$\qquad$

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


$$
\begin{aligned}
& m \overparen{B C}=? \\
& m \overparen{A C}=?
\end{aligned}
$$

2. 



$$
\begin{aligned}
& m \overparen{A C}=? \\
& m \overparen{B D}=?
\end{aligned}
$$

Find the measure of the indicated arc or angle in circle 0 .
3. $m \angle B A C=$ ?

4. $m \overparen{B C}=$ ?

5. $m \angle B A C=?$


Find the value of each variable.

$\qquad$
12. a. Find the Sector Area of the shaded region. $b$. Find the Arclength of $\widetilde{A B}$

13. The area of one piece of pizza is $9 \pi \mathrm{in}^{2}$. The pizza is cut into eighths. Find the radius of the pizza pie.
14. Determine the radius of the circle with a circumference of $26 \pi \mathrm{~cm}^{2}$. Use the radius to then find the area.
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?
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.

