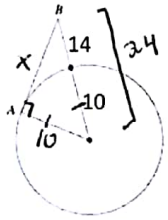
Honors Geometry Unit 10 Review Sheet Name: KEY

Multiple Choice: Circle your final answer.

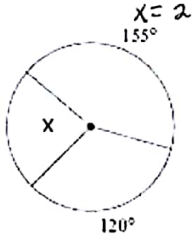
1. Assuming $\overline{AB}$ is tangent to the circle. Determine the value of AB.
   a. 10.3
   (b) 21.8
   c. 26.5
   d. 59.9



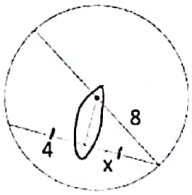
$x^2+10^2=24^2$
$x^2+100=576$
$x^2=476$
$x=21.8$

2. Find the value of x.
   a. 75°
   (b) 85°
   c. 150°
   d. 170°

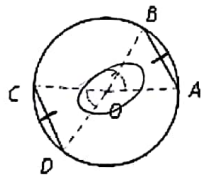
360 − 155 − 120 = 85



3. Find the value of x.
   a. $4\sqrt{3}$
   b. $8\sqrt{3}$
   (c) 4
   d. 16

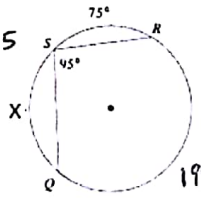


4. Given AB = 7, find CD.
   (a) 7
   b. 14
   c. 60
   d. 45



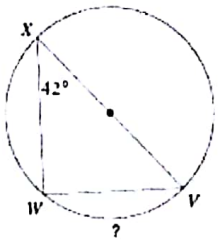
5. Find the value of x.
   a. 75°
   b. 85°
   (c) 95°
   d. 100°

$x = 360 - 190 - 75$



95.2 ↓ 190

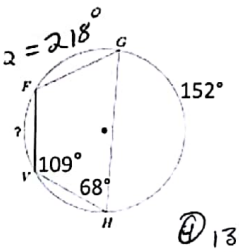
6. Find the measure of arc WV.
   a. 46°
   (b) 84°
   c. 96°
   d. 24°



$42 \cdot 2 = 84$

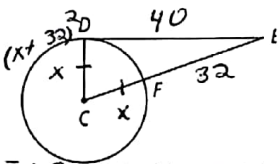
7. Find the measure of arc FV.
   (a) 70°
   b. 66°
   c. 132°
   d. 28°

① $m\widehat{FGH} = 109 \cdot 2 = 218$
② $218 - 152 = 66°$
③ $m\widehat{VFG} = 68 \cdot 2 = 136°$
④ $136 - 66 = 70°$



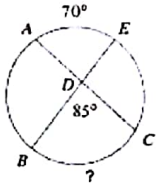
$m\widehat{FG} = 66°$

8. If DE = 40 and FE = 32, find the radius.
   a. 10
   b. 5.2
   (c) 9
   d. 9.5



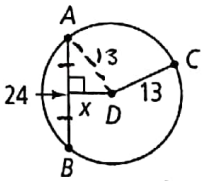
$x^2+40^2=(x+32)^2$
$x^2+1600=x^2+64x+1024$
$1600=64x+1024$
$64x=576 \rightarrow x=9$

9. Find the measure of arc BC.
   a. 70°
   b. 85°
   (c) 100°
   d. 170°



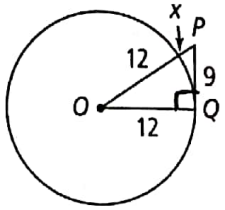
$\frac{m\widehat{BC}+70}{2}=85$
$m\widehat{BC}+70=170$

10. Find the value of x.
    (a) 5
    b. 6
    c. 9
    d. 10



$13^2=12^2+x^2$
$x=5$

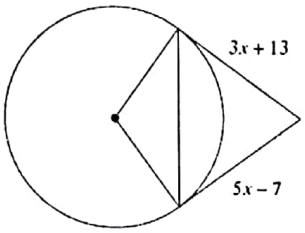
11. Find the value of x.
    a. 2
    b. 8
    (c) 3
    d. 10



$12^2+9^2=(12+x)^2$
$225=(12+x)^2$
$15=12+x$
$x=3$

Short Answer: Show all your work.

12. Solve for x.

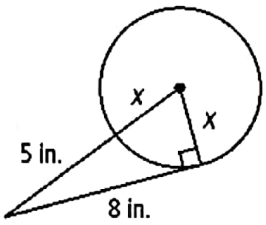


$5X-7=3X+13$

$2X=20$

$\boxed{X=10}$

13. Solve for x.



$x^2+8^2=(x+5)^2$

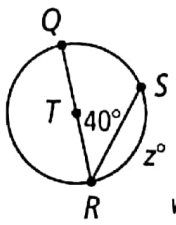
$x^2+64=x^2+10x+25$

$64=10x+25$

$10X=39$

$X=\boxed{3.9 \text{ inches}}$

14. Find the value of z.



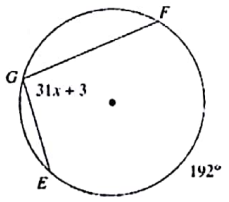
$m\overset{\frown}{QS}=2\cdot 40^\circ=80^\circ$

