

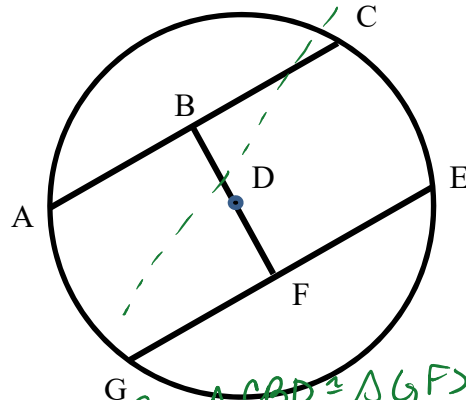
Please remember this is only one way to do the proofs!

1. Given: Circle D

$$\overline{DB} \perp \overline{AC}, \overline{DF} \perp \overline{GE}$$

D is a midpoint of \overline{BF}

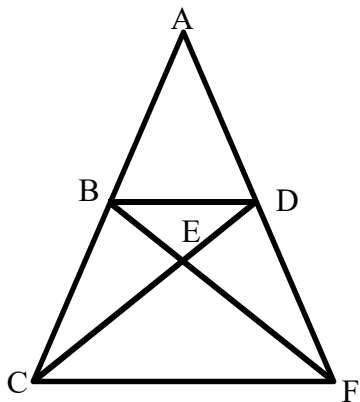
Prove: $\overline{AC} \parallel \overline{GE}$



Statements	Reasons
1. Circle D	1. Given
2. $\overline{DB} \perp \overline{AC}, \overline{DF} \perp \overline{GE}$	2. Given
3. D is a midpt of \overline{BF}	3. Given
4. $\overline{BD} \cong \overline{DF}$	4. Def. of midpt
5. $\angle CBD, \angle DFG$ are \perp	5. If $\perp \rightarrow \perp$
6. $\angle CBD \cong \angle DFG$	6. If \perp 's $\rightarrow \cong$
7. Draw in $\overline{CD} + \overline{DG}$	7. 2 pts determine a line
8. $\overline{CD} \cong \overline{DG}$	8. All radii of same circle are \cong

9. $\triangle CBD \cong \triangle DFG$ HL
10. $\angle BCD \cong \angle FGD$ CPCTC
11. $\overline{AC} \parallel \overline{GE}$ If alt. int \angle 's are $\cong \rightarrow \parallel$

2. Given: Triangle ACF is isosceles with base \overline{CF}
Triangle BED is isosceles with base \overline{BD}
 $\overline{BD} \parallel \overline{CF}$
Prove: $\overline{BC} \cong \overline{DF}$



Statements	Reasons
1. $\triangle ACF$ is isos	1. Given
2. $\triangle BED$ is isos	2. Given
3. $\overline{BD} \parallel \overline{CF}$	3. Given
4. $\overline{AC} \cong \overline{AF}$	4. If isos $\rightarrow \cong$
5. $\angle BCF \cong \angle DFC$	5. If isos $\rightarrow \cong$
6. $\angle BCF \cong \angle ABD$ $\angle DFC \cong \angle ADB$	6. If $\parallel \rightarrow$ corr. \angle 's are \cong
7. $\angle ABD \cong \angle ADB$	7. Transitive
8. $\overline{AB} \cong \overline{AD}$	8. If $\triangle \rightarrow \triangle$
9. $\overline{BC} \cong \overline{DF}$	9. Subtraction

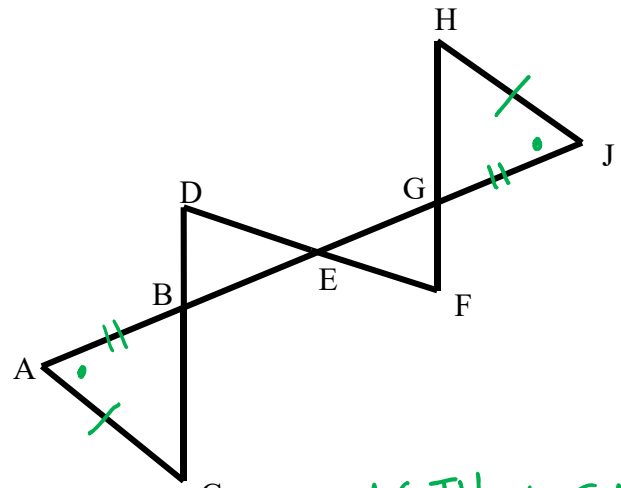
3. Given: $\overline{AC} \parallel \overline{HJ}$, $\overline{AC} \cong \overline{HJ}$

$\overline{AE} \cong \overline{EJ}$

B is a midpoint of \overline{AE}

G is a midpoint of \overline{EJ}

Prove: $\overline{DC} \parallel \overline{HF}$



S	R
1. $\overline{AC} \parallel \overline{HJ}$ $\overline{AC} \cong \overline{HJ}$ B is midpt \overline{AE} G is midpt \overline{EJ}	1. Given
2. $\overline{AB} \cong \overline{GJ}$	2. Division
3. $\angle A \cong \angle J$	3. If $\parallel \rightarrow$ alt. int \angle 's are \cong

4. $\triangle BAC \cong \triangle GJH$ 4. SAS
 5. $\angle ABC \cong \angle JGH$ 5. CPCTC
 6. $\overline{DC} \parallel \overline{HF}$ 6. If alt. ext \angle 's are $\cong \rightarrow \parallel$ lines

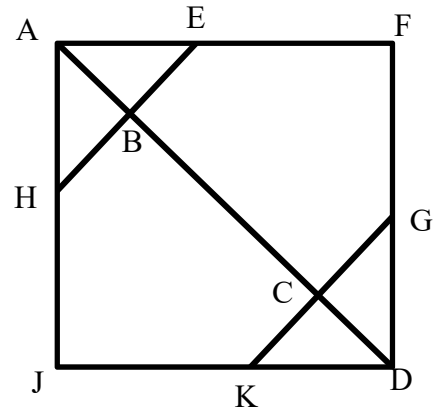
4. Given: $\overline{AF} \parallel \overline{JD}$

$\overline{AC} \cong \overline{BD}$

$\overline{AF} \cong \overline{JD}$

$\overline{EF} \cong \overline{JK}$

Prove: $\angle ABE$ is supplementary to $\angle GCD$



Statements	Reasons
1. $\overline{AF} \parallel \overline{JD}$	1. Given
2. $\angle FAD \cong \angle JDA$	2. If $\parallel \rightarrow$ alt. int \angle 's are \cong
3. $\overline{AC} \cong \overline{BD}$	3. Given
4. $\overline{AB} \cong \overline{CD}$	4. Subtraction
5. $\overline{AF} \cong \overline{JD}$	5. Given
6. $\overline{EF} \cong \overline{JK}$	6. Given
7. $\overline{AE} \cong \overline{KD}$	7. Subtraction

8. $\triangle AEB \cong \triangle DCK$ SAS
 9. $\angle EBA \cong \angle KCD$ CPCTC
 10. $\overline{HE} \parallel \overline{KG}$ If alt. ext angles are $\cong \rightarrow \parallel$
 11. $\angle ABE$ supp $\angle GCD$ If $\parallel \rightarrow$ same side ext \angle 's are supp