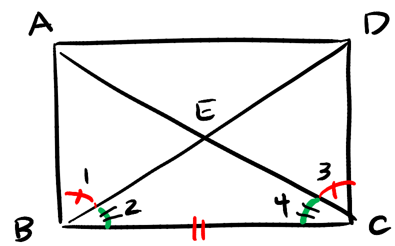
Section 3.5 pgs. 140 – 141

#6, 8 – 10, 12

#6 Given: $\angle 1$ is comp. to $\angle 2$
$\angle 3$ is comp. to $\angle 4$
$\angle 1 \cong \angle 3$

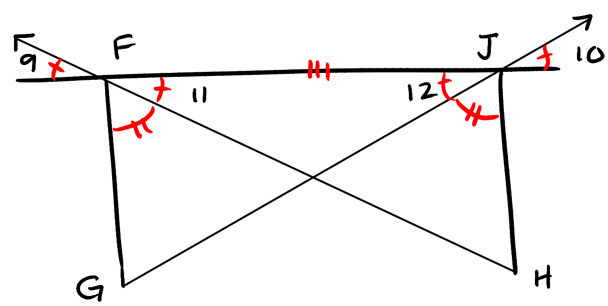
Conclusion: $\overline{AB} \cong \overline{CD}$



Statements	Reasons
1.) $\angle 1$ is comp. to $\angle 2$	1.) Given
2.) $\angle 3$ is comp. to $\angle 4$	2.) Given
3.) $\angle 1 \cong \angle 3$	3.) Given
4.) $\angle 2 \cong \angle 4$ (A)	4.) If 2 ∡'s are comp. to ≅ ∡'s → ∡'s ≅
5.) $\angle ABC \cong \angle DCB$ (A)	5.) Addition property
6.) $\overline{BC} \cong \overline{BC}$ (S)	6.) Reflexive property
7.) $\triangle ABC \cong \triangle DCB$	7.) ASA (4, 6, 5)
8.) $\overline{AB} \cong \overline{CD}$	8.) CPCTC

#8 Given: $\angle 9 \cong \angle 10$
$\angle GFH \cong \angle HJG$

Conclusion: $\overline{FG} \cong \overline{JH}$



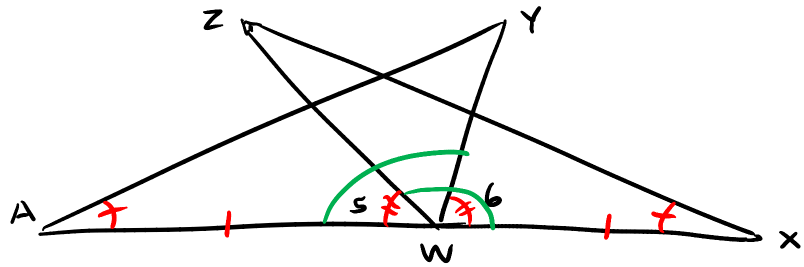
Statements	Reasons
1.) $\angle 9 \cong \angle 10$	1.) Given
1.5) $\angle 9$ and $\angle 11$ are V.A.	1.5) Assumed
2.) $\angle 9 \cong \angle 11$	2.) Vert. ∡'s ≅
2.5) $\angle 10$ and $\angle 12$ are V.A	2.5) Assumed
3.) $\angle 10 \cong \angle 12$	3.) Same as 2.
4.) $\angle 11 \cong \angle 12$ (A)	4.) Transitive prop. (If 2 ∡'s are ≅ to ≅ ∡'s → ∡'s ≅)
5.) $\angle GFH \cong \angle HJG$	5.) Given
6.) $\angle GFJ \cong \angle HJF$ (A)	6.) Addition prop
7.) $\overline{FJ} \cong \overline{FJ}$ (S)	7.) Reflexive prop.
8.) $\triangle GFJ \cong \triangle HJF$	8.) ASA (4, 7, 6)
9.) $\overline{FG} \cong \overline{JH}$	9.) CPCTC

#9 Given: $\overline{YW}$ bisects $\overline{AX}$

$\angle A \cong \angle X$

$\angle 5 \cong \angle 6$

Conclusion: $\overline{ZW} \cong \overline{YW}$



2)

