangle DAB \cong \triangle DCB$



6. Given:  $\triangle LON$  is isosc with base  $\overline{LN}$   
 $\triangle LMN$  is isosc with base  $\overline{LN}$

Prove:  $\triangle LOM \cong \triangle NOM$



Statements	Reasons
1) $\overline{BD}$ bisect	1) Given
2) $\angle 1 \cong \angle 2$	2) Def of $\angle$ bisector
3) $\angle C \cong \angle A$	3) Given
4) $\overline{BD} \cong \overline{BD}$	4) Reflexive Prop
5) $\triangle DAB \cong \triangle DCB$	5) AAS

Statements	Reasons
1) $\triangle LON$ is isosc with base $\overline{LN}$	1) Given
2) $\overline{LO} \cong \overline{ON}$	2) Def of isosc. $\triangle$
3) $\triangle LMN$ is isosc with base	3) Given
4) $\overline{LM} \cong \overline{MN}$	4) Def of isosc. $\triangle$
5) $\overline{MO} \cong \overline{MO}$	5) Reflexive Prop
6) $\triangle LOM \cong \triangle NOM$	6) SSS