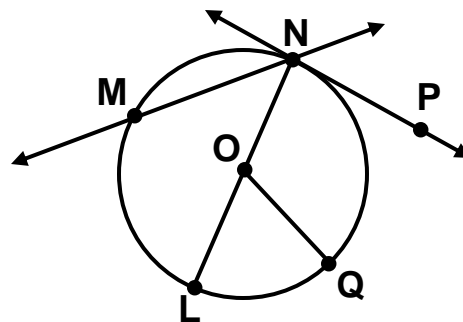NAME_____DATE_____PER.____

# REVIEW #13:  CIRCLES

## PART 1 CIRCLE BASICS
**Use circle O below to name each of the following.**
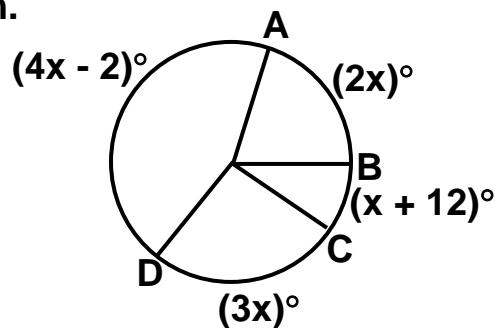
| | |
|---|---|
| 1. _____ | The center. |
| 2. _____ | All radii. |
| 3. _____ | A diameter. |
| 4. _____ | A secant. |

| | | | |
|---|---|---|---|
| 5. _____ | A tangent. | 6. _____ | A point of tangency. |
| 7. _____ | A point in the interior. | 8. _____ | A point in the exterior. |

## PART 2 TANGENTS: Find the indicated values.

9. x = _____

10. x = _____

11. x = _____

12. x = _____
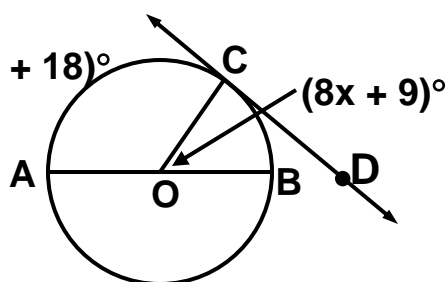
13. P = _____

Find the perimeter of the quadrilateral:

**PART 3 ARCS & CENTRAL ANGLES**: Using the figure below, find the measure of each of the following arcs and classify them.



| | |
|---|---|
| 14. _____ ; _____ | $\widehat{AC}$ |
| 15. _____ ; _____ | $\widehat{BC}$ |
| 16. _____ ; _____ | $\widehat{CD}$ |
| 17. _____ ; _____ | $\widehat{ADC}$ |

