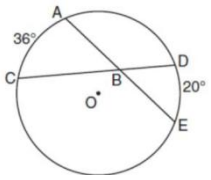
Name:_____ Date:_____ Period:_____

Circles Review Sheet Geometry Honors

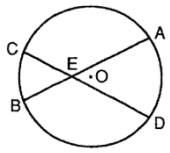
Circles Review Sheet

For the following questions, solve using your knowledge of circles.

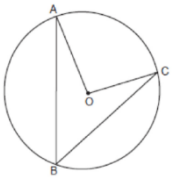
1) In the diagram below of circle O, chords $\overline{AE}$ and $\overline{DC}$ intersect at point B, such that $m\widehat{AC} = 36$ and $m\widehat{DE} = 20$. Find $m < ABC$ and $m < ABD$.



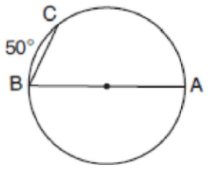
2) In the accompanying diagram, chords $\overline{AB}$ and $\overline{CD}$ intersect at E. If $m\widehat{AD} = 70$ and $m\widehat{BC} = 40$, find $m < CEA$.



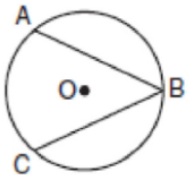
3) In the following diagram of circle O, $\overline{AB}$ and $\overline{BC}$ are chords and $m < AOC = 94$. What is $m < ABC$?



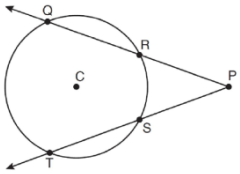
4) In the accompanying diagram, $\overline{BA}$ is a diameter and $m\widehat{BC} = 50$. Find $m < CBA$.



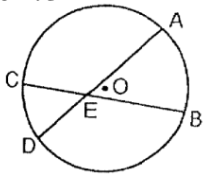
5) In the accompanying diagram of circle O, $m\widehat{ABC} = 260$. What is $m < ABC$?



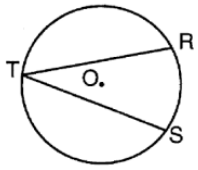
6) In the accompanying diagram of circle C, $m\widehat{QT} = 140$, and $m < P = 40$. What is $m\widehat{RS}$?



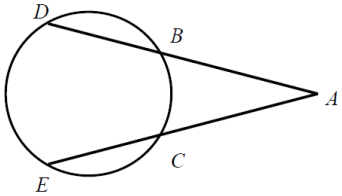
7) In the accompanying diagram of circle O, $m\widehat{AB} = 64$ and $m < AEB = 52$. What is the $m\widehat{CD}$?



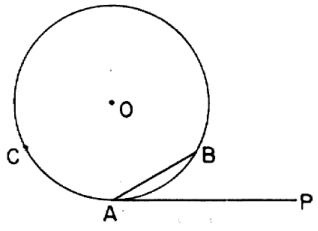
8) In the accompanying diagram of circle O, the measure of $\widehat{RS} = 64$. What is $m < RTS$?



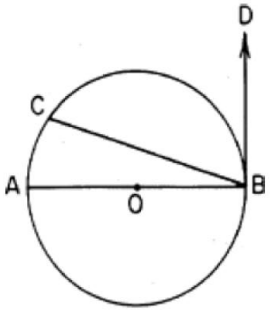
9) If $m\,\widehat{DE} = 121$ and $m\,\widehat{BC} = 83$, find $m\angle A$.



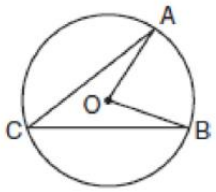
10) In the diagram below, $\overline{PA}$ is tangent to circle O, and $\overline{AB}$ is a chord. If $m\widehat{ACB} = 300$, find the measure of $\angle BAP$.



