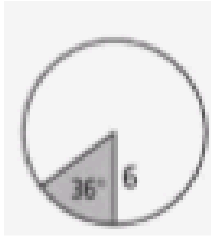# Unit 9: Circles
Review
(Pages 51-60)

1. Find the *exact* radius and diameter of a circle whose circumference is 60π meters. (2 points)

2. Find the exact area of the shaded sector. (2 points)


The wheel pictured below has 18 spokes evenly spaced around the wheel. $\overline{BD}$ is the diameter, and $BD = 36$ inches.

3. What is the length of $\overarc{AC}$? Round your answer to the nearest tenth of an inch. (2 points)

4. What is the length of $\overarc{CBD}$? Round your answer to the nearest tenth of an inch. (2 points)

To make irrigation easier, the Andersons designed their garden in the shape of a circle. The garden measures 40 yards across its diameter, $\overline{AH}$, and E is the center of the circle.
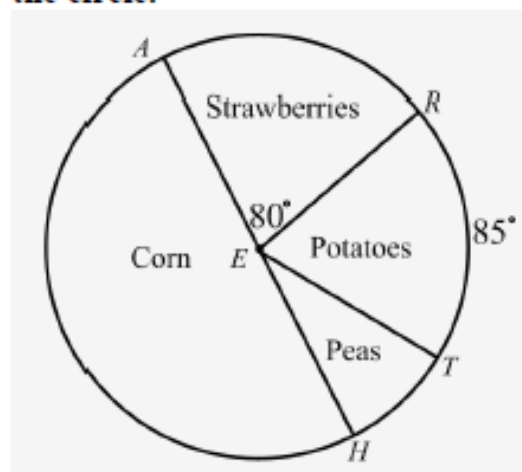

5. What is the area of the sector where the Andersons plan to plant strawberries? Round your answer to the nearest hundredth yard. (2 points)

6. What is the area of the sector where the Andersons plan to plant peas? Round your answer to the nearest hundredth yard. (2 points)

7. In the diagram below, $\overline{FE}$ is tangent to $\odot D$. Find the length of the radius of $\odot D$. (2 points)
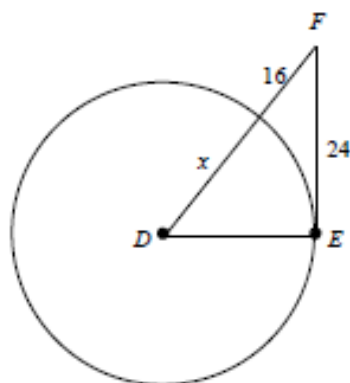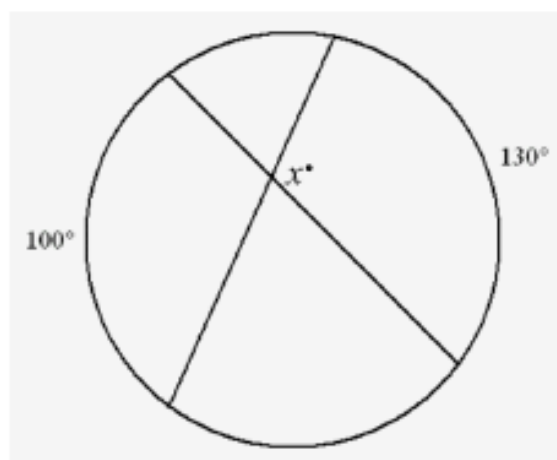
8. In the diagram below, $\odot O$ represents a tent set up on the National Mall. $\triangle KMH$ is a security fence that is tangent to $\odot O$ at points J, L, and K. All distances are measured in meters. What is the perimeter of the fence? (2 points)
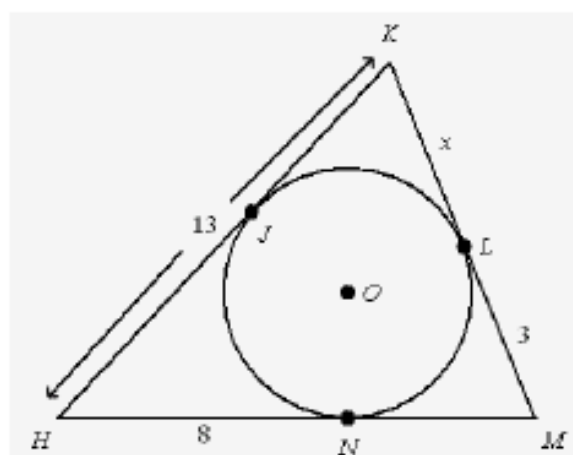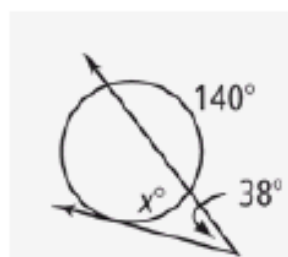