$(4x - 2)°$   $(2x)°$   $(x + 12)°$   $(3x)°$

In the figure below, $\overline{AB}$ is a diameter and $\overleftrightarrow{CD}$ is a tangent to circle O.  Find the measure of the following angles.
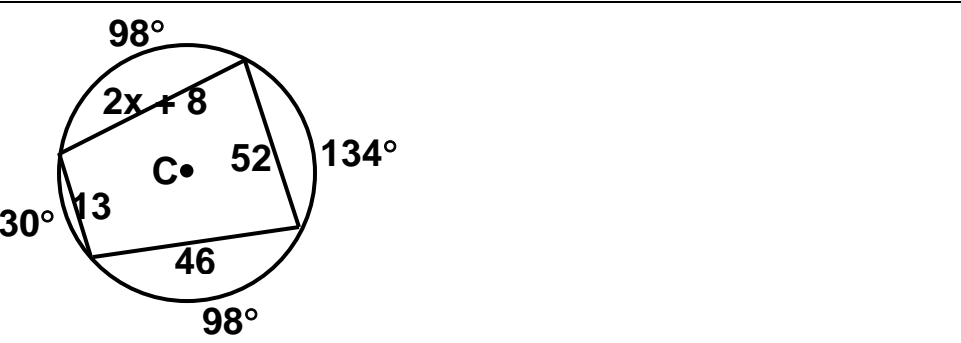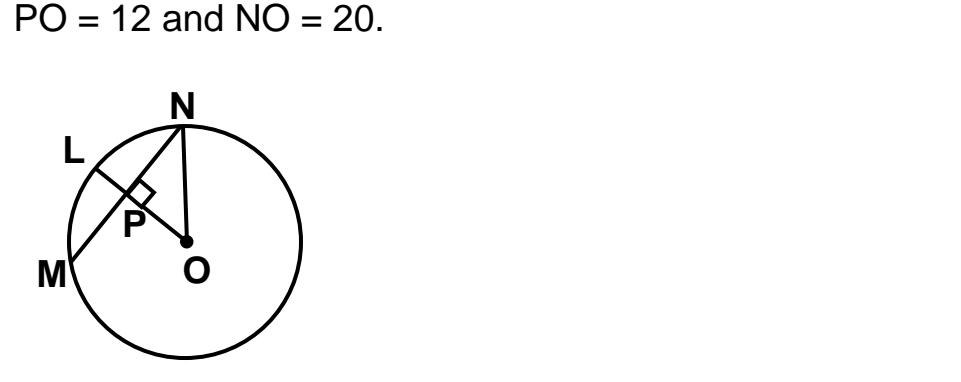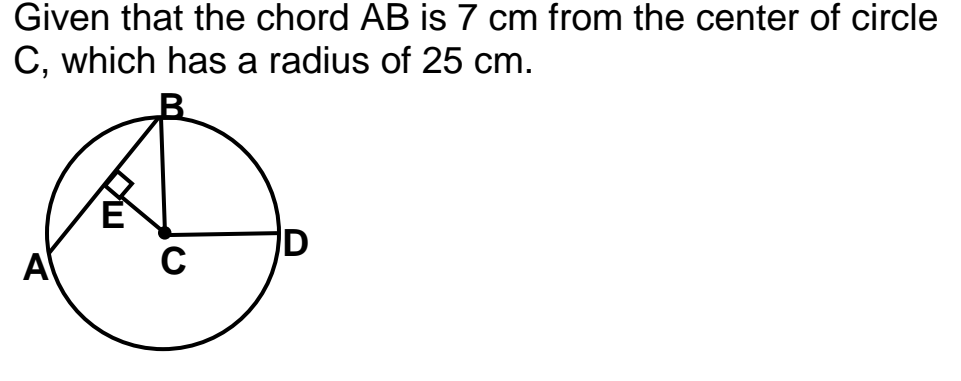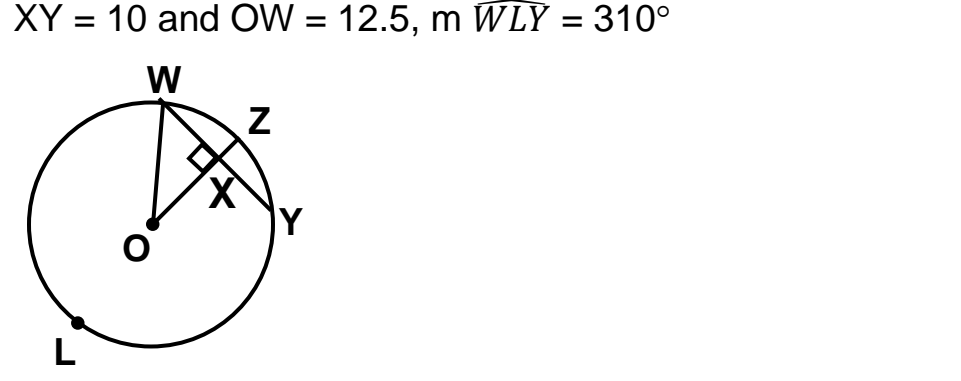


| | |
|---|---|
| 18. _____ | m∠AOC = ? |
| 19. _____ | m∠BOC = ? |
| 20. _____ | m∠OCD = ? |

