Geo CH 12 Review Part 2 **Solutions**

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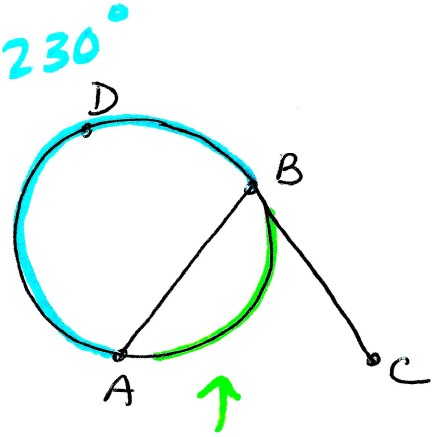
① 

$m\angle ABC = \frac{1}{2} \cdot m\overset{\frown}{AB}$

$= \frac{1}{2}(130°)$

$\boxed{m\angle ABC = 65°}$

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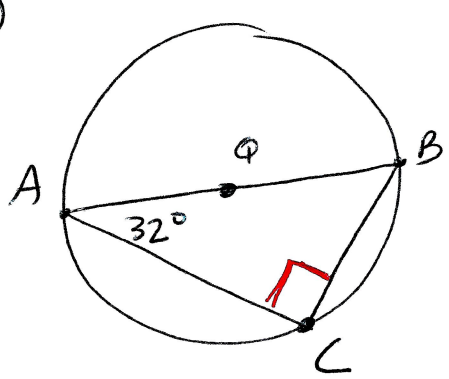
② 

$m\angle BCA = 90°$ → inscribed in a semicircle

$m\angle ABC = 180 - 32 - 90$

$\boxed{m\angle ABC = 58°}$

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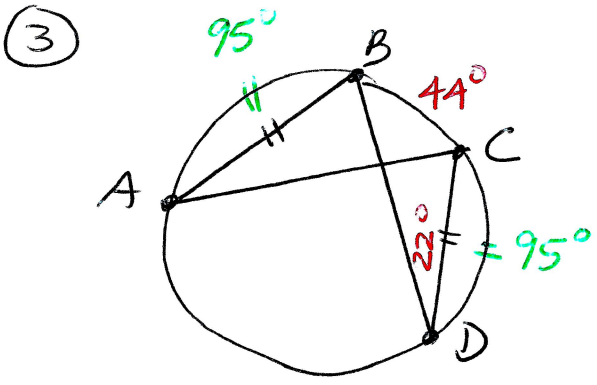
③ 

Since $\overline{AB} \cong \overline{CD}$, $m\overset{\frown}{AB} = m\overset{\frown}{CD} = 95°$

since $m\angle CDB = 22°$, $m\overset{\frown}{CB} = 2(22) = 44°$

$m\overset{\frown}{AD} = 360° - 95° - 95° - 44°$

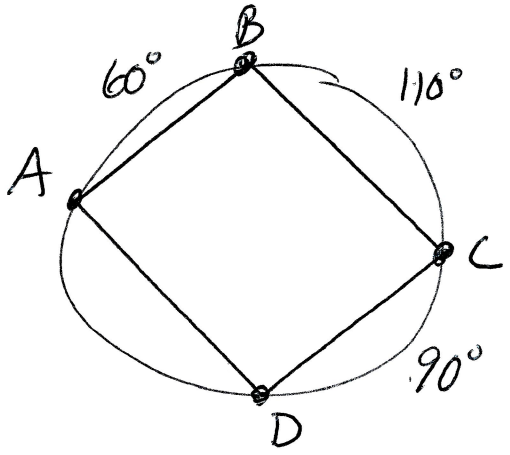
$\boxed{m\overset{\frown}{AD} = 126°}$

~~$m\angle BAD$~~ $= m\angle A$:

since $\angle A$ & $\angle D$ both intercept $\overline{BC}$ they are $\cong$.

$\boxed{m\angle A = 22°}$

(4)



$m\angle A = \frac{1}{2}(110° + 90) = \frac{1}{2}(200°)$

$\boxed{m\angle A = 100°}$

$\angle A$ & $\angle C$ are opposite $\angle$s so they are supplementary.

