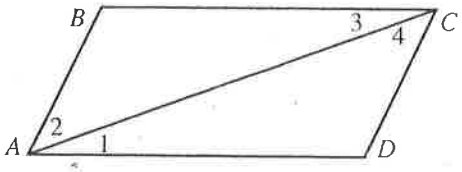
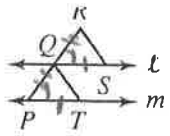
Complete each proof.



1. Given: $\overline{AB} \parallel \overline{DC}, \overline{BC} \parallel \overline{AD}$
Prove: $\triangle ABC \cong \triangle CDA$

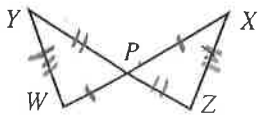
Proof Statements	Reasons
1. $\overline{AB} \parallel \overline{DC}$, $\overline{BC} \parallel \overline{AD}$	1. Given
2. $\angle 1 \cong \angle 3$, $\angle 2 \cong \angle 4$	2. Alt. Int $\angle$s Thm.
3. $\overline{AC} \cong \overline{AC}$	3. Reflexive
4. $\triangle ABC \cong \triangle CDA$	4. ASA

2. Given: $\ell \parallel m$, $\overline{PT} \cong \overline{QS}$, Q is the midpoint of PR.
Prove: $\triangle PQT \cong \triangle QRS$



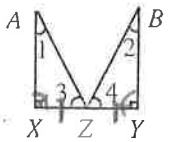
Proof Statements	Reasons
1. $\ell \parallel m$	1. Given
2. $\angle Q \cong \angle P$	2. Corr. $\angle$s Post.
3. $\overline{PT} \cong \overline{QS}$, Q is mp of PR	3. Given
4. $\overline{PQ} \cong \overline{RQ}$	4. Def of m.p.
5. $\triangle PQT \cong \triangle QRS$	5. ASA

3. Given: $\overline{YZ}$ bisects $\overline{WX}$ at P. $\overline{WX}$ bisects $\overline{YZ}$ at P. $\overline{WY} \cong \overline{ZX}$
Prove: $\triangle WYP = \triangle XZP$



Proof Statements	Reasons
1. $\overline{YZ}$ bisects $\overline{WX}$ at P $\overline{WX}$ bisects $\overline{YZ}$ at P	1. Given
2. $\overline{WP} \cong \overline{XP}$, $\overline{YP} \cong \overline{ZP}$	2. Def of bisects
3. $\overline{WY} \cong \overline{ZX}$	3. Given
4. $\triangle WYP \cong \triangle XZP$	4. SSS

4. Write a two-column proof.



Given: $\overline{AX} \perp \overline{XY}, \overline{BY} \perp \overline{XY}$, Z is the midpoint of $\overline{XY}$. $\angle 1 \cong \angle 2$
Prove: $\triangle AXZ \cong \triangle BYZ$

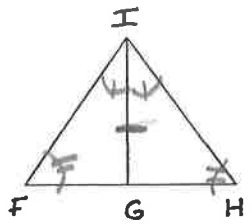
Statements	Reasons
1. $\overline{AX} \perp \overline{XY}$, $\overline{BY} \perp \overline{XY}$	1. Given
2. $\angle X$ + $\angle Y$ are rt $\angle$s	2. Def of $\perp$
3. $\angle X \cong \angle Y$	3. All rt $\angle$s are $\cong$
4. Z is mp of $\overline{XY}$	4. Given
5. $\overline{XZ} \cong \overline{YZ}$	5. Def of m.p
6. $\angle 1 \cong \angle 2$	6. Given
7. $\triangle AXZ \cong \triangle BYZ$	7. AAS

5.

Given: $\overline{IG}$ bisects $\angle FIH$

$\angle F \cong \angle H$

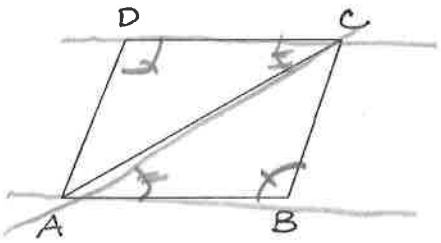
Prove: $\Delta FGI \cong \Delta HGI$



Statements	Reasons
1. $\overline{IG}$ bisects $\angle FIH$	1. Given
2. $\angle FIG \cong \angle HIG$	2. Def of bisects
3. $\angle F \cong \angle H$	3. Given
4. $\overline{IG} \cong \overline{IG}$	4. Reflexive
5. $\Delta FGI \cong \Delta HGI$	5. AAS

