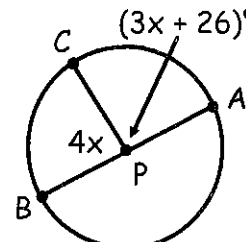
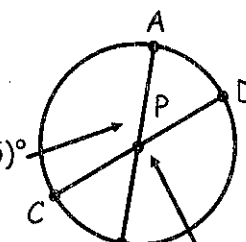


Name Key Date: _____

In 1-2, use $\odot P$ to find the value of x . Then, find the arc measures.

1. 

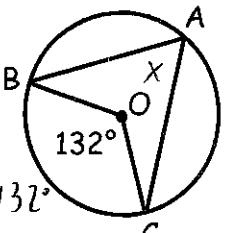
$m\widehat{BC} = ? 84^\circ$
 $m\widehat{AC} = ? 92^\circ$
 $3x + 26 + 4x = 180$
 $x = 22$

2. 

$m\widehat{AC} = ? 135$
 $m\widehat{BD} = ? 135$
 $4x - 5 = 2x + 65$
 $x = 35$

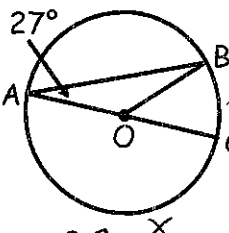
Find the measure of the indicated arc or angle in $\odot O$.

3. $m\angle BAC = ? 66$



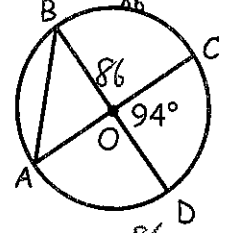
$x = \frac{132}{2}$

4. $m\widehat{BC} = ?$



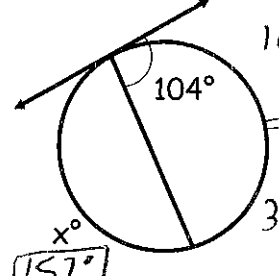
$27 = \frac{x}{2}$

5. $m\angle BAC = ? 43$

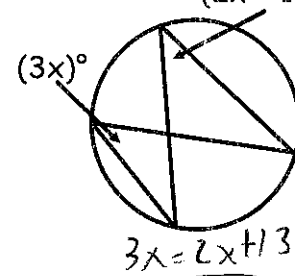


$x = \frac{86}{2}$

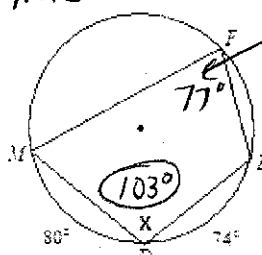
Find the value of each variable.

6. 

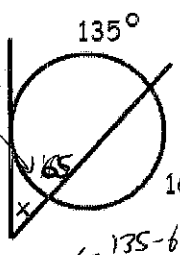
$104 = \frac{x}{2}$
 $x = 208$
 $360 - 208 = x$
 $x = 152$

7. 

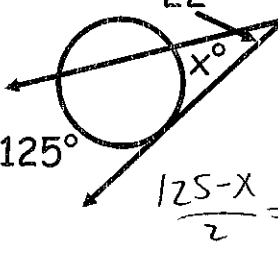
$3x = 2x + 13$
 $x = 13$

8. 

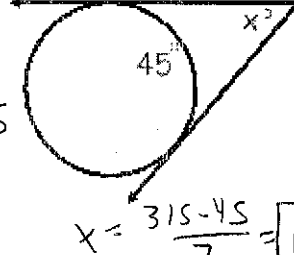
or $m\widehat{FE} = 206^\circ$
 $x + 77 = 180$
 $x = 103$
 $\frac{80 + 74}{2}$

9. 

$360 - 135 = 225$
 $225 - 160 = 65$
 $x = \frac{135 - 65}{2} = 35$

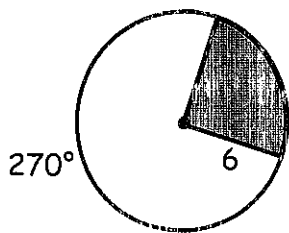
10. 

$\frac{125 - x}{2} = 22$
 $125 - x = 44$
 $x = 81$

11. 

$x = \frac{315 - 45}{2} = 135$

12. Find the area and arc length of the shaded region.



$$\begin{aligned} \text{Area} &= \frac{90}{360} \pi (6)^2 \\ &= 9\pi \\ &= 28.27 \end{aligned}$$

$$\begin{aligned} \text{A.L.} &= \frac{90}{360} 2\pi(6) \\ &= 3\pi \\ &= 9.42 \end{aligned}$$

13. The radius of a pizza is 8 in. The pizza is cut into eighths.

a) Find the area of one piece of pizza. $A = \frac{1}{8} \pi (8)^2 = \boxed{8\pi \text{ in}^2} = 25.13 \text{ in}^2$

b) Find the length of the crust on one piece of pizza.

$$\text{A.L.} = \frac{1}{8} 2\pi(8) = \boxed{2\pi \text{ in}} = 6.28 \text{ in.}$$

14. Determine the radius of the circle with a circumference of $26\pi \text{ cm}^2$. Use the radius to then find the area.

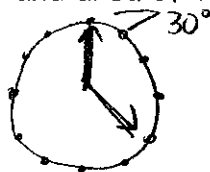
$$\begin{aligned} 26\pi &= 2\pi r \\ r &= 13 \end{aligned}$$

$$\begin{aligned} A &= \pi (13)^2 \\ &= \boxed{169\pi} \text{ or } 530.93 \text{ cm}^2 \end{aligned}$$

15. A sprinkler system can shoot water at a distance of 15 yards. It is set up to rotate 240 degrees. How much area of the yard is covered by the sprinkler?

$$\text{Area} = \frac{240}{360} \cdot \pi (15)^2 = \boxed{150\pi} \text{ or } 471.24 \text{ yds.}^2$$

16. The clock in our classroom has a radius of 9 inches. If it's 4:00, find the arc length and area of the sector for this time.



$$\begin{aligned} \text{A.L.} &= \frac{120}{360} \cdot 2\pi(9) \\ &= \boxed{6\pi} \text{ or } 18.85 \text{ in.} \end{aligned}$$

$$\begin{aligned} \text{Area} &= \frac{120}{360} \pi (9)^2 \\ &= \boxed{27\pi} \\ &= 84.82 \text{ in}^2 \end{aligned}$$