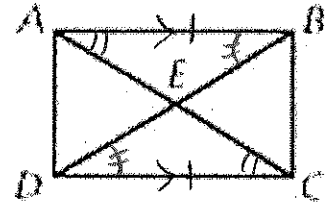


Directions: Complete the proofs below to prove triangles are congruent. Each *Given* fact will be a separate statement.

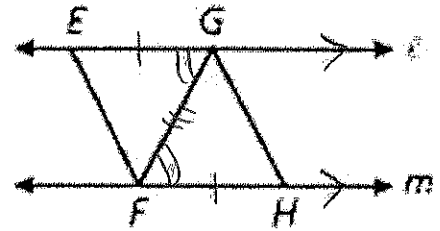
- 1) Given: $\overline{AB} \cong \overline{CD}$, $\overline{AB} \parallel \overline{CD}$.
Prove: $\triangle ABE \cong \triangle CDE$

Statements	Reasons
1. $\overline{AB} \cong \overline{CD}$	1. Given
2. $\overline{AB} \parallel \overline{CD}$	2. Given
3. $\triangle BAC \cong \triangle DCA$	3. Alt. Int. Δ s Thm.
4. $\angle DBA \cong \angle BDC$	4. Alt. Int. Δ s Thm.
5. $\triangle ABE \cong \triangle CDE$	5. ASA



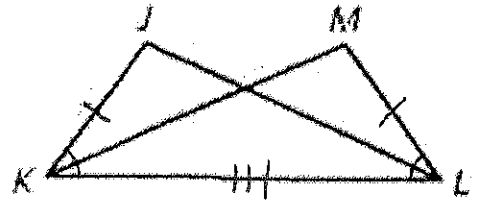
- 2) Given: $\overline{EG} \cong \overline{HF}$, $l \parallel m$.
Prove: $\triangle EGF \cong \triangle HFG$

Statements	Reasons
1. $\overline{EG} \cong \overline{HF}$	1. Given
2. $l \parallel m$	2. Given
3. $\angle EGF \cong \angle HFG$	3. Alt. Int. Δ s Thm.
4. $\overline{GF} \cong \overline{GF}$	4. Ref. Prop.
5. $\triangle EGF \cong \triangle HFG$	5. SAS



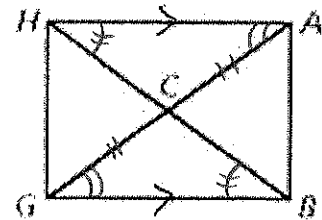
- 3) Given: $\overline{JK} \cong \overline{ML}$, $\angle JKL \cong \angle MLK$.
Prove: $\triangle JKL \cong \triangle MLK$

Statements	Reasons
1. $\overline{JK} \cong \overline{ML}$	1. Given
2. $\angle JKL \cong \angle MLK$	2. Given
3. $\overline{KL} \cong \overline{KL}$	3. Ref. Prop.
4. $\triangle JKL \cong \triangle MLK$	4. SAS



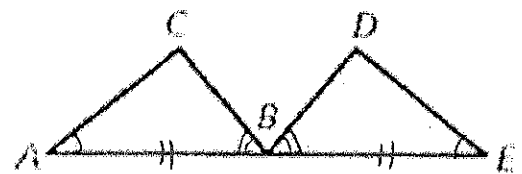
- 4) Given: C is the midpoint of \overline{AG} , $\overline{HA} \parallel \overline{GB}$.
Prove: $\triangle HAC \cong \triangle BGC$

Statements	Reasons
1. C is midpoint of \overline{AG}	1. Given
2. $\overline{GC} \cong \overline{AC}$	2. Def. of midpt.
3. $\overline{HA} \parallel \overline{GB}$	3. Given
4. $\angle HAC \cong \angle BGC$	4. Alt. Int. Δ s Thm.
5. $\angle AHC \cong \angle BGC$	5. Alt. Int. Δ s Thm.
6. $\triangle HAC \cong \triangle BGC$	6. AAS

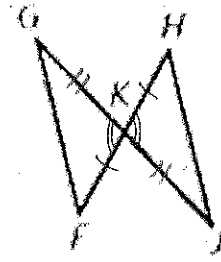


- 5) Given: B is the midpoint of \overline{AE} , $\angle A \cong \angle E$, $\angle ABC \cong \angle EBD$.
Prove: $\triangle ABC \cong \triangle EBD$

Statements	Reasons
1. B is midpt. of \overline{AE}	1. Given
2. $\overline{AB} \cong \overline{EB}$	2. Def. of midpt.
3. $\angle A \cong \angle E$	3. Given
4. $\angle ABC \cong \angle EBD$	4. Given
5. $\triangle ABC \cong \triangle EBD$	5. ASA

