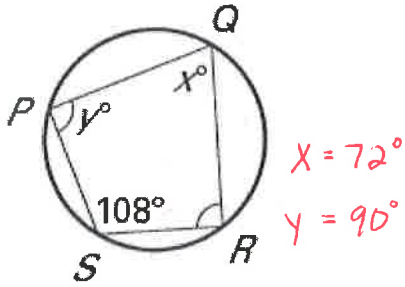
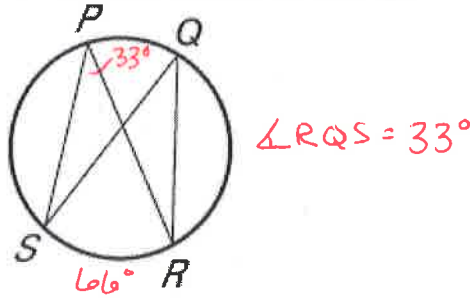


1. $m\angle x$ and $m\angle y$?



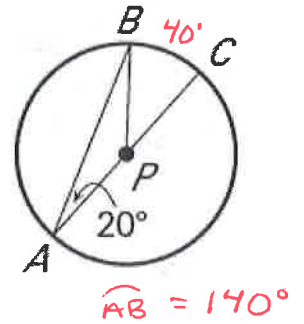
$x = 72^\circ$
 $y = 90^\circ$

2. If $\angle SPR = 33^\circ$ then what is the $m\angle RQS$?



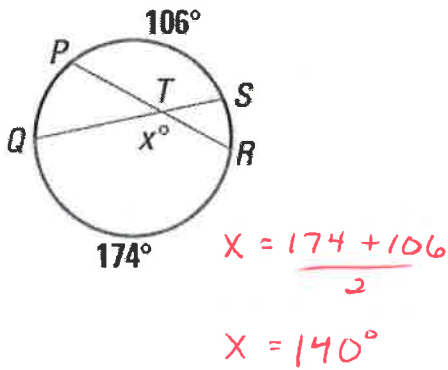
$\angle RQS = 33^\circ$

3. $m\widehat{AB}$



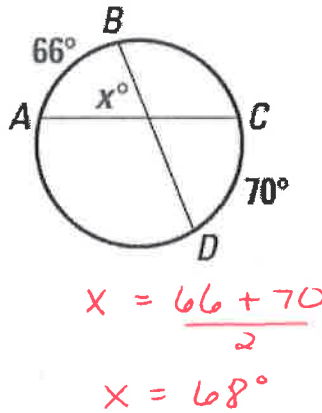
$\widehat{AB} = 140^\circ$

4. $m\angle x$?



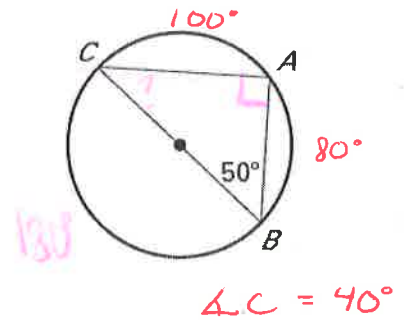
$x = \frac{174 + 106}{2}$
 $x = 140^\circ$

5. $m\angle x$?



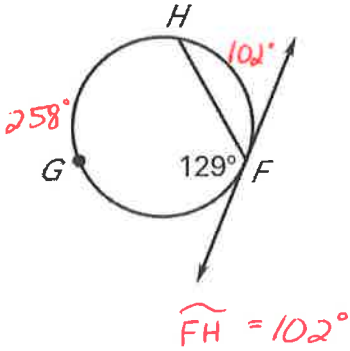
$x = \frac{66 + 70}{2}$
 $x = 68^\circ$

6. $m\angle C$?



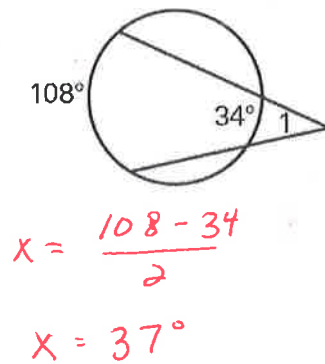
$\angle C = 40^\circ$

7. $m\widehat{FH}$



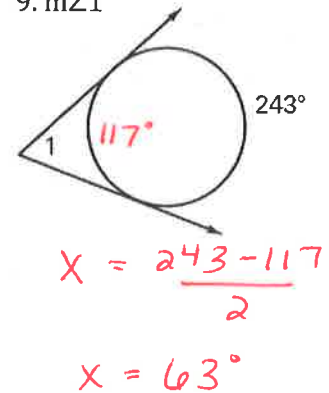
$\widehat{FH} = 102^\circ$

8. $m\angle 1$



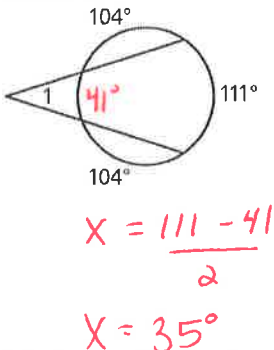
$x = \frac{108 - 34}{2}$
 $x = 37^\circ$

9. $m\angle 1$



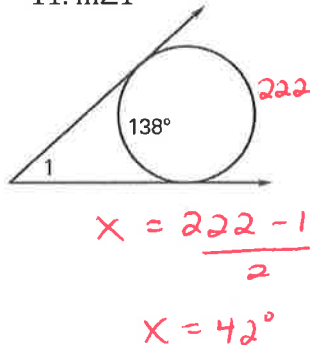
$x = \frac{243 - 117}{2}$
 $x = 63^\circ$