6. Given: $\angle B \cong \angle D$, $\overline{DC} \parallel \overline{AB}$

Prove: $\Delta ABC \cong \Delta CDA$

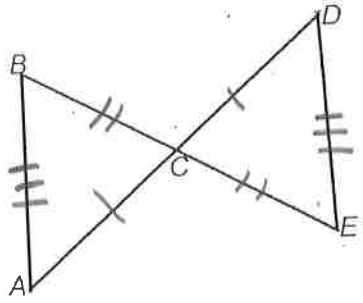


Statements	Reasons
1. $\angle B \cong \angle D$	1. Given
2. $\overline{DC} \parallel \overline{AB}$	2. Given
3. $\angle DCA \cong \angle BAC$	3. Alt. Int. $\angle$'s Thm.
4. $\overline{AC} \cong \overline{AC}$	4. Reflexive
5. $\Delta ABC \cong \Delta CDA$	5. AAS

7.

Given: $\overline{BA} \cong \overline{ED}$
C is the midpoint of $\overline{BE}$ and $\overline{AD}$

Prove: $\triangle ABC \cong \triangle DEC$

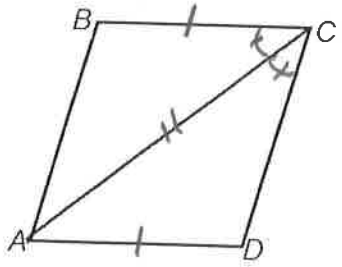


Statements	Reasons
1. $\overline{BA} \cong \overline{ED}$	1. Given
2. C is mp. of $\overline{BE}$ & $\overline{AD}$	2. Given
3. $\overline{BC} \cong \overline{EC}$ $\overline{AC} \cong \overline{DC}$	3. Def of m.p.
4. $\triangle ABC \cong \triangle DEC$	4. SSS

8.

Given: $\overline{BC} \cong \overline{DA}$
$\overline{AC}$ bisects $\angle BCD$

Prove: $\triangle ABC \cong \triangle CDA$

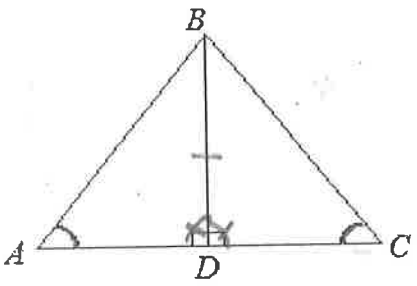


Statements	Reasons
1. $\overline{BC} \cong \overline{DA}$	1. Given
2. $\overline{AC}$ bisects $\angle BCD$	2. Given
3. $\angle BCA \cong \angle DCA$	3. Def of bisects
4. $\overline{AC} \cong \overline{AC}$	4. Reflexive
5. $\triangle ABC \cong \triangle CDA$	5. SAS

9.

Given: $\angle ADB$ and $\angle CDB$ are right angles
$\angle A \cong \angle C$

Prove: $\Delta ADB = \Delta CDB$

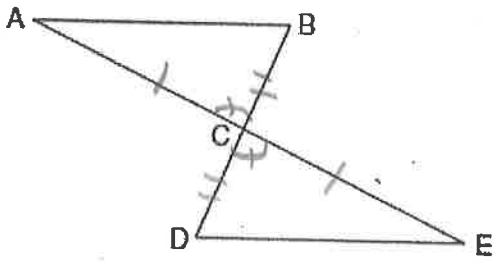


Statements	Reasons
1. $\angle ADB$ & $\angle CDB$ are rt $\angle$'s	1. Given
2. $\angle ADB \cong \angle CDB$	2. All rt $\angle$'s are $\cong$
3. $\angle A \cong \angle C$	3. Given
4. $\overline{BD} \cong \overline{BD}$	4. Reflexive
5. $\Delta ADB \cong \Delta CDB$	5. AAS

10.

Given: C is the midpoint of BD and AE

Prove: $\triangle ABC \cong \triangle EDC$



Statements	Reasons
1. C is m.p. of $\overline{BD}$ & $\overline{AE}$	1. Given
2. $\overline{AC} \cong \overline{EC}$, $\overline{BC} \cong \overline{DC}$	2. Def of m.p.
3. $\angle ACB \cong \angle ECD$	3. Vert $\angle$'s are $\cong$
4. $\triangle ABC \cong \triangle EDC$	4. SAS