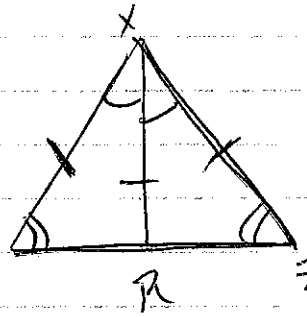
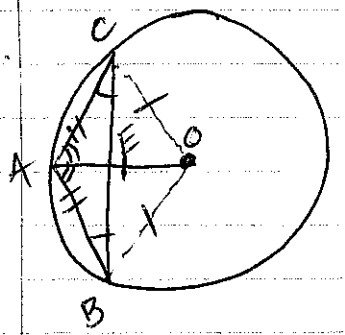
p. 182 # 4, 9, 11

4.



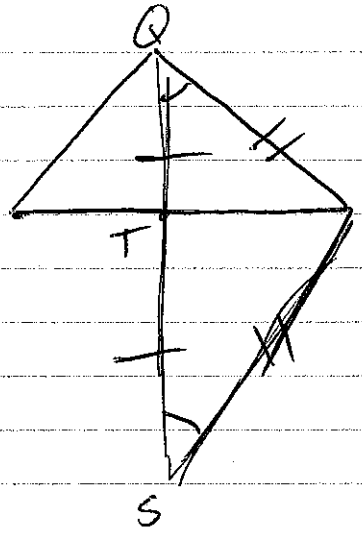
S	R
① $\overline{XR}$ bis $\angle yXz$	① Given
② $\angle y \cong \angle z$	② Given
③ $\angle yXR \cong \angle zXR$	③ Def. of bis.
④ $\overline{Xy} \cong \overline{Xz}$	④ If $\triangle$ Then $\triangle$
⑤ $\overline{XR} \cong \overline{XR}$	⑤ Reflexive Property
⑥ $\triangle XyR \cong \triangle XzR$	⑥ AAS
⑦ $\angle XRy \cong \angle XRz$	⑦ CPCTC
⑧ $\angle XRy$ supp to $\angle XRz$	⑧ sum to 180°
⑨ $\angle XRy$ + $\angle XRz$ are rt $\angle$'s	⑨ If 2 $\angle$'s are $\cong$ + ~~180°~~ supp then they are right
⑩ $\overline{XR}$ is an altitude	⑩ An altitude forms rt $\angle$'s

9.



S	R
① $\odot O$	① Given
② $\angle B \cong \angle C$	② Given
③ $\overline{AC} \cong \overline{AB}$	③ If $\triangle$ then $\triangle$
④ $\overline{OC} \cong \overline{OA} \cong \overline{OB}$	④ All radii are $\cong$
⑤ $\triangle ACO \cong \triangle ABO$	⑤ SSS
⑥ $\angle CAO \cong \angle BAO$	⑥ CPCTC
⑦ $\triangle CAE \cong \triangle BAE$	⑦ ASA
⑧ $\angle BEA \cong \angle CEA$	⑧ CPCTC
⑨ $\angle BEA$ supp to $\angle CEA$	⑨ Sum to 180°
⑩ $\angle BEA$ + $\angle CEA$ are rt $\angle$'s	⑩ If 2 $\angle$'s are supp + $\cong$, then they are rt $\angle$'s
⑪ $\overline{AO} \perp \overline{BC}$	⑪ $\perp$ lines form rt $\angle$'s

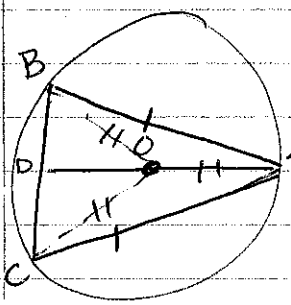
11.



S	R
① $\overline{PR}$ bis $\overline{QS}$	① Given
② $\angle PQT \cong \angle RST$	② Given
③ $\overline{QT} \cong \overline{TS}$	③ Def. of a bis.
④ $\overline{QR} \cong \overline{SR}$	④ If $\triangle$ then $\underline{\triangle}$
⑤ $\overline{PR} \perp \overline{QS}$	⑥ If 2 pts are equidistant from the endpts of a seg, then they determine the $\perp$ bis.

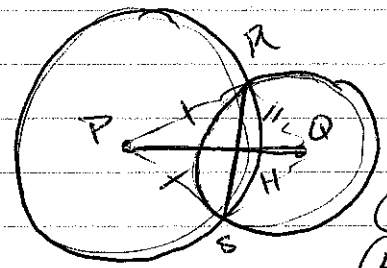
p. 187 #3-5, 7, 12, 14, 15

3.



