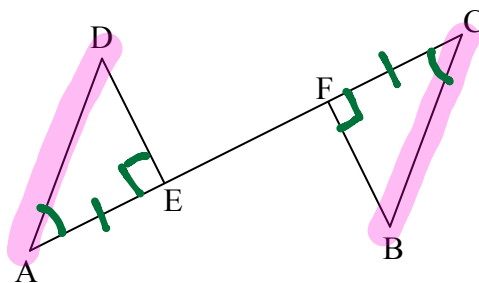


1. **Given:** $\overline{AE} \cong \overline{FC}$; $\overline{DE} \perp \overline{AC}$; $\overline{BF} \perp \overline{AC}$; $\overline{AD} \parallel \overline{BC}$;

Prove: $\triangle ADE \cong \triangle CBF$

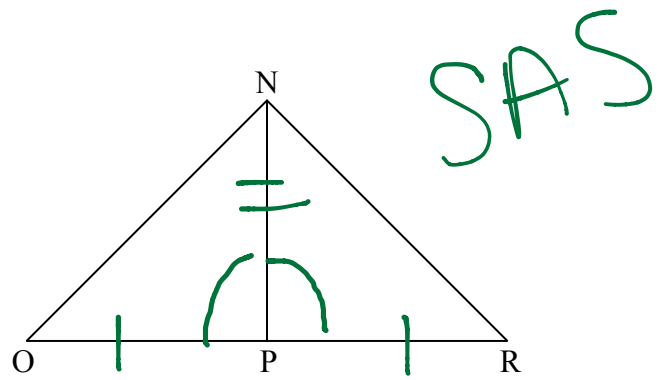
ASA



Statements	Reasons
1. $\overline{DE} \perp \overline{AC}$; $\overline{BF} \perp \overline{AC}$	1. Given
2. $\angle DEA$ is a right $\angle$ $\angle FBC$ is a right $\angle$	2. $\perp$ lines form right $\angle$ s
3. $\angle DEA \cong \angle FBC$ (A)	3. all right $\angle$ s are $\cong$
4. $\overline{AE} \cong \overline{FC}$ (S)	4. Given
5. $\overline{AD} \parallel \overline{BC}$	5. Given
6. $\angle DAE \cong \angle BCF$ (A)	6. If lines are $\parallel$, alt. int $\angle$ s are $\cong$
7. $\triangle ADE \cong \triangle CBF$	7. ASA

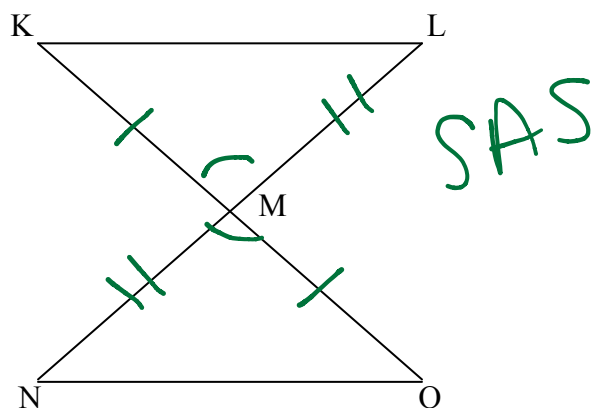
2. **Given:** $\angle NPO \cong \angle NPR$;
P is the midpt. of $\overline{OR}$

Prove: $\angle ONP \cong \angle RNP$



Statements	Reasons
1. P is the midpt of $\overline{OR}$	1. Given
2. $\overline{OP} \cong \overline{RP}$ (S)	2. midpt theorem
3. $\angle NPO \cong \angle NPR$ (A)	3. Given
4. $\overline{NP} \cong \overline{NP}$ (S)	4. Reflexive prop of $\cong$ Segs
5. $\triangle ONP \cong \triangle RNP$	5. SAS
6. $\angle ONP \cong \angle RNP$	6. CPCTC

6. **Given:** $\overline{NL}$ bisects $\overline{KO}$; M is the midpoint of $\overline{NL}$
Prove: $\triangle KLM \cong \triangle ONM$

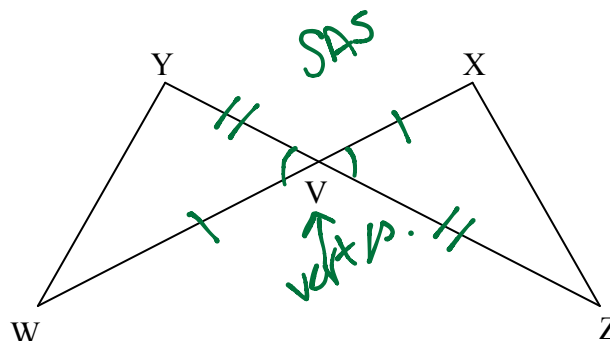


Statements	Reasons
1. $\overline{NL}$ bisects $\overline{KO}$	1. Given
2. $\overline{KM} \cong \overline{OM}$ (S)	2. def of seg bisector
3. $\angle NMO \cong \angle KML$ (A)	3. vertical $\angle$ s are $\cong$
4. M is the midpt of $\overline{NL}$	4. Given
5. $\overline{NM} \cong \overline{LM}$ (S)	5. midpoint theorem (def of midpt)
6. $\triangle KLM \cong \triangle ONM$	6. SAS

Name _____ Per. _____ Date _____
 Geometry Ch. 4 proofs w.s.

