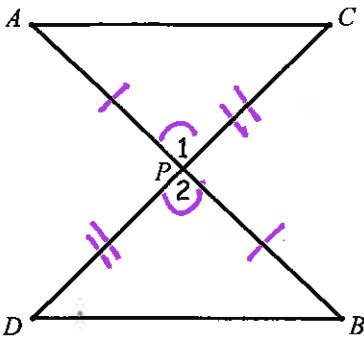


SSS, SAS, ASA, AAS Proofs: Complete a proof for each (2-column or flow chart)

Class Demo:

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

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



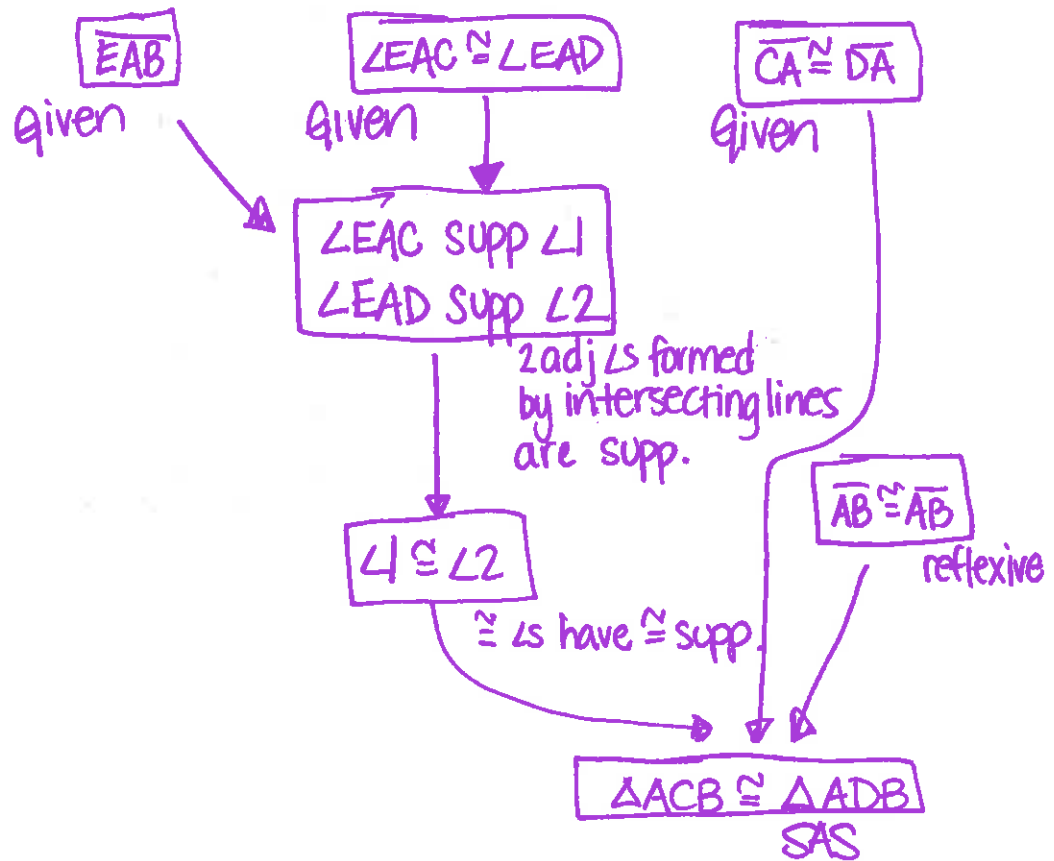
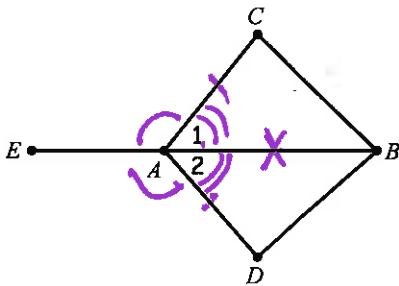
- ① \overline{AB} & \overline{CD} bisect @ P
- ② P is midpt \overline{AB} & \overline{CD}
- ③ $\overline{AP} \cong \overline{PB}$
 $\overline{CP} \cong \overline{PD}$
- ④ $\angle 1 \cong \angle 2$
- ⑤ $\triangle ACP \cong \triangle BDP$

- ① given
- ② seg bis passes thru midpt.
- ③ midpt \div seg into 2 \cong seg.
- ④ vertical \angle s \cong
- ⑤ SAS

Group Activity:

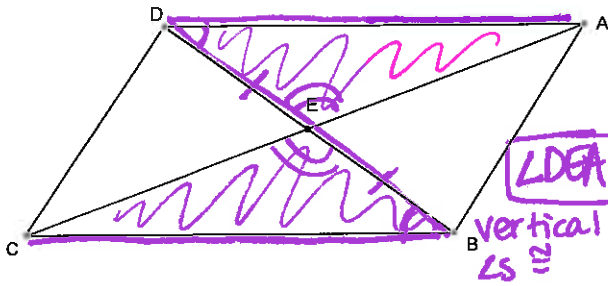
1. Given: \overline{EAB}
 $\angle EAC \cong \angle EAD$
 $\overline{CA} \cong \overline{DA}$

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



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

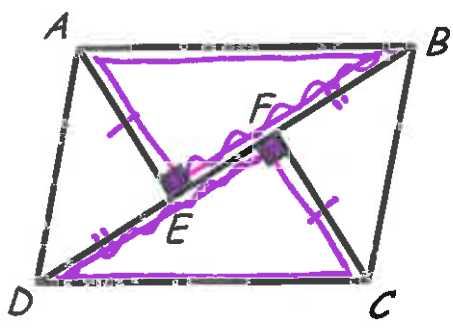
Prove: $\triangle DEA \cong \triangle BEC$



$\overline{DA} \parallel \overline{CB}$ Given
 $\angle ADE \cong \angle CBE$ 2 // lines cut by a trans, alt int $\angle s \cong$
 $\angle DEA \cong \angle BEC$ Vertical $\angle s \cong$
 $\triangle DEA \cong \triangle BEC$ ASA
 \overline{AC} bis \overline{DB} @ E Given
E is midpt \overline{DB} seg bis pass thru midpt
 $\overline{DE} \cong \overline{BE}$ midpt \div seg into 2 \cong seg

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

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



- ① $\overline{AE} \cong \overline{FC}$ Given
 $\rightarrow \overline{DE} \cong \overline{BF}$
 $\overline{AE} \perp \overline{DEFB}$
 $\overline{CF} \perp \overline{DEFB}$
 ② $\angle AEB$ & $\angle CFD$ rt $\angle s$ ② \perp lines form rt $\angle s$.
 ③ $\angle AEB \cong \angle CFD$ ③ all rt $\angle s \cong$.
 ④ $DE + EF = BF + FE$ ④ add prop of eq.
 ⑤ $DE + EF = DF$ ⑤ Segment Addition
 $BF + FE = BE$
 ⑥ $DF = BE; \overline{DF} \cong \overline{BE}$ ⑥ Substitution
 ⑦ $\triangle AEB \cong \triangle CFD$ ⑦ SAS