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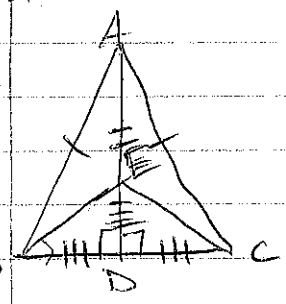
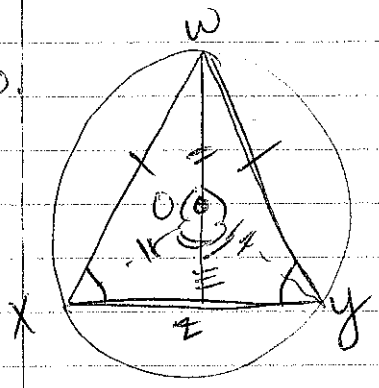
9.



Statements	Reasons
(1) $\triangle ABC$ is isosceles	(1) Given
(2) $AD \perp BC$	(2) Given
(3) $\angle ADB$ & $\angle ADC$ are $90°$	(3) $\perp$ lines form $90°$ $\angle$'s
(4) $\angle ADB \cong \angle ADC$	(4) If 2 $\angle$'s are $90°$, then they are $\cong$.
(5) $\overline{AB} \cong \overline{AC}$	(5) Def of Isosceles
(6) $\overline{AD} \cong \overline{AD}$	(6) Reflexive Prop.
(7) $\triangle ABD \cong \triangle ACD$	(7) HL
(8) $\overline{BD} \cong \overline{CD}$	(8) CPCTC
(9) $\overline{ED} \cong \overline{ED}$	(9) Reflexive
(10) $\triangle BED \cong \triangle CED$	(10) SAS
(11) $\overline{EB} \cong \overline{EC}$	(11) CPCTC
(12) $\triangle BEC$ is isosceles	(12) At least 2 sides $\cong$.

10.

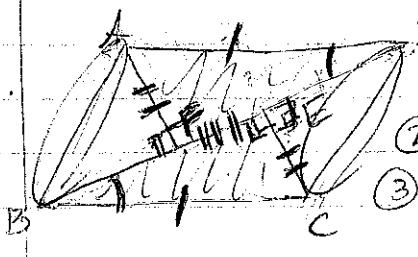


Given: $\odot O$

$\overline{WX} \cong \overline{WY}$

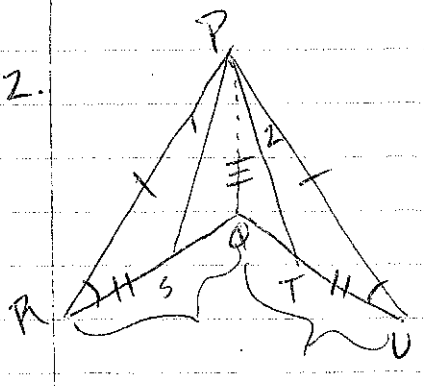
Prove: $\overline{WZ}$ bisects $\overline{XY}$

$\cong$	$\because$
(1) $\odot O$	(1) Given
(2) $\overline{WX} \cong \overline{WY}$	(2) Given
(3) $\angle X \cong \angle Y$	(3) If $\triangle$ & then $\triangle$
(4) Draw $\overline{OX}$ & $\overline{OY}$	(4) 2 pts form a line
(5) $\overline{OW} \cong \overline{OX} \cong \overline{OY}$	(5) All radii are $\cong$
(6) $\triangle WOX \cong \triangle WOY$	(6) SSS
(7) $\angle WOX \cong \angle WOY$	(7) CPCTC
(8) $\angle XOZ$ supp to $\angle WOX$	(8) Sum to $180°$
(9) $\angle WOY$ supp to $\angle YOZ$	(9) Sum to $180°$
(10) $\angle XOZ \cong \angle YOZ$	(10) If 2 $\angle$'s are supp to $\cong$ $\angle$'s, then they are $\cong$
(11) $\overline{OZ} \cong \overline{OZ}$	(11) Reflexive Prop.
(12) $\triangle XOZ \cong \triangle YOZ$	(12) SAS
(13) $\overline{XZ} \cong \overline{YZ}$	(13) CPCTC
(14) $\overline{WZ}$ bis. $\overline{XY}$	(14) Bis cuts a seg into 2 $\cong$ segs.

11. 

Prove: $\overline{AB} \cong \overline{DC}$

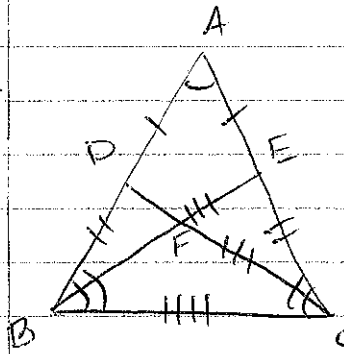
S	R
① $\overline{AD} \cong \overline{BC}$, $\overline{AF} \cong \overline{EC}$	① Given
② $\overline{BD} \perp \overline{AF}$, $\overline{BD} \perp \overline{EC}$	② Given
③ $\angle AFB$, $\angle AFD$, $\angle CED$ $\angle CEB$ are 90°	③ ⊥ lines form 90° $\angle$'s
④ $\angle AFB \cong \angle AFD \cong \angle CED \cong \angle CEB$	④ 90's are $\cong$.
⑤ $\triangle AFD \cong \triangle CEB$	⑤ HL
⑥ $\overline{BD} \cong \overline{BD}$	⑥ Reflexive Prop.
⑦ $\angle DBC \cong \angle ADB$	⑦ CPCTC
⑧ $\triangle DBC \cong \triangle BDA$	⑧ SAS
⑨ $\overline{AB} \cong \overline{DC}$	⑨ CPCTC

12. 

