

**CIRCLES UNIT REVIEW**

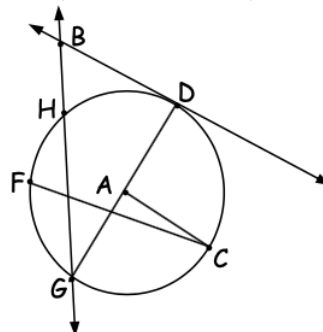
Name: \_\_\_\_\_ Per.: \_\_\_\_\_

4/24/2018

For all questions, give EXACT answers (leave  $\pi$  in your answer instead of estimating it at 3.14).

1) In the circle at right, identify the following parts using correct notation ( $\overline{GH}$ ,  $\widehat{GH}$ ,  $\widehat{CD}$ )

- a) secant line \_\_\_\_\_
- b) central angle \_\_\_\_\_
- c) inscribed angle \_\_\_\_\_
- d) radius \_\_\_\_\_
- e) diameter \_\_\_\_\_
- f) chord that is not a diameter \_\_\_\_\_
- g) tangent line \_\_\_\_\_
- h) minor arc \_\_\_\_\_
- i) major arc \_\_\_\_\_



2) Give an example of a unit that could be used to measure:

- a) measure of an arc, as in  $m\widehat{CD}$ : \_\_\_\_\_
- b) length of an arc, as in Length of  $\widehat{CD}$ : \_\_\_\_\_

3) The radius of a circle is 5. What is the diameter? \_\_\_\_\_

4) The radius of a circle is 4. What is the circumference? \_\_\_\_\_

5) The circumference of a circle is  $18\pi$ . What is the radius? \_\_\_\_\_

6) Write the equation of a circle with center  $(-2, 1)$  and radius 3. \_\_\_\_\_

7) If the equation of a circle is  $(x-3)^2 + (y+5)^2 = 16$ , then its center is  $(\underline{\quad}, \underline{\quad})$  and its radius is  $\underline{\quad}$ .

Use this circle  $\odot C$  for problems 8-15.  $BC = 6$  cm.  $m\widehat{AB} = 120^\circ$

8)  $m\angle ACB = ?$  8) \_\_\_\_\_

9)  $m\widehat{AD} = ?$  9) \_\_\_\_\_

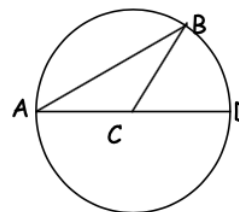
10)  $m\angle BCD = ?$  10) \_\_\_\_\_

11)  $m\angle BDA = ?$  11) \_\_\_\_\_

12) Is  $\widehat{DAB}$  a major or minor arc? 12) \_\_\_\_\_

13) the measure of minor arc  $m\widehat{BD} = ?$  13) \_\_\_\_\_

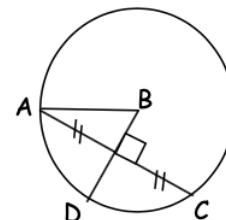
14) circumference of circle C 14) \_\_\_\_\_



Use circle B for questions #16-17. The distance from chord  $\overline{AC}$  to B is 5 cm. The radius  $\overline{AB}$  is 13 cm.

16) Find the length of  $\overline{AC}$  14) \_\_\_\_\_

17) Which arc is congruent to  $\widehat{AD}$ ? 15) \_\_\_\_\_



Use circle C for questions #18-22.

$m\angle BDF = 50^\circ$   $\overline{BE}$  is tangent to circle C at B.

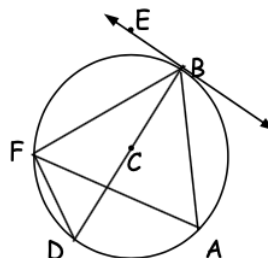
18) Find  $m\widehat{BF}$  \_\_\_\_\_

19) Find  $m\angle BAF$  \_\_\_\_\_

20) Find  $m\widehat{FD}$  \_\_\_\_\_

21) Find  $m\angle DBF$  \_\_\_\_\_

22) Find  $m\angle EBF$  \_\_\_\_\_



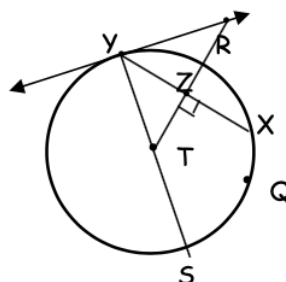
Use circle T for questions #23-26.  $YT = 6$  cm.  $RT = 10$  cm.  $YZ = 5$  cm.

23)  $m\angle RYT = ?$  \_\_\_\_\_

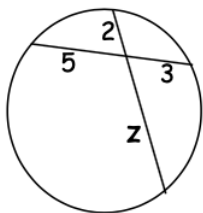
24)  $RY =$  \_\_\_\_\_

25)  $YX =$  \_\_\_\_\_

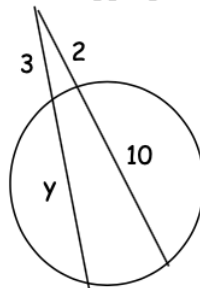
26)  $SY =$  \_\_\_\_\_



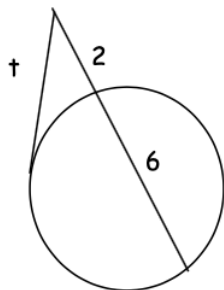
Find the missing values. Leave answers in simple, radical form if appropriate.