Find x. Assume that lines that appear tangent are tangent to the circle (2 points each)
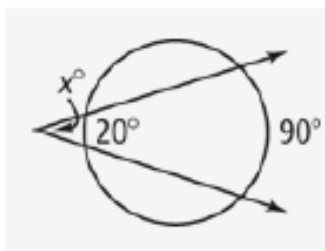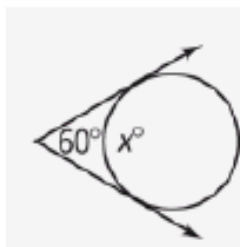
9.

10.

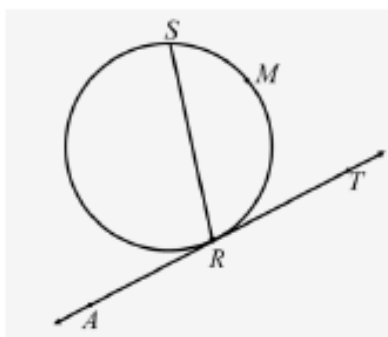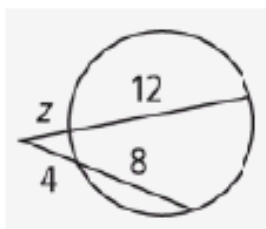**Find x. Assume that lines that appear tangent are tangent to the circle (2 points each)**

11.

$x°$
$20°$
$90°$

12.

$60°$ $x°$

13. In the diagram below, $\overline{AT}$ is tangent to the circle at R and $m\overset{\frown}{SMR} = 124°$. What is $m\angle ARS$? (2 points)
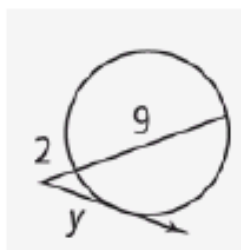

Find the value of each variable using the given chord, secant, and tangent lengths. If the answer is not a whole number, round to the nearest tenth. (2 points each)
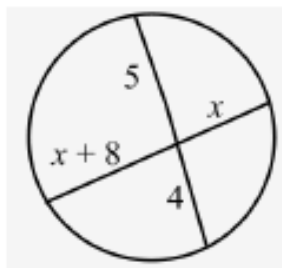
14.

12
z
4   8

Find the value of each variable using the given chord, secant, and tangent lengths. If the answer is not a whole number, round to the nearest tenth. (2 points each)
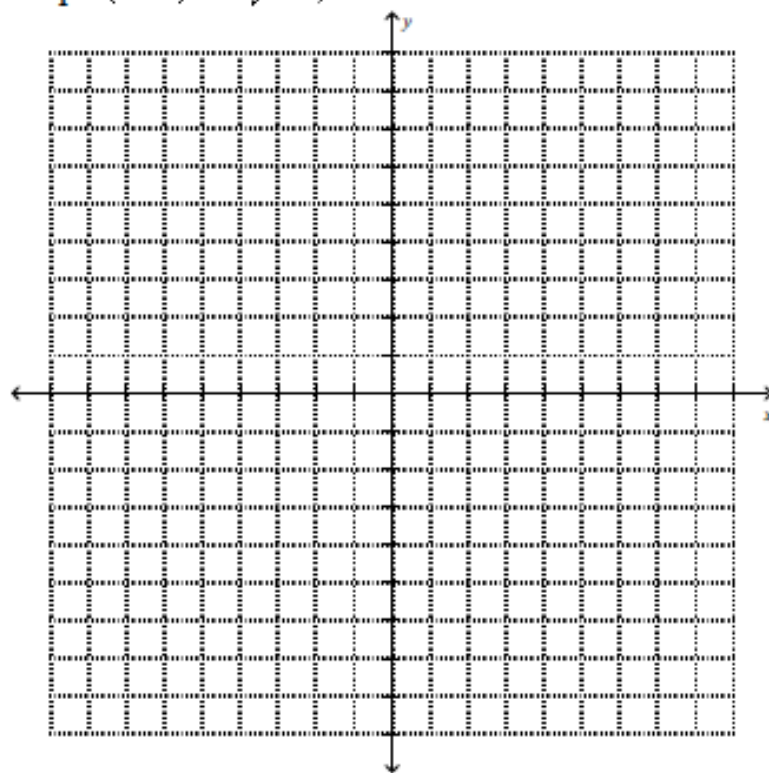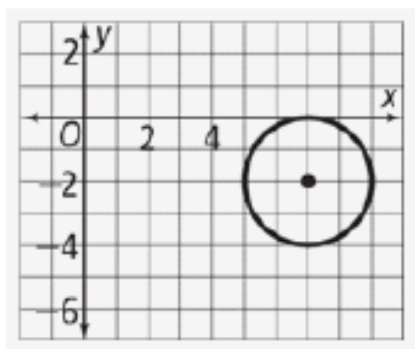
15.