Prove: $\angle 1 \cong \angle 2$

S	R
① $\overline{PR} \cong \overline{PU}$	① Given
② $\overline{QR} \cong \overline{QU}$	② Given
③ $\overline{RS} \cong \overline{UT}$	③ Given
④ Draw $\overline{PQ}$	④ 2 pts form a line
⑤ $\overline{PQ} \cong \overline{PQ}$	⑤ Reflexive Prop.
⑥ $\triangle PRQ \cong \triangle PUQ$	⑥ SSS
⑦ $\angle R \cong \angle U$	⑦ CPCTC
⑧ $\triangle RPS \cong \triangle UPT$	⑧ SAS
⑨ $\angle 1 \cong \angle 2$	⑨ CPCTC

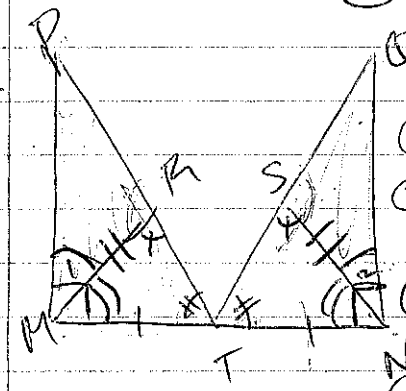
13.



Prove: ΔFBC is isosceles

S	R
(1) $\overline{AB} \cong \overline{AC}$	(1) Given
(2) $\overline{AD} \cong \overline{AE}$	(2) Given
(3) $\angle A \cong \angle A$	(3) Reflexive Prop
(4) $\Delta ABE \cong \Delta ACD$	(4) SAS
(5) $\angle B \cong \angle C$	(5) If Δ then Δ
(6) $\overline{DC} \cong \overline{EB}$	(6) CPCTC
(7) $\overline{BC} \cong \overline{BC}$	(7) Reflexive Prop
(8) $\Delta DBC \cong \Delta ECB$	(8) SAS
(9) $\angle EBC \cong \angle DCB$	(9) CPCTC
(10) ΔFBC is isosceles	(10) At least 2 $\angle$'s $\cong$.

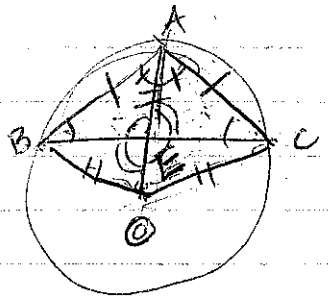
14.



Prove: $\angle P \cong \angle Q$

S	R
(1) T is midpt $\overline{MN}$	(1) G
(2) $\angle PMT$ & $\angle QNT$ are 90°	(2) G
	(3) G
(3) $\overline{MR} \cong \overline{SN}$	
(4) $\angle 1 \cong \angle 2$	(4) G
(5) $\overline{MT} \cong \overline{TN}$	(5) Def of Midpt
(6) $\angle PMT \cong \angle QNT$	(6) If 2 $\angle$'s are 90°, then they are $\cong$
(7) $\angle PMT \cong \angle SNT$	(7) Subtraction
(8) $\Delta PMT \cong \Delta SNT$	(8) SAS (1)
(9) $\angle PTM \cong \angle STN$	(9) CPCTC
(10) $\Delta PMT \cong \Delta QNT$	(10) ASA (2)
(11) $\angle P \cong \angle Q$	(11) CPCTC

15.



Prove: $\overline{AD}$ bis $\overline{BC}$ ($\overline{BE} \cong \overline{EC}$)

S	R
① $\odot O$	① G
② $\angle B \cong \angle C$	② G
③ Draw $\overline{OB}$ + $\overline{OC}$	③ 2 pts form a line
④ $\overline{OA} \cong \overline{OB} \cong \overline{OC}$	④ All radii $\cong$
⑤ $\overline{AB} \cong \overline{AC}$	⑤ If $\triangle$ then $\triangle$
⑥ $AC \cong AO$	⑥ Reflexive
⑦ $\triangle ABO \cong \triangle ACO$	⑦ SSS
⑧ $\overline{AE} \cong \overline{AE}$	⑧ Reflexive
⑨ $\angle BAE \cong \angle CAE$	⑨ CPCTC
⑩ $\triangle BAE \cong \triangle CAE$	⑩ SAS
⑪ $\overline{BE} \cong \overline{CE}$	⑪ CPCTC
⑫ $\overline{AD}$ bis $\overline{BC}$	⑫ Bis cuts a seg into 2 $\cong$ segs.