11) In the accompanying diagram, $\overrightarrow{BD}$ is tangent to circle O at B, $\overline{BC}$ is a chord, and $\overline{BOA}$ is a diameter. If $m\overset{\frown}{AC} : m\overset{\frown}{CB} = 1:4$, find $m\angle DBC$.



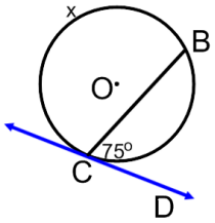
12) In the accompanying diagram of circle O, $m\angle ACB = 38$.



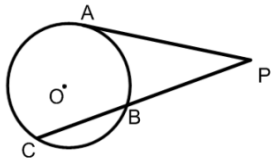
What is $m\angle AOB$?

1) 19
2) 38
3) 52
4) 76

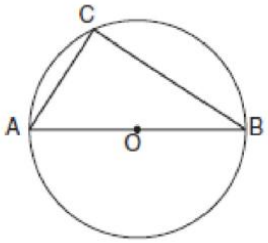
13) In circle O, $\overline{BC}$ is a chord and $\overleftrightarrow{CD}$ is a tangent. Find the value of x.



14) In the accompanying diagram, tangent $\overline{PA}$ and secant $\overline{PBC}$ are drawn to circle O from point P. If $m\overset{\frown}{AC} = 110$ and $m < P = 20$, find $m\overset{\frown}{AB}$.

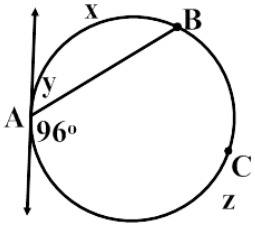


15) In the accompanying diagram, $\triangle ABC$ is inscribed in circle O and $\overline{AB}$ is a diameter.



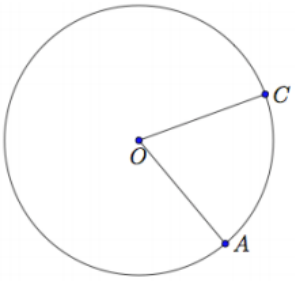
What is the number of degrees in $m\angle C$?

16) Find the value of x, y, and z.

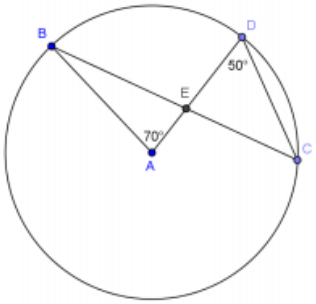


17) A and C are points on a circle with center O.

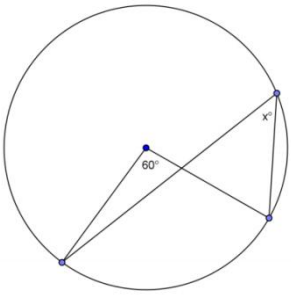
(a) Draw a point B on the circle so that $\overline{AB}$ is a diameter. Then, draw the angle ABC.
(b) What angle in your diagram is an inscribed angle?
(c) What angle in your diagram is a central angle?
(d) What is the intercepted arc of $< ABC$?
(e) What is the intercepted arc of $< AOC$?



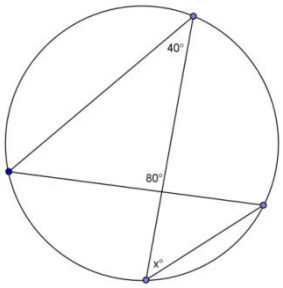
18) Toby says that ΔBEA is a right triangle because $< BEA = 90°$. Is he correct? Justify your answer.



19) Find the value of x.



20) Find the value of x.

