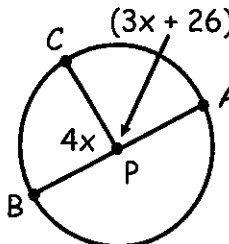
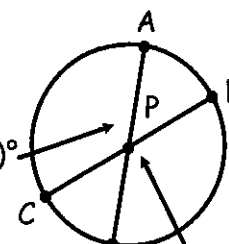
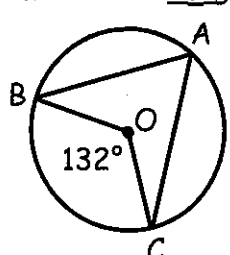


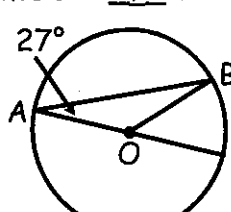
In 1-2, use $\odot P$ to find the value of x . Then, find the arc measures.

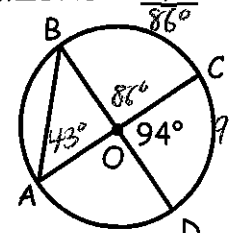
1.  $4x + 3x + 26 = 180$
 $7x + 26 = 180$
 $7x = 154$
 $x = 22$
 $m\widehat{BC} = ? 88$
 $m\widehat{AC} = ? 92$

2.  $4x - 5 = 2x + 65$
 $2x = 70$
 $x = 35$
 $m\widehat{AC} = ? 135$
 $m\widehat{BD} = ? 135$

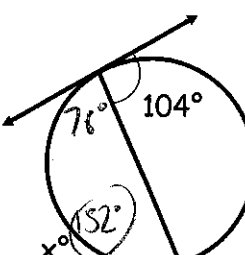
Find the measure of the indicated arc or angle in $\odot O$.

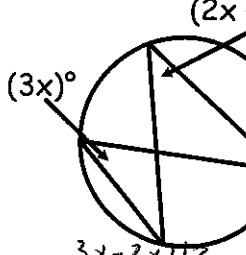
3. $m\angle BAC = ? 66^\circ$


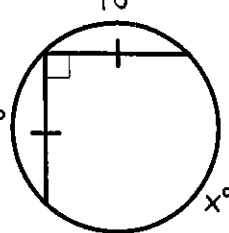
4. $m\widehat{BC} = ? 54^\circ$


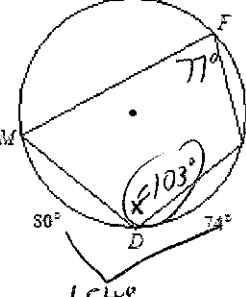
5. $m\angle BAC = ? 43^\circ$


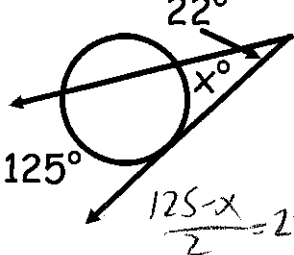
Find the value of each variable.

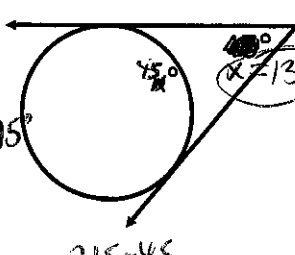
6. 

7.  $3x = 2x + 13$
 $x = 13$

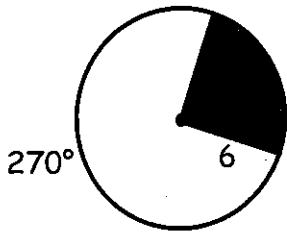
8. 

9. 

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

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

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



$$A_{\text{Sector}} = \frac{90}{360} \pi (6)^2 = 9\pi \text{ or } \underline{28.27 \text{ units}^2}$$

$$\text{Arc Length} = \frac{90}{360} 2\pi(6) = 3\pi \text{ or } \underline{9.42 \text{ units}}$$

13. The area of one piece of pizza is $9\pi \text{ in}^2$. The pizza is cut into eighths. Find the radius of the pizza pie.

$$\text{Area of 8 slices} = (9\pi)(8) = 72\pi$$

$$\begin{aligned} A &= \pi r^2 \\ 72\pi &= \pi r^2 \\ 72 &= r^2 \\ r &= 8.48 \text{ in} \end{aligned}$$

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

$$\begin{aligned} \frac{26\pi}{2\pi} &= \frac{2\pi r}{2\pi} & A &= \pi(13)^2 = \underline{530.9 \text{ in}^2} \\ 13 &= r \end{aligned}$$

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?

$$\frac{240}{360} \pi (15)^2 = \underline{150\pi \text{ or } 471.2 \text{ yds}^2}$$

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.

$$\text{Length } \frac{120}{360} 2\pi(9) = 6\pi \text{ or } \underline{18.8 \text{ in}}$$

$$A_{\text{Sector}} \frac{120}{360} \pi (9)^2 = 27\pi \text{ or } \underline{84.8 \text{ in}^2}$$