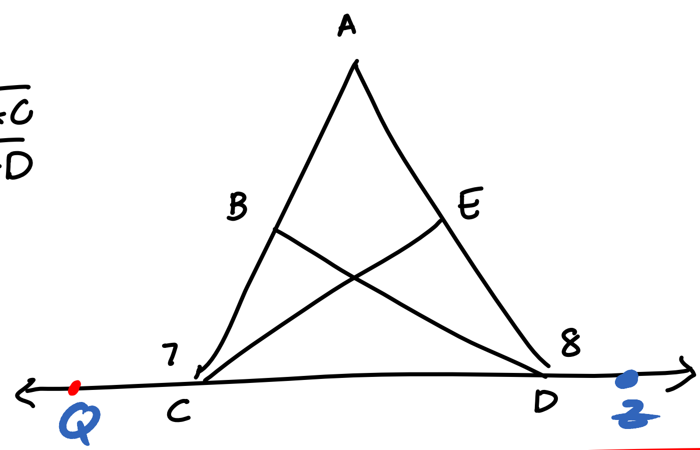
#10 Given: B is the midpt of $\overline{AC}$

E is the midpt of $\overline{AD}$

$\measuredangle 7 \cong \measuredangle 8$

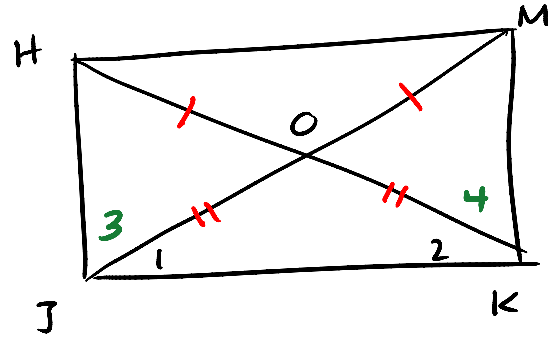
$\measuredangle ECD \cong \measuredangle BDC$

Prove: $\overline{AC} \cong \overline{AD}$



1. B is the midpt of $\overline{AC}$	1. Given
2. E is the midpt of $\overline{AD}$	2. Given
3. $\measuredangle 7 \cong \measuredangle 8$	3. Given
4. $\measuredangle$ QCD is a str. $\measuredangle$, $\measuredangle$QDZ is str $\measuredangle$.	4. Assumed
5. $\measuredangle 7$ is supp to $\measuredangle$ ACD	5. If 2 $\measuredangle$'s form a str. $\measuredangle$ → $\measuredangle$'s supp
6. $\measuredangle 8$ is supp to $\measuredangle$ ADC	6. " "
7. $\measuredangle$ ACD $\cong$ $\measuredangle$ ADC (A)	7. If 2 $\measuredangle$'s are supp to $\cong$ $\measuredangle$'s → $\measuredangle$'s $\cong$
8. $\measuredangle$ ECD $\cong$ $\measuredangle$ BDC (A)	8. Given
9. $\overline{CD} \cong \overline{CD}$ (S)	9. Reflexive property
10. $\triangle BCD \cong \triangle EDC$	10. ASA (7, 9, 8)
11. $\overline{BC} \cong \overline{ED}$	11. CPCTC
12. $\overline{AC} \cong \overline{AD}$	12. If 2 segs are $\cong$ → their like multiples are $\cong$

#12 Given $\overline{HO} \cong \overline{MO}$
$\overline{JO} \cong \overline{KO}$
$\overline{HJ}$ is an altitude of $\triangle HJK$
$\overline{MK}$ is an altitude of $\triangle MKJ$



Prove: $\measuredangle 1 \cong \measuredangle 2$

1. $\overline{HO} \cong \overline{MO}$ S	1. Given
2. $\overline{JO} \cong \overline{KO}$ S	2. Given
3. $\measuredangle HOJ \cong \measuredangle MOK$ A	3. V.A. are $\cong$
4. $\triangle HOJ \cong \triangle MOK$	4. SAS (2, 3, 1)
5. $\overline{HJ}$ is an alt. of $\triangle HJK$	5. Given
6. $\measuredangle HJK$ is a $\llcorner$	6. If a seg is an alt → forms a $\llcorner$ with the opp. side
7. $\overline{MK}$ is an alt. of $\triangle MKJ$	7. Given
8. $\measuredangle MKJ$ is a $\llcorner$	8. Same as 6
9. $\measuredangle HJK \cong \measuredangle MKJ$	9. If 2 $\measuredangle$'s are right $\measuredangle$'s → $\measuredangle$'s $\cong$
10. $\measuredangle 3 \cong \measuredangle 4$	10. CPCTC
11. $\measuredangle 1 \cong \measuredangle 2$	11. If 2 $\cong$ $\measuredangle$'s are subtracted from 2 $\cong$ $\measuredangle$'s → differences are $\cong$