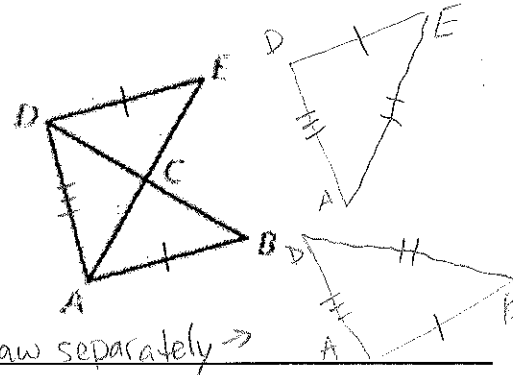


- 6) Given: \overline{GJ} bisects \overline{HF} , \overline{HF} bisects \overline{GJ} .
 Prove: $\triangle FGK \cong \triangle HJK$



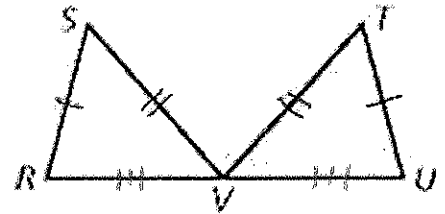
Statements	Reasons
1. GJ bisects HF	1. Given
2. $HK \cong FK$	2. Def. of bisect
3. HF bisects GJ	3. Given
4. $GK \cong JK$	4. Def. of bisect
5. $\triangle GKF \cong \triangle JKH$	5. Vertical \angle s are \cong
6. $\triangle FGK \cong \triangle HJK$	6. SAS

- 7) Given: $\overline{AB} \cong \overline{DE}$, $\overline{DB} \cong \overline{AE}$.
 Prove: $\triangle ADB \cong \triangle DAE$



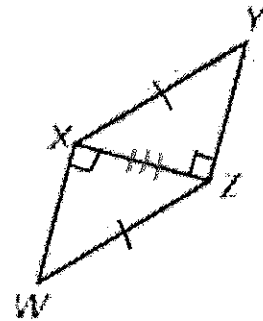
Statements	Reasons
1. $AB \cong DE$	1. Given
2. $DB \cong AE$	2. Given
3. $DA \cong DA$	3. Ref. Prop.
4. $\triangle ADB \cong \triangle DAE$	4. SSS

- 8) Given: $\overline{RS} \cong \overline{UT}$, $\overline{VS} \cong \overline{VT}$, and V is the midpoint of \overline{RU} .
 Prove: $\triangle RSV \cong \triangle UTV$



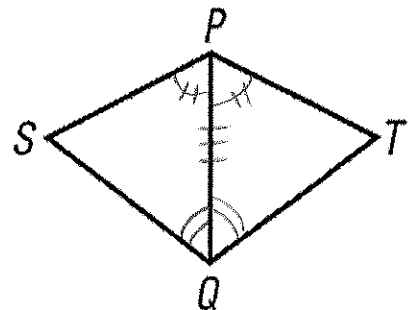
Statements	Reasons
1. $RS \cong UT$	1. Given
2. $VS \cong VT$	2. Given
3. V is midpt. of RU	3. Given
4. $RV \cong UV$	4. Def. of midpt.
5. $\triangle RSV \cong \triangle UTV$	5. SSS

- 9) Given: $\overline{WX} \perp \overline{XZ}$, $\overline{YZ} \perp \overline{ZX}$, $\overline{WZ} \cong \overline{YX}$.
 Prove: $\triangle WZX \cong \triangle YXZ$



Statements	Reasons
1. $WX \perp XZ$	1. Given
2. $\triangle WZX$ is a rt. \triangle	2. Def. of perp.
3. $YZ \perp ZX$	3. Given
4. $\triangle YXZ$ is a rt. \triangle	4. Def. of perp.
5. $WZ \cong YX$	5. Given
6. $XZ \cong XZ$	6. Ref. Prop.
7. $\triangle WZX \cong \triangle YXZ$	7. HL

- 10) Given: \overline{PQ} bisects $\angle SPT$, \overline{PQ} bisects $\angle SQT$.
 Prove: $\triangle SPQ \cong \triangle TPQ$



Statements	Reasons
1. PQ bisects $\angle SPT$	1. Given
2. $\triangle SPQ \cong \triangle TPQ$	2. Def. of bisect
3. PQ bisects $\angle SQT$	3. Given
4. $\triangle SQP \cong \triangle TQP$	4. Def. of bisect
5. $PQ \cong PQ$	5. Ref. Prop.
6. $\triangle SPQ \cong \triangle TPQ$	6. ASA