16.

17. Graph $(x-3)^2 + (y+1)^2 = 25.$

18. Write an equation for a circle with a diameter that has endpoints at $(-10, 1)$ and $(-8, 5)$.

19. Write the standard equation of the circle graphed below. (2 points)
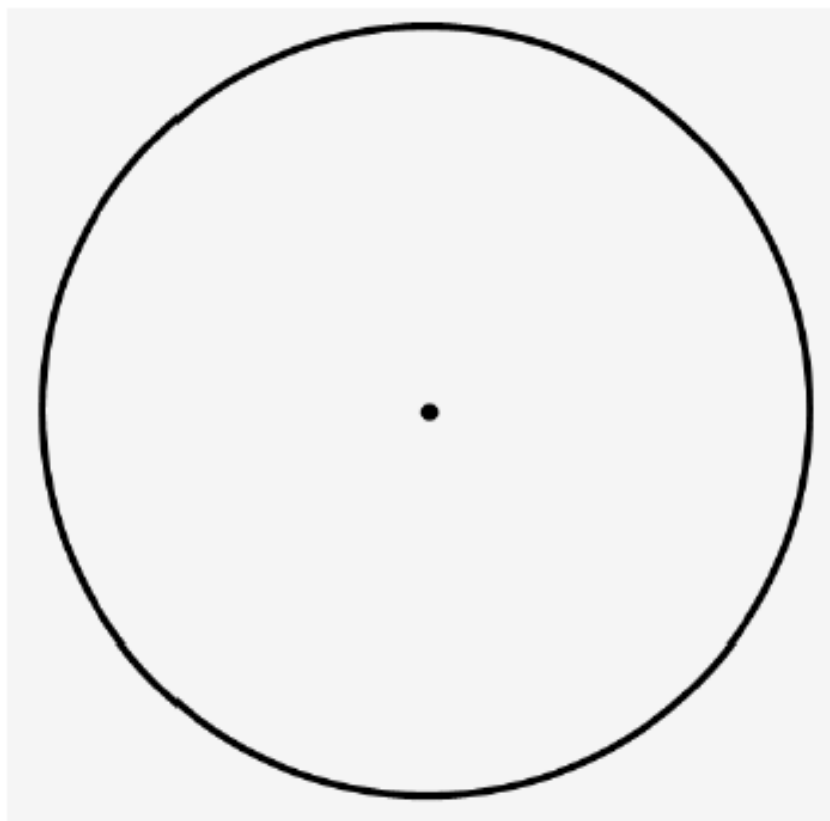

20. Write an equation for a circle with center at $(-8, 8)$ and diameter $= 16$. (2 points)
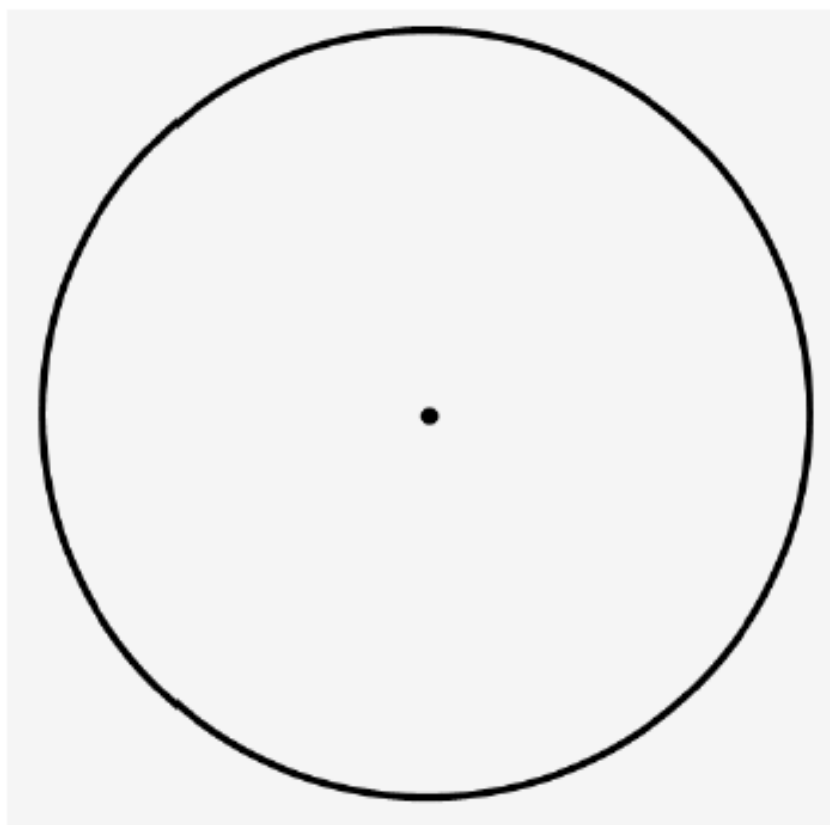
