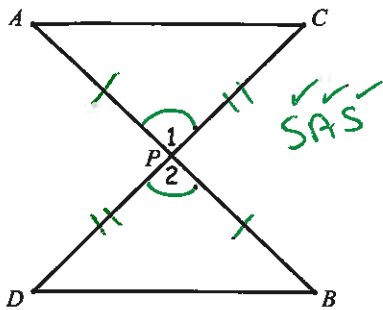


SSS, SAS, ASA, AAS Proofs: Complete a proof for each (2-column, paragraph, or flow chart)

1. Given: \overline{AB} & \overline{CD} bisect each other at P.

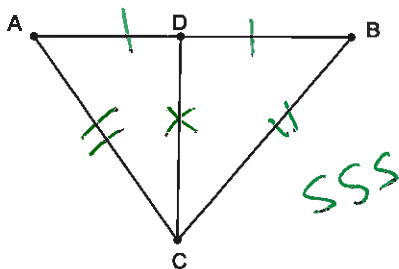
Prove: $\triangle ACP \cong \triangle BDP$



Statements	Reasons
1. \overline{AB} & \overline{CD} bisect each other at P.	① Given.
2. P midpt. of \overline{AB} P midpt. of \overline{CD}	② Seg. bisector goes through midpt.
3. $\overline{AP} \cong \overline{BP}$ $\overline{DP} \cong \overline{CP}$	③ midpt makes 2 \cong segs.
4. $\angle 1$ vertical to $\angle 2$	④ non-adj. \angle 's formed by 2 int lines are vert.
5. $\angle 1 \cong \angle 2$	⑤ vert. \angle 's \cong .
6. $\triangle ACP \cong \triangle BDP$	⑥ SAS.

2. Given: \overline{CD} bisects \overline{AB} at D
 $\overline{AC} \cong \overline{BC}$

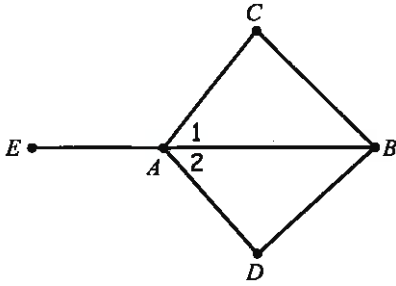
Prove: $\triangle ADC \cong \triangle BDC$



Statements	Reasons
1. \overline{CD} bisects \overline{AB} at D. $\overline{AC} \cong \overline{BC}$	① Given
2. D midpt. of \overline{AB}	② Seg. bisector goes through the midpt.
3. $\overline{AD} \cong \overline{BD}$	③ midpt makes 2 \cong segs.
4. $\overline{CD} \cong \overline{CD}$	④ Reflexive
5. $\triangle ADC \cong \triangle BDC$	⑤ SSS

3. Given: \overline{EAB}
 $\angle EAC \cong \angle EAD$
 $\overline{CA} \cong \overline{DA}$

Prove: $\triangle ACB \cong \triangle ADB$

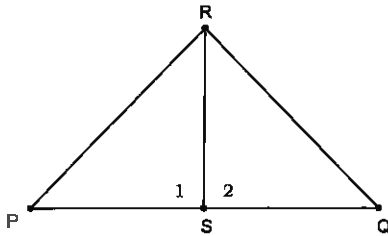


Statements

1. \overline{EAB}
 $\angle EAC \cong \angle EAD$
 $\overline{CA} \cong \overline{DA}$
2. $\angle 1$ supplementary to $\angle EAC$
 $\angle 2$ supplementary to $\angle EAD$
3. $\angle 1 \cong \angle 2$
4. $\overline{AB} \cong \overline{AB}$
5. $\triangle ACB \cong \triangle ADB$

4. Given: $\overline{RS} \perp \overline{PQ}$
 \overline{RS} bisects $\angle PRQ$

Prove: $\triangle PRS \cong \triangle QRS$

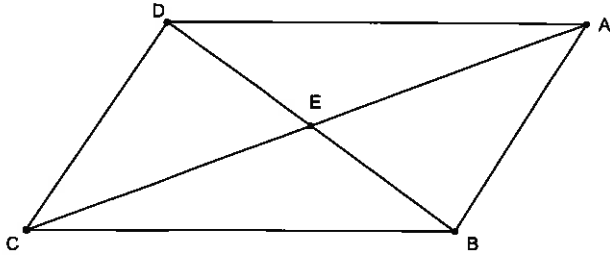


Statements

1. $\overline{RS} \perp \overline{PQ}$
 \overline{RS} bisects $\angle PRQ$
2. $\angle 1$ is a right angle
 $\angle 2$ is a right angle
3. $\angle 1 \cong \angle 2$
4. $\overline{RS} \cong \overline{RS}$
5. $\angle PRS \cong \angle QRS$
6. $\triangle PRS \cong \triangle QRS$

5. Given: $\overline{DA} \parallel \overline{CB}$
 \overline{AC} bisects \overline{DB} at E

Prove: $\triangle DEA \cong \triangle BEC$

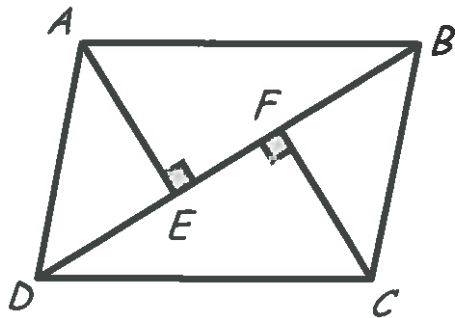


Statements

1. $\overline{DA} \parallel \overline{CB}$
 \overline{AC} bisects \overline{DB} at E
2. $\angle ADE \cong \angle CBE$
3. E is midpoint of \overline{DB}
4. $\overline{DE} \cong \overline{BE}$
5. $\angle DEA$ vertical to $\angle BEC$
6. $\angle DEA \cong \angle BEC$
7. $\triangle DEA \cong \triangle BEC$

6. Given: $\overline{AE} \cong \overline{FC}$
 $\overline{DE} \cong \overline{BF}$
 $\overline{AE} \perp \overline{DEFB}$
 $\overline{CF} \perp \overline{DEFB}$

Prove: $\triangle AEB \cong \triangle CFD$



Statements

1. $\overline{AE} \cong \overline{FC}$
 $\overline{AE} \perp \overline{DEFB}$
 $\overline{CF} \perp \overline{DEFB}$
2. $\angle AEB$ is a right angle
 $\angle CFD$ is a right angle
3. $\angle AEB \cong \angle CFD$
4. $DE = BF$
5. $DE + EF = BE + EF$
6. $DF = BE$
7. $\triangle AEB \cong \triangle CFD$