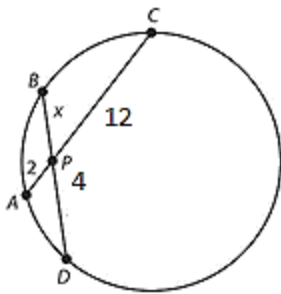**Unit 8 Review**

For 1–2, use the diagram and information below.
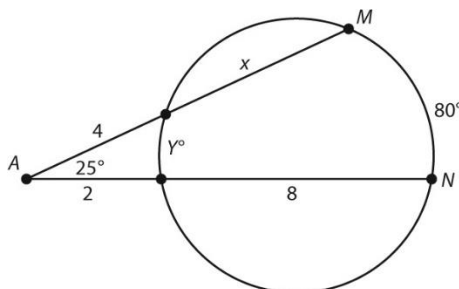

1. What is the value of x?

$$x = 6$$

2. If $m\widehat{BC} = 54°$ and $m\widehat{AD} = 22°$ what is m∠BPC?

$$m\angle BPC = 38°$$

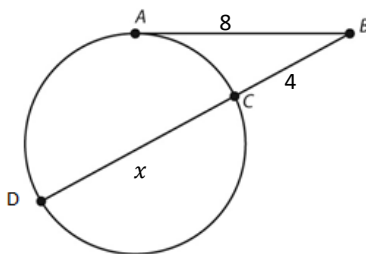For 3–4, use the diagram below.

3. Find the value of x.

$$x = 1$$

4. Find the value of y.
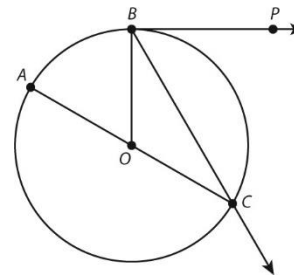
$$y = 30°$$

5. What is the value of x? $\boxed{12 = x}$

6. What is the radius of a circle with a circumference of 64π inches?

$$r = 32\ in$$

Name_____
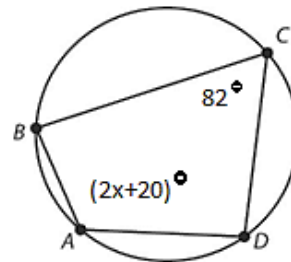
For 7–8, use the circle centered at point O below.

7. If m∠BOC = 120°, find m∠PBC.

$$m\angle PBC = 60°$$

8. Find $m\widehat{AB}$.

$$m\widehat{AB} = 60°$$

For 9–10, use the diagram below.

9. If ∠ABC = 83° what is m∠CDA?

$$m\angle CDA = 97°$$

10. What is the measure of ∠DAB?

$$x = 39$$

$$m\angle DAB = 98°$$
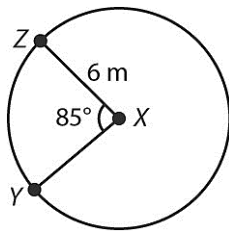
11. What is the area of a circle with circumference 6π centimeters in terms of π?

$$A = \pi 3^2 = 9\pi\ cm^2$$

12. What is the radius of a circle with an area of 16π square inches?

$$r = \sqrt{16} = 4\ in$$

Refer to the figure below for 13–16.

A circle with center *X* and radius 6 meters is shown.

13. What is the circumference of circle *X*, to the nearest tenth of a meter?

$C = 12\pi \approx 37.7$ m

14. What is the length of $\overparen{YZ}$ to the nearest tenth of a meter?

8.9 m

15. What is the area of circle *X*, to the nearest tenth of a square meter?

$A = 36\pi \approx 113.1$ m²

16. What is the area of the sector formed by $\angle X$, to the nearest tenth of a square meter?
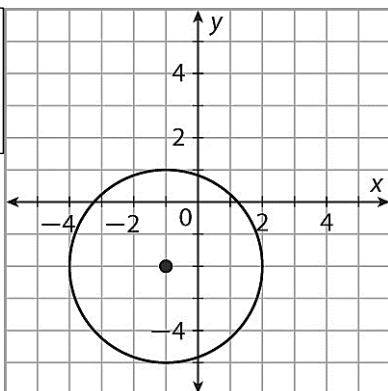
26.7 m²

17. What is the equation of the circle below?

$(x - (-1))^2 + (y - (-2))^2 = 3^2$
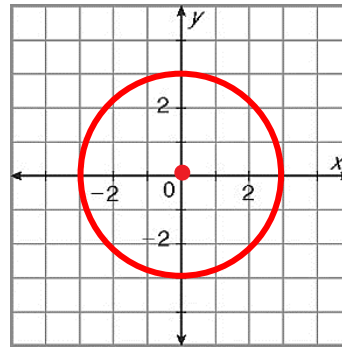
$(x + 1)^2 + (y + 2)^2 = 9$

Radius=3

Center (-1, -2)

18. What is the equation of a circle that is centered at $(0, -5)$ and has a diameter of 18 units?

$(x - 0)^2 + (y - (-5))^2 = 9^2$

$x^2 + (y + 5)^2 = 81$

19. Prove or disprove that the point $(2, \sqrt{3},)$ lies on the circle that is centered at the origin and contains the point $(-3, 0)$.

The point $(2, \sqrt{3})$ does not lie on the circle.

Use the given equation of a circle to answer question 20.
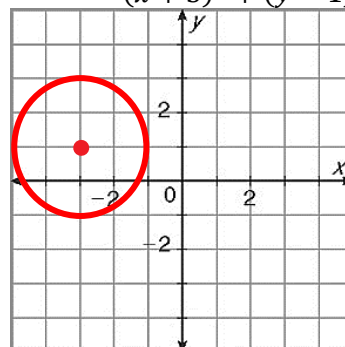
$$x^2 + 2x + y^2 - 8y = -13$$

20. Find the center and radius of the circle. Show your work.

Radius: 2   Center: (-1 , 4)

21. Graph the equation

$$(x + 3)^2 + (y - 1)^2 = 4$$

Radius=$\sqrt{4} = 2$

Center (-3, 1)

22. Which is bigger, a slice of 9 inch pie cut into 6 equal pieces or a slice of 8 inch pie cut into 5 equal pieces? Show work and explain.

9 inch slice is bigger