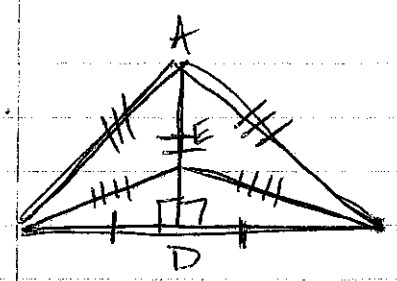
S	R
① $\odot O$	① Given
② $\overline{AB} \cong \overline{AC}$	② Given
③ $\overline{OC} \cong \overline{OB} \cong \overline{OA}$	③ All radii are $\cong$
④ $\triangle OBA \cong \triangle OCA$	④ SSS
⑤ $\overline{AD} \perp$ bis $\overline{BC}$	⑤ If 2 pts are equidistant (pt O + pt A) from the endpts of a seg, then they form the $\perp$ bisector

4.



S	R
① $\odot P$ + $\odot Q$	① Given
② $\overline{PR} \cong \overline{PS}$	② All radii are $\cong$
③ $\overline{QR} \cong \overline{QS}$	③ All radii are $\cong$
④ $\overline{PQ} \perp$ bis $\overline{SR}$	④ If 2 pts are equidist. from the endpts of a seg, then they form the $\perp$ bis.

5.

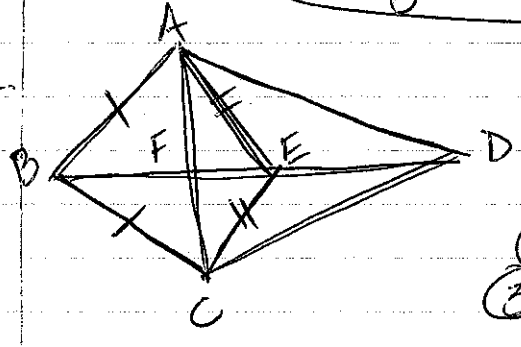


S	R
① $\overline{AD} \perp$ bis. $\overline{BC}$	① Given
② $\overline{BD} \cong \overline{CD}$	② Def of bis.
③ $\angle ADB \cong \angle ADC$	③ $\perp$ lines form 90° $\angle$'s
④ $\overline{AD} \cong \overline{AD}$	④ Reflexive Prop.
⑤ $\triangle ABD \cong \triangle ACD$	⑤ SAS
⑥ $\overline{AB} \cong \overline{AC}$	⑥ If a pt is on the $\perp$ bis. then it is equidist from the endpts of the seg.
⑦ $\overline{BE} \cong \overline{CE}$	⑦ Same as ⑥
⑧ $\triangle ABE \cong \triangle ACE$	⑧ SSS

7. midpt of $\overline{OA}$ = (6, 1)
midpt of $\overline{AB}$ = (10, 4)

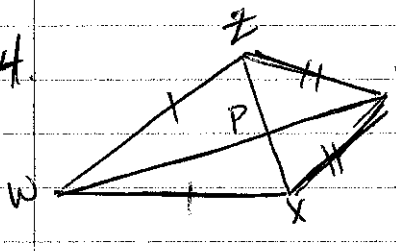
4 greater

12.



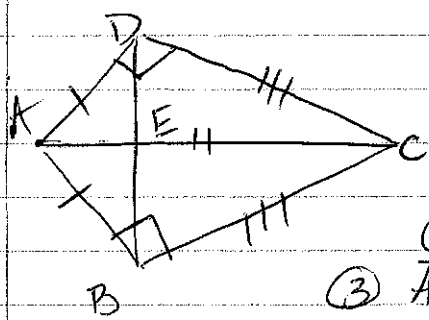
S	R
① $\overline{AB} \cong \overline{BC}$	① Given
② $\overline{AE} \cong \overline{EC}$	② Given
③ BD is $\perp$ bis	③ If 2 pts are equidist from the endpts of a seg. then the 2 pts determine the $\perp$ bis.
④ $\overline{AD} \cong \overline{DC}$	④ If a pt is on the $\perp$ bis. it is equidist from the endpts of a seg.

14.



S	R
① $\overline{WX} \cong \overline{WZ}$	① Given
② $\overline{XY} \cong \overline{XZ}$	② Given
③ $\overline{WY}$ is $\perp$ bis of $\overline{ZX}$	③ If 2 pts are equidistant from the endpts of a seg then they det. the $\perp$ bis.
④ $\angle WPZ$ is a rt $\angle$	④ $\perp$ lines form rt $\angle$'s

15.



S	R
① $\angle ADC$ + $\angle ABC$ are rt $\angle$'s	① Given
② $\overline{AB} \cong \overline{AD}$	② Given
③ $\overline{AC} \cong \overline{AC}$	③ Reflexive Prop.
④ $\triangle ADC \cong \triangle ABC$	④ HL
⑤ $\overline{DC} \cong \overline{BC}$	⑤ CPCTC
⑥ $\overline{AC}$ $\perp$ bis's $\overline{BD}$	⑥ If 2 pts are equidist. from the endpts of the seg., then they determine the $\perp$ bis.