

#1	Statements	Reasons
1.)	$\overline{WX} \cong \overline{WZ}$	1.) Given
2.)	$\overline{XY} \cong \overline{ZY}$	2.) Given
3.)	$\overline{WY} \cong \overline{WY}$	3.) Reflexive prop.
4.)	$\triangle WXY \cong \triangle WZY$	4.) SSS
5.)	$\triangle XYW \cong \triangle ZYW$	5.) CPCTC
6.)	$\overline{AY} \cong \overline{AY}$	6.) Reflexive prop
7.)	$\triangle XAY \cong \triangle ZAY$	7.) SAS.

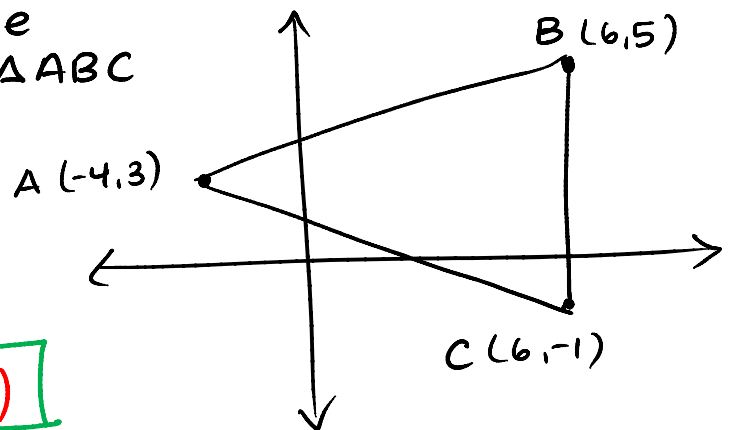
#4 Find the coordinates of the midpoint of each side of $\triangle ABC$

midpt form: $\left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$

midpt of: $\overline{AB}: \left(\frac{-4+6}{2}, \frac{3+5}{2} \right) \Rightarrow (1, 4)$

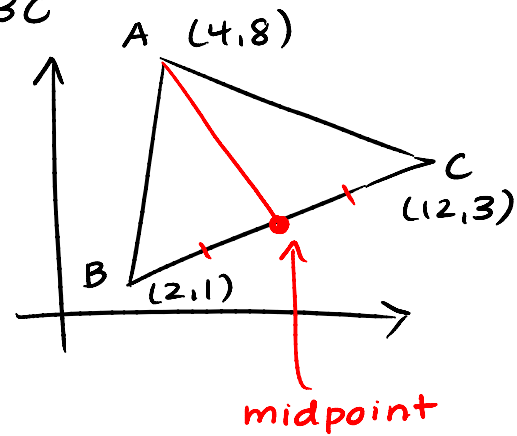
$\overline{BC}: \left(\frac{6+6}{2}, \frac{5+(-1)}{2} \right) \Rightarrow (6, 2)$

$\overline{AC}: \left(\frac{-4+6}{2}, \frac{3+(-1)}{2} \right) \Rightarrow (1, 1)$



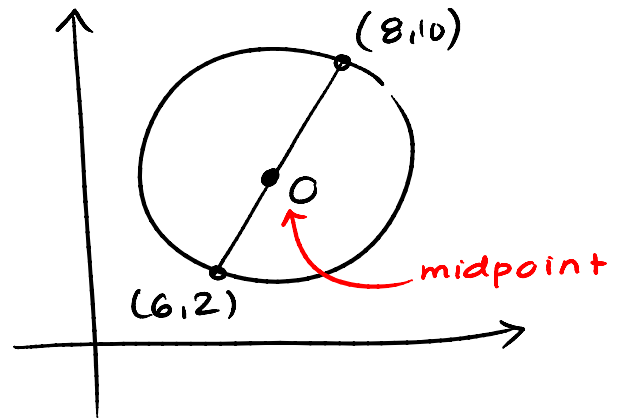
#5 Find the coordinates of the point where the median from A intersect \overline{BC}

$$\begin{aligned} &= \left(\frac{12+2}{2}, \frac{3+1}{2} \right) \\ &= \left(\frac{14}{2}, \frac{4}{2} \right) \\ &= (7, 2) \end{aligned}$$



#6 A circle with center O has the diameter shown. Find the coordinates of O

$$\begin{aligned} &= \left(\frac{8+6}{2}, \frac{10+2}{2} \right) \\ &= \left(\frac{14}{2}, \frac{12}{2} \right) \\ &= \boxed{(7, 6)} \end{aligned}$$



