

9-2 HW

① $7^2 + AX^2 = 25^2$
 $49 + AX^2 = 625$
 $AX^2 = 576$
 $AX = 24$

Triple

② $24^2 + OA^2 = 26^2$
 $OA^2 = 100$
 $OA = 10$

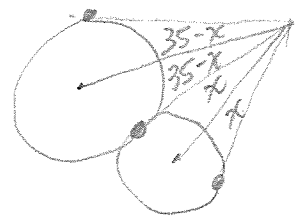
Triple

③ $m\angle AXB = 64^\circ$
 ④ $m\angle AXB = 96^\circ$
 ⑤ $90 - 19 = 71$
 $71 \times 2 = \underline{142^\circ}$

⑥ $PC = 10$

work ⑦ $15^2 + 8^2 = PR^2$
 $225 + 64 =$
 $17 = PR$
 $17 - 8 = PS$
 $9 = PS$

W
8



$2(35-x) + 2x$
 $70 - 2x + 2x$
 70
 $m\angle APC = 70$

⑨ $x = 2$

⑩ $y = 4$

⑪ $z = 3$

⑫ $CD = 5$

⑬ $P = 6 + 7 + 6 + 5 = \underline{24}$



① $\overline{QB} \perp \overline{QP}$ }
 ② $m\angle QPR = 90 \rightarrow$ ③ $\triangle QPR$ is rt. } \rightarrow ⑤ $\overline{QB} \parallel \overline{PR}$
 ④ $\overline{QP} \perp \overline{PR}$ }
 ⑥ $\overline{BR} \perp \overline{PR}$ } \rightarrow ⑦ $\overline{QP} \parallel \overline{BR}$

⑧ Quad QBRP is \square } \rightarrow ⑩ \square QBRP is a rhombus }
 ⑨ $\overline{QP} \cong \overline{PR}$ }
 ⑪ Quad QBRP is \square } \rightarrow ⑬ \square QBRP is rectangle }
 ⑫ $\triangle QPR$ is rt. } \rightarrow ⑭ \square QBRP is a square.

14) REASONS

① A line tangent the radius of \odot is \perp to radius.

② Given

③ Def of right \angle

④ Def of \perp lines

⑤ 2 lines \perp to same line are \parallel to each other.

⑥ Same as #1

⑦ same as #5

⑧ Def of a \square

⑨ Radii of same circle are \cong .

⑩ If a \square w/ 2 consecutive sides $\cong \rightarrow$ rhombus.

⑪ same as #8

⑫ same as #3

⑬ If a \square w/ 1 rt. $\angle \rightarrow$ a rectangle.

⑭ If a \square is a rhombus & rectangle \rightarrow a square.

Another proof for #14:

① $\odot P$ inscribed in $ABCD \rightarrow$ ② \overline{AB} & \overline{BC} are tangents to $\odot P.$ \rightarrow ③ $\overline{AB} \perp \overline{PQ}$ $\overline{BC} \perp \overline{PR}$ \rightarrow ④ $\angle BQP$ & $\angle BRP$ are right

⑤ $m\angle BQP = 90$

$m\angle BRP = 90$

⑥ $m\angle QPR = 90$

⑦ $m\angle QPR + m\angle QPB + m\angle PRB + m\angle B = 360$

⑧ $90 + 90 + 90 + m\angle B = 360$

⑨ $m\angle B = 90$

15) ① $\angle 1 \cong \angle 2 \cong \angle 3 \rightarrow$ ② $m\angle 1 = m\angle 2 = m\angle 3 \rightarrow$ ③ $m\angle 1 + m\angle 2 + m\angle 3 = 360$