21. State the coordinates of the center and the length of the radius of the circle with the following equation. (2 points)
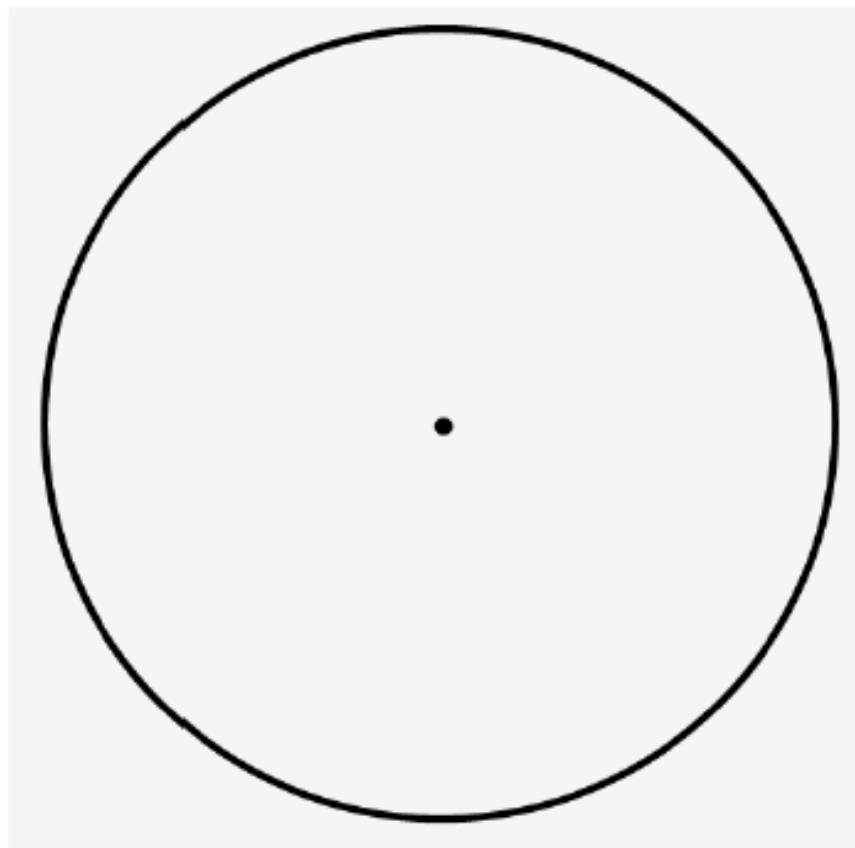
$$81 = (x+5)^2 + (y-6)^2$$

22. Inscribe an equilateral triangle in the circle below. (2 points)

23. Inscribe regular quadrilateral in the circle below. (2 points)

24. Inscribe regular hexagon in the circle below. (2 points)

25. Construct a tangent from point T to the circle. (2 points)

$\bullet T$