$\qquad$

1. What is the measure of $<\mathrm{C}$ ?

2. What is the measure of arc EFC?

3. Find the arc length of the shaded region. Round to the hundredths place.

4. Find the area of sector of the shaded region. Leave in terms of $\pi$.

5. a) Write the circle equation $x^{2}+y^{2}-6 x+4 y-3=0$ in standard form.
b) Identify the Center: $\qquad$ Radius: $\qquad$
6. Write the equation of the circle with a center at $(-2,3)$ and tangent to the x -axis. Then graph the circle.

7. Find the missing angles.


$$
<\mathrm{B}=
$$ 8. Solve for $x$.

$x=$ $\qquad$
$<\mathrm{C}=$ $\qquad$ $\sim^{\circ}$
9. Solve for x .

10. Solve for $x$.

11. Solve for $x$.

12. $A B$ is tangent to Circle $C$. Find $\mathbf{x}$.

13. BC is tangent to Circle A. Find $\mathbf{x}$.

14. In the diagram to the right, diameter KM is perpendicular to chord $G J$ and intersects at H . If $\mathrm{MH}=$ 16 , and $\mathrm{KH}=4$. What is HJ?

15. In the figure to the right, $A C$ and $B C$ are tangent to circle O . If $\mathrm{OT}=5$ cm and $\mathrm{BC}=12 \mathrm{~cm}$, what is the length of $O C$ ?

16. In the diagram below, isosceles triangle BFG is inscribed in circle $P$ with diameter FG. Find $\mathbf{x}$.

17. Find the length of AC.

18. The measure of $\operatorname{arc} \operatorname{ADC}=298^{\circ}$.

Find the measure of $x$.