10. $m\angle 1$



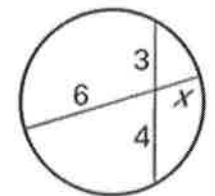
$x = \frac{111 - 41}{2}$
 $x = 35^\circ$

11. $m\angle 1$



$x = \frac{222 - 138}{2}$
 $x = 42^\circ$

12. Length of x



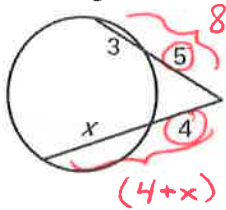
$6 \cdot x = 3 \cdot 4$
 $6x = 12$
 $x = 2$

13. Convert the following from degrees to radians or vice versa.

a) $34^\circ \cdot \frac{\pi}{180} = \frac{34\pi}{180} = \frac{17\pi}{90}$

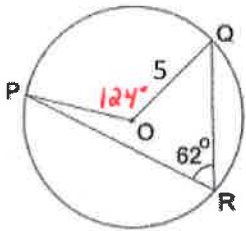
b) $\frac{4\pi}{3} \cdot \frac{180}{\pi} = \frac{720}{3} = 240^\circ$

14. Length of x



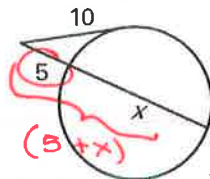
$$\begin{aligned} W \cdot O &= W \cdot O \\ 8 \cdot 5 &= 4(4+x) \\ 40 &= 16 + 4x \\ 24 &= 4x \\ 6 &= x \end{aligned}$$

17. Area of Sector POQ



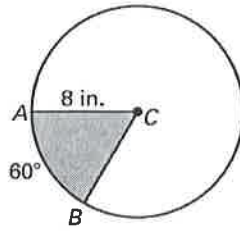
$$\begin{aligned} A &= \frac{124}{360} \pi \cdot 5^2 \\ &= 27.1 \text{ units}^2 \end{aligned}$$

15. Length of x



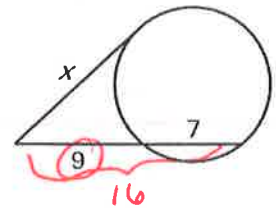
$$\begin{aligned} W \cdot O &= \tan^2 \\ 5(5+x) &= 10^2 \\ 25 + 5x &= 100 \\ 5x &= 75 \\ x &= 15 \end{aligned}$$

18. Area of Sector ACB



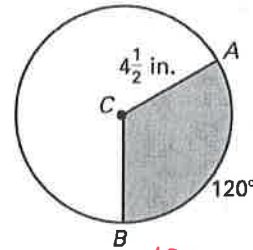
$$\begin{aligned} A &= \frac{60}{360} \pi \cdot 8^2 \\ &= 33.5 \text{ in}^2 \end{aligned}$$

16. Length of x



$$\begin{aligned} W \cdot O &= \tan^2 \\ 16 \cdot 9 &= x^2 \\ 144 &= x^2 \\ 12 &= x \end{aligned}$$

19. Area of Sector ACB



$$\begin{aligned} A &= \frac{120}{360} \cdot \pi \cdot 4.5^2 \\ A &= 21.2 \text{ in}^2 \end{aligned}$$

20. What is the equation of the circle whose center is (-2, 5) and radius = 3?

$$(x + 2)^2 + (y - 5)^2 = 9$$

21. What is the equation of the circle who has a point (3, 2) and the center is (5, 0)?

$$\begin{aligned} (3-5)^2 + (2-0)^2 &= r^2 \\ (-2)^2 + 2^2 &= r^2 \end{aligned}$$

$$r^2 = 8$$

$$(x - 5)^2 + (y - 0)^2 = 8$$

22. What is the center and radius of the circle: $x^2 + y^2 + 6x - 8y = 0$?

$$\left(\frac{6}{2}\right)^2 = 3^2 = 9 \quad x^2 + 6x + 9 + y^2 - 8y + 16 = 0 + 9 + 16$$

$$\left(\frac{-8}{2}\right)^2 = (-4)^2 = 16 \quad (x + 3)^2 + (y - 4)^2 = 25$$

$$C: (-3, 4) \quad R: \sqrt{25} = 5$$

23. Find the center and the radius of the circle. Then prove or disprove that the point (2, 5) is on the circle whose equation is $(x - 4)^2 + (y + 6)^2 = 125$

$$C: (4, -6)$$

$$R: \sqrt{125}$$

$$(2-4)^2 + (5+6)^2 = 125$$

$$(-2)^2 + 11^2 = 125$$

$$4 + 121 = 125 \quad \checkmark$$

yes, on the circle

24. Find the center and the radius of the circle. Then prove or disprove that the point (3, 3) is on the circle whose equation is $x^2 + y^2 + 6x - 14y - 12 = 0$?

$$\left(\frac{6}{2}\right)^2 = 3^2 = 9 \quad x^2 + 6x + 9 + y^2 - 14y + 49 = 12 + 9 + 49$$

$$(-14/2)^2 = (-7)^2 = 49 \quad (x + 3)^2 + (y - 7)^2 = 70$$

$$\text{center: } (-3, 7)$$

$$\text{Radius: } \sqrt{70}$$

$$(3+3)^2 + (3-7)^2 = 70$$

$$6^2 + (-4)^2 = 70$$

$$36 + 16 = 70$$

$$52 \neq 70$$

Not on circle