$m\overset{\frown}{QSR}=180^\circ$

$m\overset{\frown}{SR}=180-80=100^\circ$

$z=\boxed{100}$

15. Find the value of x.



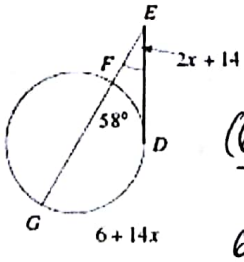
$31X+3=\frac{192}{2}$

$31X+3=96$

$31X=93$

$\boxed{X=3}$

16. Solve for x.



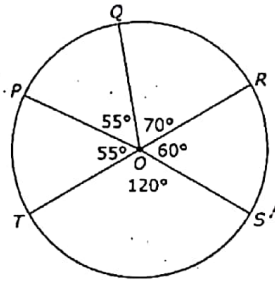
$\frac{(6+14X)-58}{2}=2X+14$

$6+14X-58=4X+28$

$10X=80$

$\boxed{X=8}$

17. The diameter of circle O has a length of 16 ft. What is the approximate area of the sector bounded by ∠POR and arc PQR.



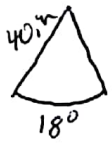
radius: 8 ft

$\theta=55+70=125^\circ$

$A=\frac{125}{360}\cdot\pi(8)^2$

$A=\boxed{69.8 \text{ ft}}$

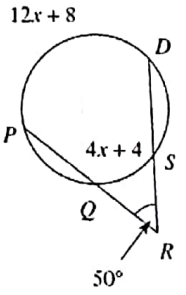
18. A 40-inch pendulum swings through an angle of 18°. Find the length of the arc in inches through which the end of the pendulum swings.



Arc length: $\frac{18}{360}\cdot 2\pi(40)$

$=\boxed{12.6 \text{ inches}}$

19. Find the value of x.



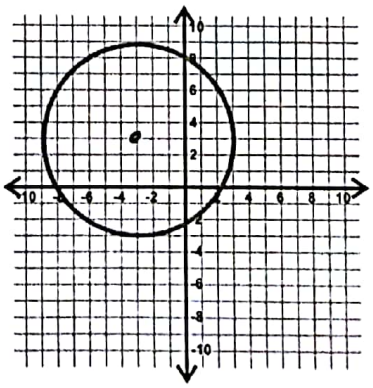
$\frac{(12x+8)-(4x+4)}{2}=50$

$12x+8-4x-4=100$

$8X+4=100$

$X=\frac{96}{8}=\boxed{12}$

20. Write the equation for the circle below.



radius: 6

center: (−3, 3)

$\boxed{(x+3)^2+(y-3)^2=36}$

Kuta Software - Infinite Geometry

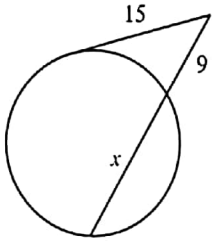
Name_____

Segment Lengths in Circles

Date_____ Period____

Solve for x. Assume that lines which appear tangent are tangent.

1)



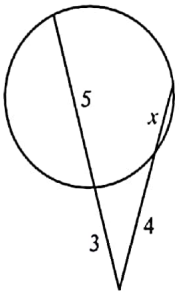
$15^2 = 9(x+9)$

$225 = 9x + 81$

$144 = 9x$

$\boxed{x = 16}$

2)



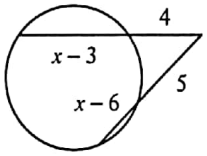
$3(3+5) = 4(4+x)$

$24 = 16 + 4x$

$8 = 4x$

$\boxed{x = 2}$

3)



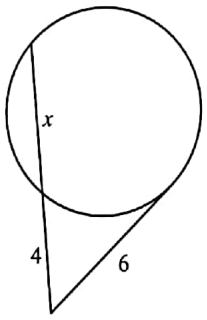
$4(4+x-3) = 5(x-6+5)$

$4(x+1) = 5(x-1)$

$4x + 4 = 5x - 5$

$\boxed{9 = x}$

4)



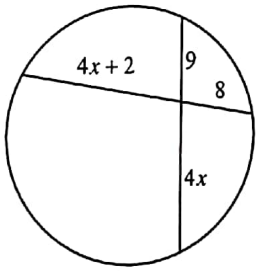
$4(4+x) = 6^2$

$16 + 4x = 36$

$4x = 20$

$\boxed{x = 5}$

5)



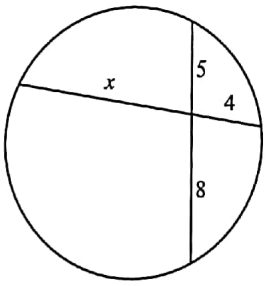
$8(4x+2) = 9(4x)$

$32x + 16 = 36x$

$16 = 4x$

$\boxed{x = 4}$

6)

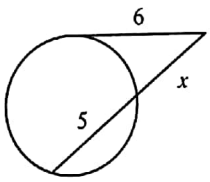


$4x = 5 \cdot 8$

$4x = 40$

$\boxed{x = 10}$

7)



$6^2 = x(x+5)$

$36 = x^2 + 5x$

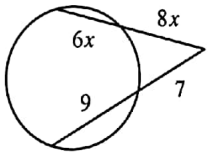
$x^2 + 5x - 36 = 0$

$(x-4)(x+9) = 0$

$x = 4, \cancel{-9}$

$\boxed{x = 4}$

8)



$8x(6x+8x) = 7(7+9)$

$8x \cdot 14x = 7 \cdot 16$

$112x^2 = 112$

$x^2 = 1$

$\boxed{x = 1}$ ← ignore negative solution