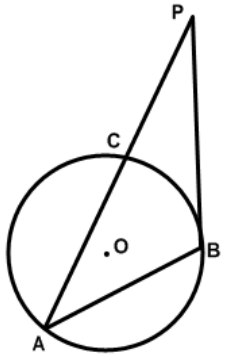


21) In the accompanying diagram, tangent $\overline{PB}$ and secant $\overline{PCA}$ are drawn to circle O and $m\widehat{BC}:m\widehat{AC}:m\widehat{AB} = 3:4:5$ Find:

(a) $m\widehat{BC}$=_____

(b) $m < PAB$=_____

(c) $m < APB$=_____



22) In circle O, diameters $\overline{AOB}$ and $\overline{EOD}$ intersect at center O; chord $\overline{BD}$, tangent $\overline{CB}$, secant $\overline{CDA}$. If $m\widehat{EA} = 80°$, $m\widehat{AD} = 100°$, find:

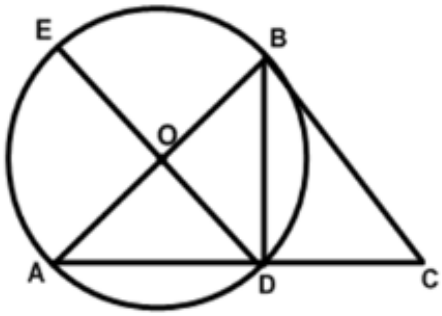
(a) $m < EOB$=_____

(b) $m < BAD$=_____

(c) $m < C$=_____

(d) $m < CBD$= _____

(e) $m < EDB$=_____



23) In the accompanying diagram of circle O, $\overline{EA}$ is a tangent, $\overline{EBC}$ is a secant, $D$is a midpoint of $\widehat{AC}$, $m\widehat{AD} = 94°$, and $m\widehat{AB} = 86°$. Find:

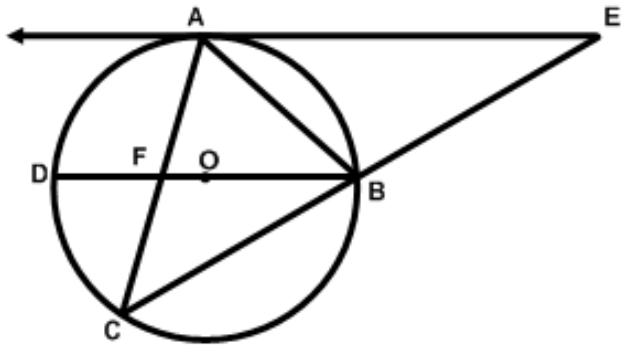
(a) $m\widehat{BC}$=_____

(b) $m < E$=_____

(c) $m < ABD$=_____

(d) $m < AFB$= _____

(e) $m < EBA$=_____



Remember: There will be review questions! This topic is VERY IMPORTANT.
You need to make sure you study for this exam!

Answer Key:

Circles Review Sheet:

1.) m<ABC = 28, m<ABD = 152 2.) m<CEA = 125 3.) m<ABC = 47

4.) m<CBA = 65 5.) m<ABC = 50 6.) $m\widehat{RS} = 60$

7.) $m\widehat{CD} = 40$ 8.) m<RTS = 32 9.) m<A = 19

10.) m<BAP = 30 11.) m<DBC = 72 12.) (4)

13.) x = 210 14.) $\widehat{AB} = 70$ 15.) m<C = 90

16.) y = 84, x = 168, z = 192 17.) SKIP

18.) No he is not correct because m<BEA = 95. 19.) x = 60

20.) x = 60 21.) (a) 90 (b) 45 (c) 30

22.) (a) 100 (b) 40 (c) 50 (d) 40 (e) 50 23.) (a) 86 (b) 51 (c) 47 (d) 90 (e) 43

Review Chapters

1.) y + 1 = -2(x – 3) 2.) x = 5; m<FHB = 105; m<BHE = 75 3.) correct construction

4.) right scalene 5.) (0,5), (1,6) 6.) (5,3) 7.) TS = 3; SU = 2.7; p = 9.7

8.) correct proof 9.) (a) x = 12 (b) x = 4 10.) r = 6