1. **Given:** V is the midpt. of $\overline{YZ}$.
 V is the midpt. of $\overline{WX}$.

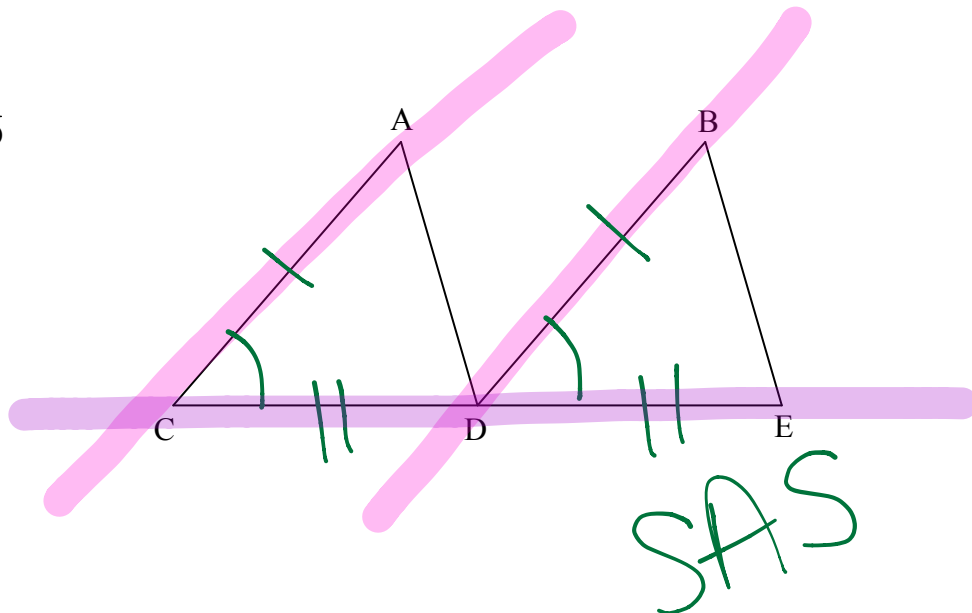
Prove: $\triangle XVZ \cong \triangle WVY$



Statements	Reasons
1. V is the midpoint of $\overline{YZ}$	1. Given
2. $\overline{YV} \cong \overline{ZV}$ (S)	2. midpoint theorem
3. $\angle YVW \cong \angle ZVX$ (A)	3. vertical $\angle$ s are $\cong$
4. V is the midpt of $\overline{WX}$	4. Given
5. $\overline{WV} \cong \overline{XV}$ (S)	5. midpoint theorem
6. $\triangle XVZ \cong \triangle WVY$	6. SAS

2. Given: $\overline{AC} \parallel \overline{BD}$; $\overline{AC} \cong \overline{BD}$
 $\overline{AD}$ bisects $\overline{CE}$

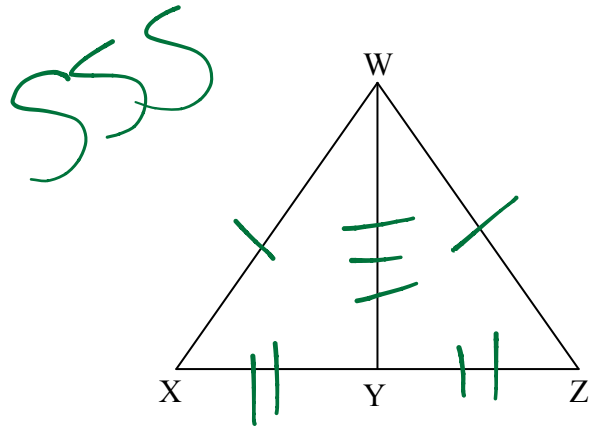
Prove: $\triangle ACD \cong \triangle BDE$



Statements	Reasons
1. $\overline{AC} \cong \overline{BD}$ (S)	1. Given
2. $\overline{AC} \parallel \overline{BD}$	2. Given
3. $\angle ACD \cong \angle BDE$ (A)	3. If lines are $\parallel$, corresponding $\angle$ s are $\cong$.
4. $\overline{AD}$ bisects $\overline{CE}$	4. Given
5. $\overline{CD} \cong \overline{DE}$ (S)	5. def of seg bisector
6. $\triangle ACD \cong \triangle BDE$	6. SAS

4. **Given:** $\overline{WX} \cong \overline{WZ}$
 Y is the midpt. of $\overline{XZ}$

Prove: $\angle X \cong \angle Z$



Statements	Reasons
1. $\overline{WX} \cong \overline{WZ}$ (S)	1. Given
2. Y is the midpt of $\overline{XZ}$	2. Given
3. $\overline{XY} \cong \overline{ZY}$ (S)	3. midpoint theorem
4. $\overline{WY} \cong \overline{WY}$ (S)	4. reflexive prop of $\cong$ Segs
5. $\triangle XYW \cong \triangle ZYW$	5. SSS
6. $\angle X \cong \angle Z$	6. CPCTC