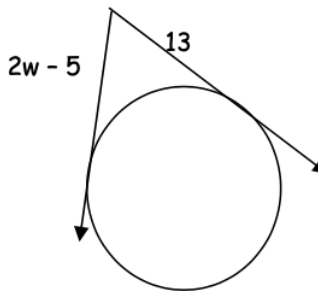
27)  $z =$  \_\_\_\_\_



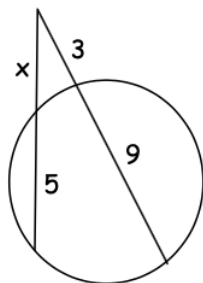
28)  $y =$  \_\_\_\_\_



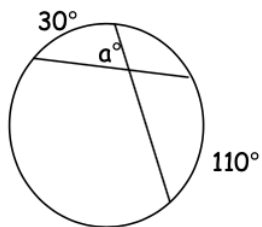
29)  $t =$  \_\_\_\_\_



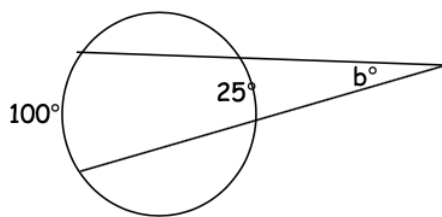
30)  $w =$  \_\_\_\_\_



31)  $x =$  \_\_\_\_\_



32)  $a =$  \_\_\_\_\_



33)  $b =$  \_\_\_\_\_

Multiple Choice Practice:

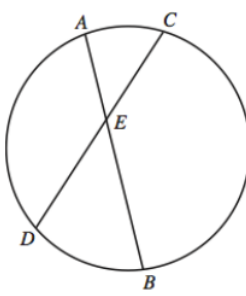
34) The diameter of a circle is 12 meters. If point  $P$  is in the same plane as the circle, and is 6 meters from the center of the circle, which *best* describes the location of point  $P$ ?

A Point  $P$  must be on the circle.  
 B Point  $P$  must be inside the circle.  
 C Point  $P$  may be either outside the circle or on the circle.  
 D Point  $P$  may be either inside the circle or on the circle.

35) If a cylindrical barrel measures 22 inches in diameter, how many inches will it roll in 8 revolutions along a smooth surface?

A  $121\pi$  in.  
 B  $168\pi$  in.  
 C  $176\pi$  in.  
 D  $228\pi$  in.

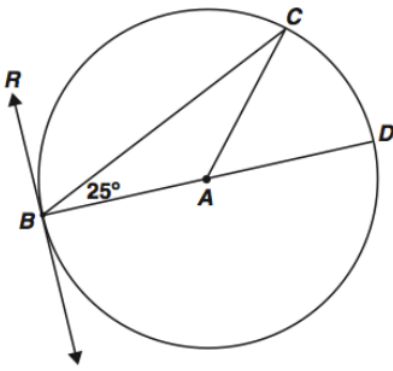
36) In the circle below,  $\overline{AB}$  and  $\overline{CD}$  are chords intersecting at  $E$ .



If  $AE = 5$ ,  $BE = 12$ , and  $CE = 6$ , what is the length of  $\overline{DE}$ ?

A 7  
 B 9  
 C 10  
 D 13

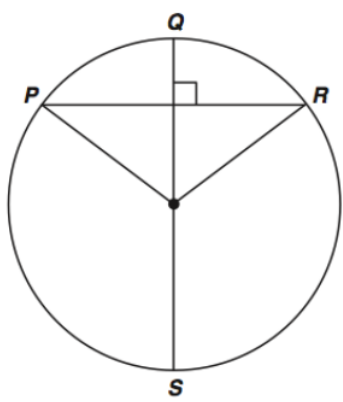
37)  $\overline{RB}$  is tangent to a circle, whose center is  $A$ , at point  $B$ .  $\overline{BD}$  is a diameter.



What is  $m\angle CBR$ ?

A  $50^\circ$   
 B  $65^\circ$   
 C  $90^\circ$   
 D  $130^\circ$

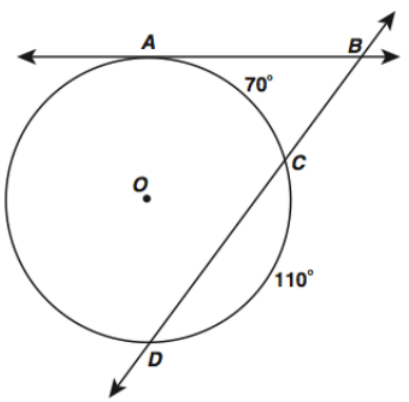
38)  $\overline{QS}$  is a diameter of the circle below, and  $\overline{QS} \perp \overline{PR}$ .



If  $m\widehat{PQR} = 106^\circ$ , what is  $m\widehat{PS}$ ?

A  $53^\circ$

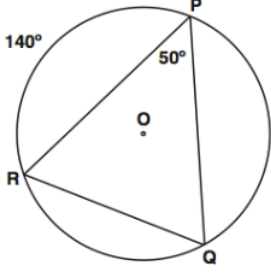
39) In the figure below,  $\overline{AB}$  is tangent to circle  $O$  at point  $A$ , secant  $\overline{BD}$  intersects circle  $O$  at points  $C$  and  $D$ ,  $m\widehat{AC} = 70^\circ$ , and  $m\widehat{CD} = 110^\circ$ .



What is  $m\angle ABC$ ?

A  $20^\circ$   
 B  $40^\circ$

40) In the circle shown below, the measure of  $\widehat{PR} = 140^\circ$  and the measure of  $\angle RPQ = 50^\circ$ .



What is the measure of  $\widehat{PQ}$ ?

A  $50^\circ$   
 B  $60^\circ$   
 C  $70^\circ$   
 D  $120^\circ$

**B** 74°  
**C** 106°  
**D** 127°

**B** 40°  
**C** 55°  
**D** 70°