④ $m\angle 1 = m\angle 2 = m\angle 3 = 120$

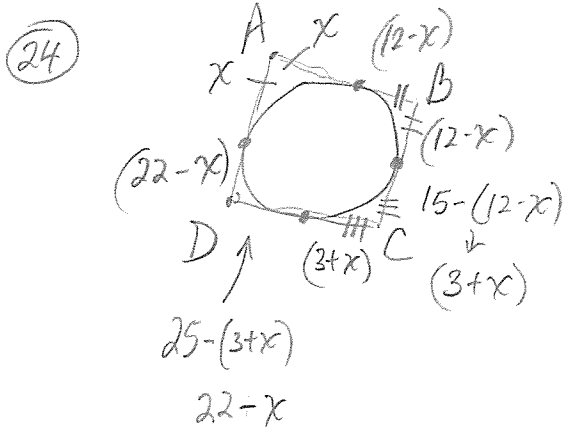
⑤ $\overline{AC} \perp \overline{DH}$
 $\overline{AB} \perp \overline{EH}$
 $\overline{CB} \perp \overline{FH}$ \rightarrow ⑥ $\angle ADH, \angle CDH, \angle CPH$
 $\angle BPH, \angle AEH, \angle BEH$
 are each right \angle . \rightarrow ⑦ Each \angle in $\#6 = 90^\circ$.

⑧ $m\angle 1 + m\angle CDH + m\angle CPH + m\angle C = 360 \rightarrow$ ⑨ $m\angle C = 60$
 $m\angle 2 + m\angle BPH + m\angle BEH + m\angle B = 360 \rightarrow m\angle B = 60$
 $m\angle 3 + m\angle AEH + m\angle ADH + m\angle A = 360 \rightarrow m\angle A = 60$

⑩ $\triangle ABC$ is equiangular \rightarrow ⑪ $\triangle ABC$ is equilateral.

Reasons:

- ① Given
- ② Def. of $\cong \angle$ s
- ③ Sum of degrees in \odot is 360.
- ④ Division property
- ⑤ line tangent to \odot is \perp radius.
- ⑥ Def of \perp lines.
- ⑦ Def of right \angle .
- ⑧ Sum of degrees in Quad is 360.
- ⑨ Subtraction Prop.
- ⑩ Def. of equiangular \triangle .
- ⑪ If a \triangle is equiangular, it is equilateral.



25) $WX = 19$

$AD = x + 22 - x = \boxed{22}$

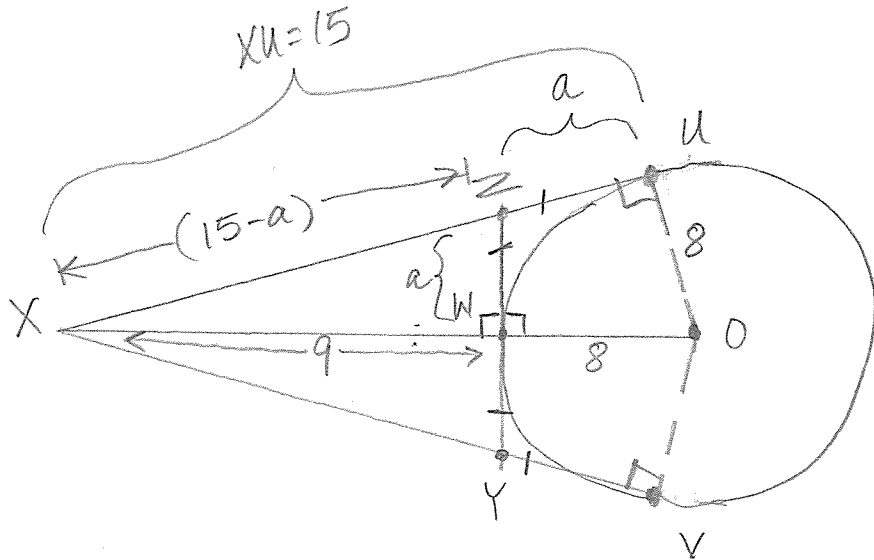
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① $AE + EB = AB$

② \overline{AD} , \overline{AB} , and \overline{BC} are tangents to $\odot O$. \rightarrow ③ $\overline{AD} \cong \overline{AE}$ \rightarrow ④ $AD = AE$
 $\overline{BE} \cong \overline{BC}$ $BE = BC$ \rightarrow ⑤ $AD + BC = AB$

- ① Segment Add. Postulate
- ② Given
- ③ Tangent segments from same ext. pt are \cong .
- ④ Def of \cong segments.
- ⑤ Substitution

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$$9^2 + a^2 = (15 - a)^2$$

$$a = 4.8$$

So, $WZ = 4.8$, $XZ = 10.2$, $YZ = 9.6$

$$XZ + YZ + XY$$

$$10.2 + 9.6 + 10.2 = \textcircled{30}$$