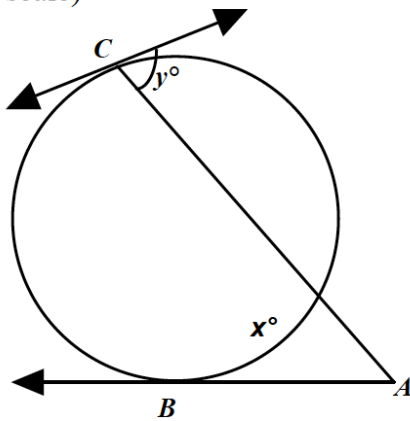**8.6**
Name (print first and last) _____ **Per**_____ **Date:** 4/1 due 4/2
8.6 Angle & Arc Measures: Regents Questions   **Geometry Regents 2013-2014 Ms. Lomac**
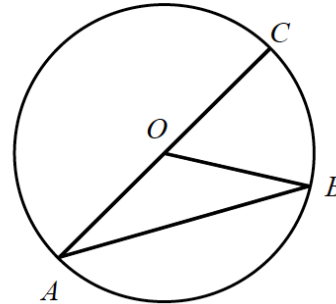SLO: I can solve problems involving circle angle and arc measures.

(1) ☐ Find the measure of each variable if
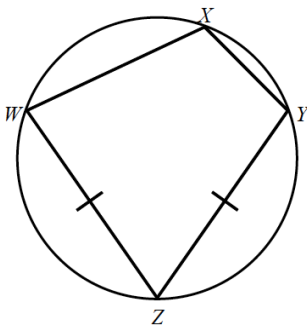$m\angle A = 19$ and $m\overarc{BC} = 118$. (not drawn to scale)

[A] 80; 162   [B] 80; 81

[C] 99; 81   [D] 99; 162

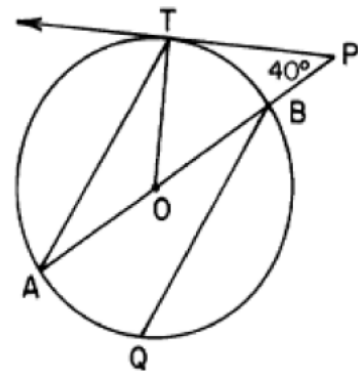(2) ☐ Given: In $\odot O$, $m\overarc{BAC} = 302$. Find $m\angle A$.

(3) ☐ Given: $m\angle X = 110$; $\overline{WZ} \cong \overline{YZ}$; $m\angle Y = 100$

Refer to the diagram to find the measure of each of the following:

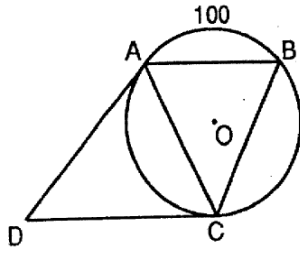a. $\angle Z$ b. $\overarc{WZ}$ c. $\angle W$ d. $\overarc{WX}$

(4) ☐ In the accompanying diagram of circle O, $\overline{PBOA}$ is a secant, $\overrightarrow{PT}$ is tangent to circle O at T, $m\angle P = 40$, and $\overline{QB} \| \overline{AT}$.

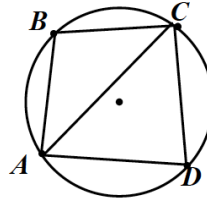Find: $m\angle BOT$, $m\angle A$, $m\overarc{AT}$, $m\angle ATO$, $m\angle PBQ$

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(5) ☐ In the accompanying diagram, $\overline{AB}\,\|\,\overline{CD}$, $\overline{AD}$ and $\overline{DC}$ are tangent to circle O, $m\widehat{AB} = 100$, and $m\widehat{AC} = m\widehat{CB}$.

Find $m\widehat{AC}$, $m\angle B$, $m\angle D$ and $m\angle BCD$
Is $ABCD$ a parallelogram? [Explain your answer.]

(6) ☐ Compare the quantity in Column A with the quantity in Column B.

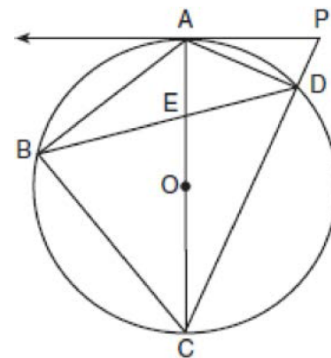| Column A	Column B
$m\angle ABC$	$m\angle ADC$

[A] The quantity in Column A is greater.

[B] The quantity in Column B is greater.

[C] The two quantities are equal.

[D] The relationship cannot be determined on the basis of the information supplied.

(7) ☐ In the accompanying diagram of circle O, chords $\overline{BD}$, $\overline{BC}$, and $\overline{AC}$, tangent $\overline{PC}$, and secant $\overline{ABP}$ are drawn; $m\angle DBC = 40$, $m\angle AEB = 110$; and $m\widehat{AD}:m\widehat{CB} = 9:5$.
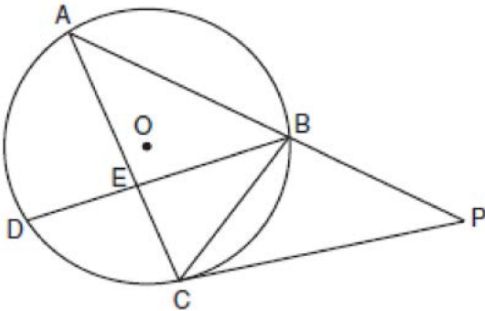
Find: $m\widehat{AB}$, $m\widehat{AD}$, $m\angle P$, $m\angle BCP$, $m\angle ACP$

(8) ☐ In the accompanying diagram of circle O, $\overrightarrow{PA}$ is tangent to the circle at A; $\overline{PDC}$ is a secant; diameter $\overline{AEOC}$ intersects chord $\overline{BD}$ at E; chords $\overline{AB}$, $\overline{BC}$, and $\overline{DA}$ are drawn; $m\widehat{DA} = 46$; and $m\widehat{BC}$ is 32 more than $m\widehat{AB}$.

Find: $m\widehat{AB}$; $m\angle BAC$; $m\angle P$; $m\angle DEC$; $m\angle PDA$