$m\angle C = 180 - m\angle A$

$= 180 - 100°$

$\boxed{m\angle C = 80°}$

$m\angle D = \frac{1}{2}(60 + 110) = \frac{1}{2}(170)$

$\boxed{m\angle D = 85°}$

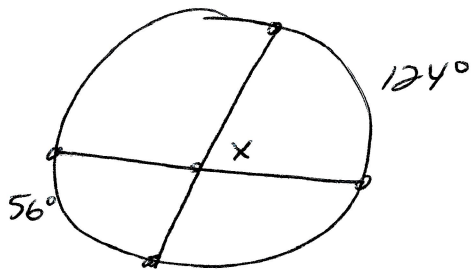
$\angle D$ & $\angle B$ are opposite $\angle$s so they are supplementary

$m\angle B = 180 - m\angle D$

$= 180 - 85$

$\boxed{m\angle B = 95°}$

(5)

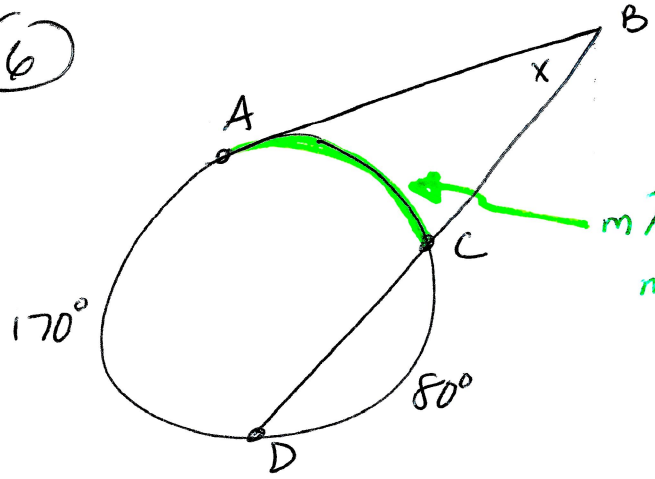


$x = \frac{1}{2}(124 + 56)$

$= \frac{1}{2}(180°)$

$\boxed{x = 90°}$

(6)



$m\overset{\frown}{AC} = 360 - 170 - 80$

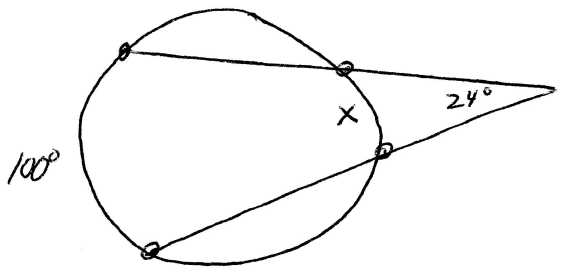
$m\overset{\frown}{AC} = 110°$

$x = \frac{1}{2}(170 - 110)$

$x = \frac{1}{2}(60)$

$\boxed{x = 30°}$

(7)



$24 = \frac{1}{2}(100 - x)$

$2 \cdot 24 = \frac{1}{2}(100 - x) \cdot 2$

$48 = 100 - x$

$-100 \quad -100$

$-52 = -x$

$\frac{-52}{-1} = \frac{-x}{-1}$

$\boxed{x = 52^\circ}$

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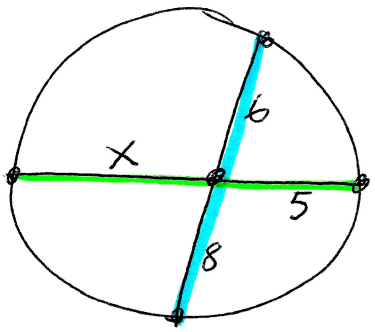
(8)



$(5)(x) = (6)(8)$

$5x = 48$

$\boxed{x = \frac{48}{5} = 9.6}$

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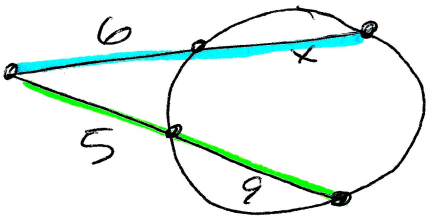
(9)



$(x+6)(6) = (9+5)(5)$

$6x + 36 = 70$

$-36 \quad -36$

$6x = 34$

$\boxed{x = \frac{34}{6} = 5.67}$

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(10)

center: $(9, -2)$

radius $= \sqrt{196} = 14$

(11) Center $\rightarrow (-8, 1)$ $\boxed{\begin{matrix} h = -8 \\ k = 1 \end{matrix}}$

radius: distance from $(-8,1)$ to $(3,4)$

$r = \sqrt{(3-(-8))^2 + (4-1)^2} = \sqrt{11^2 + 3^2}$

$= \sqrt{121 + 9}$

$= \sqrt{130}$

$r = \sqrt{130}$

$r^2 = (\sqrt{130})^2 = 130$

$\boxed{r^2 = 130}$

EQ = $(x - (-8))^2 + (y - 1)^2 = 130$

$(x+8)^2 + (y-1)^2 = 130$