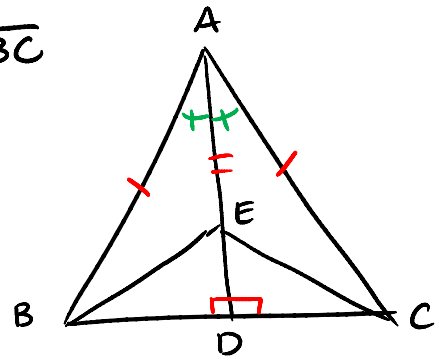
#7 6 Squares

#8 $A_{\square} = 4 \cdot 4 = 16u^2$

$$C = \left(\frac{-4+0}{2}, \frac{0+4}{2} \right) \Rightarrow \boxed{(-2, 2)}$$

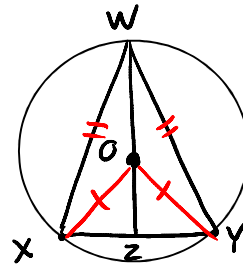
#9 Given: $\triangle ABC$ is isosceles w/ Base \overline{BC}
 $\overline{AD} \perp \overline{BC}$

Prove: $\triangle BEC$ is isosceles



Statements	Reasons
1.) $\triangle ABC$ is isosceles w/ Base \overline{BC}	1.) Given
2.) $\overline{AB} \cong \overline{AC}$ [H]	2.) If \triangle is isos \rightarrow legs \cong
3.) $\overline{AD} \perp \overline{BC}$	3.) Given
4.) $\angle BDA$ is a right \angle	4.) If 2 segs $\perp \rightarrow$ form right \angle 's
5.) $\angle CDA$ is a right \angle	5.) Same as 4
6.) $\overline{AD} \cong \overline{AD}$ [L]	6.) Reflexive property
7.) $\triangle ADB \cong \triangle ADC$	7.) HL (2, 4, 5, 6)
8.) $\angle BAD \cong \angle CAD$	8.) CPCTC
9.) $\overline{AE} \cong \overline{AE}$	9.) Reflexive property
10.) $\triangle BAE \cong \triangle CAE$	10.) SAS
11.) $\overline{BE} \cong \overline{EC}$	11.) CPCTC
12.) $\triangle BEC$ is isosceles	12.) If at least 2 segs of a \triangle are $\cong \rightarrow \triangle$ is isosceles.

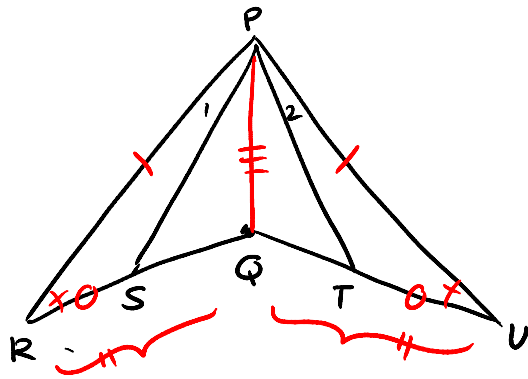
#10 Given: $\odot O$, $\overline{WX} \cong \overline{WY}$
 Prove: \overleftrightarrow{WZ} bisects \overline{XY}



Statements	Reasons
1.) $\odot O$	1.) Given
2.) Draw \overline{OX} and \overline{OY}	2.) 2 pts determine a line
3.) $\overline{OX} \cong \overline{OY}$	3.) All radii of a \odot are \cong
4.) $\overline{WX} \cong \overline{WY}$	4.) Given
5.) $\overline{WO} \cong \overline{WO}$	5.) Reflexive property
6.) $\triangle XWO \cong \triangle YWO$	6.) SSS
7.) $\angle XWO \cong \angle YWO$	7.) CPCTC
8.) $\overline{WZ} \cong \overline{WZ}$	8.) Reflexive property
9.) $\triangle XWZ \cong \triangle YWZ$	9.) SAS
10.) $\overline{XZ} \cong \overline{ZY}$	10.) CPCTC
11.) \overleftrightarrow{WZ} bisects \overline{XY}	11.) Definition of Bisect

#12 Given: $\overline{PR} \cong \overline{PU}$
 $\overline{QR} \cong \overline{QU}$
 $\overline{RS} \cong \overline{UT}$

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



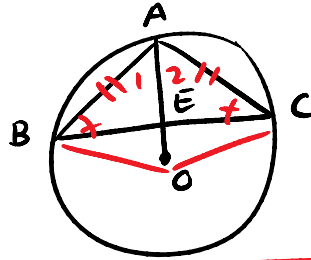
Statements

Reasons

- 1.) $\overline{PR} \cong \overline{PU}$
- 2.) $\overline{QR} \cong \overline{QU}$
- 3.) $\overline{RS} \cong \overline{UT}$
- 4.) Draw \overline{PQ}
- 5.) $\overline{PQ} \cong \overline{PQ}$
- 6.) $\triangle PRQ \cong \triangle PUQ$
- 7.) $\angle PRS \cong \angle PUT$
- 8.) $\triangle PRS \cong \triangle PUT$
- 9.) $\angle 1 \cong \angle 2$

- 1.) Given
- 2.) Given
- 3.) Given
- 4.) 2 pts determine a line
- 5.) Reflexive property
- 6.) SSS
- 7.) CPCTC
- 8.) SAS
- 9.) CPCTC

#15 Given: $\odot O$, $\angle B \cong \angle C$
 Prove: \overline{AO} bisects \overline{BC}

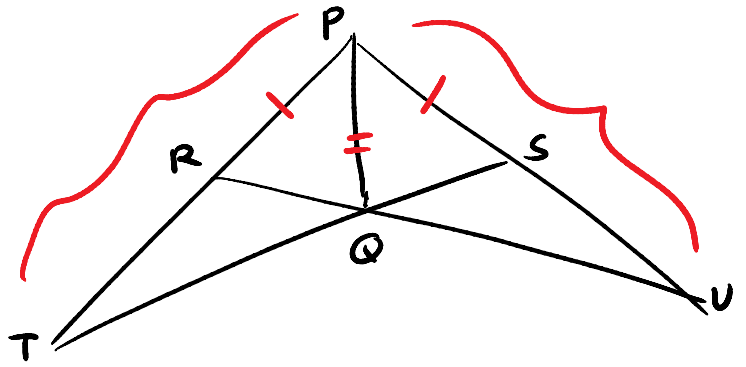


1. $\odot O$
2. $\angle B \cong \angle C$
3. $\overline{AB} \cong \overline{AC}$
4. Draw \overline{BO} and \overline{CO}
5. $\overline{BO} \cong \overline{CO}$
6. $\overline{AO} \cong \overline{AO}$
7. $\triangle ABO \cong \triangle ACO$
8. $\angle 1 \cong \angle 2$
9. $\triangle ABE \cong \triangle ACE$
10. $\overline{BE} \cong \overline{CE}$

1. Given
2. Given
3. If $\triangle \rightarrow \triangle$
4. 2 pts determine a line
5. All radii are \cong
6. Reflexive prop.
7. SSS
8. CPCTC
9. ASA
10. CPCTC

11. \overline{AO} bisects \overline{BC}
 If a seg divides
 a seg into 2 \cong
 segs \rightarrow bisects the
 seg.

#17 Given: $\overline{PT} \cong \overline{PU}$
 $\overline{PR} \cong \overline{PS}$
 Prove: \overrightarrow{PQ} bisects $\angle RPS$



1. $\overline{PT} \cong \overline{PU}$
2. $\overline{PR} \cong \overline{PS}$
3. $\angle RPS \cong \angle RPS$
4. $\triangle PTS \cong \triangle PUR$
5. $\angle PRU \cong \angle PST$
6. $\angle T \cong \angle U$
7. $\angle TRQ$ is supp. $\angle PRU$
8. $\angle USQ$ is supp. $\angle PST$
9. $\angle TRQ \cong \angle USQ$
10. $\overline{TR} \cong \overline{US}$
11. $\triangle TQR \cong \triangle USQ$
12. $\overline{RQ} \cong \overline{SQ}$
13. $\triangle PRQ \cong \triangle PSQ$
14. $\angle RPQ \cong \angle SPQ$
15. \overrightarrow{PQ} bisects $\angle RPS$

1. Given
2. Given
3. Reflexive prop
4. SAS
5. CPCTC
6. CPCTC
7. If 2 \angle 's form a str. $\angle \rightarrow$ supp.
8. " "
9. If 2 \angle 's are supp. to $\cong \angle$'s $\rightarrow \angle$'s \cong
10. Subtraction prop
11. ASA
12. CPCTC
13. SAS
14. CPCTC
15. If a ray divides an \angle into 2 $\cong \angle$'s \rightarrow bisects the \angle