$(9x + 18)°$   $(8x + 9)°$

**Find the indicated measure in each of the following.**
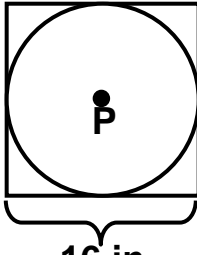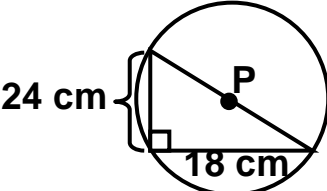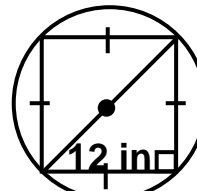
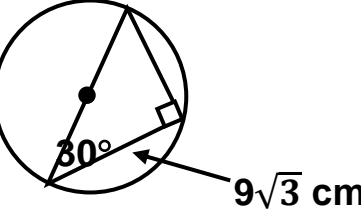| | |
|---|---|
| 21. _____ | In ⊙X the measure of $\widehat{EMA}$ = _____?_____   |
| 22. _____ | In circle Y, $\widehat{RS}$ and $\widehat{RD}$ are congruent, adjacent arcs.  If m$\widehat{RS}$ = 95°,  find the measure of $\widehat{SD}$ .   |
| 23. _____ | The measure of ∠ETD = ?    $(x-1)°$   $(4x+12)°$   $(2x+1)°$   $(2x-3)°$ |

## PART 4 ARCS & CHORDS: Find the indicated measures.
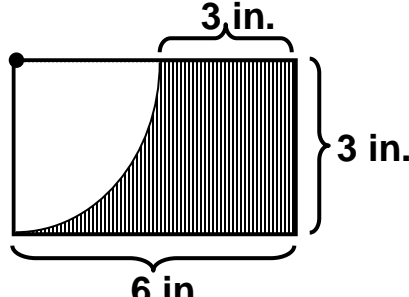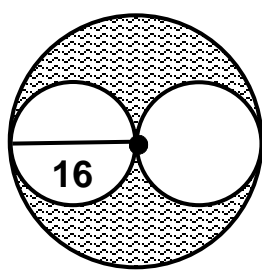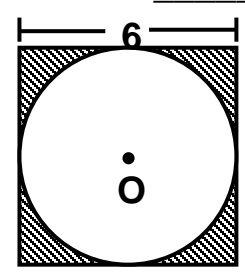
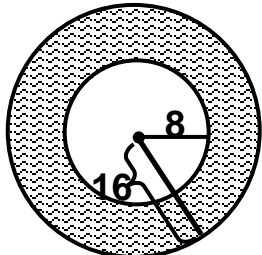| | |
|---|---|
| 24. x = _____ | 98°<br>2x + 8<br>C• 52 \|134°<br>30° \|13<br>46<br>98° |
| 25. PN = _____<br><br>MP = _____<br><br>LP = _____<br><br>MN = _____ | PO = 12 and NO = 20.<br><br>N<br>L<br>P<br>M O |
| 26. CB = _____<br><br>EB = _____<br><br>AE = _____<br><br>AB = _____ | Given that the chord AB is 7 cm from the center of circle C, which has a radius of 25 cm.<br><br>B<br>E<br>A C D |
| 27. WX = _____<br><br>WY = _____<br><br>OX = _____<br><br>m $\widehat{ZY}$ = _____ | XY = 10 and OW = 12.5, m $\widehat{WLY}$ = 310°<br><br>W<br>Z<br>X<br>O Y<br>L |
| 28. MP = _____ | NL = 9<br>L<br>M<br>N O<br>P |

## PART 5:  CIRCUMFERENCE & AREA OF CIRCLES
**Find the circumference and area of each circle as indicated.**

29. C = _____  A = _____

16 in

30. C = _____  A = _____

24 cm

P

18 cm

31. C = _____  A = _____

12 in

32. C = _____  A = _____

30°

$9\sqrt{3}$ cm

## PART 6:  AREA OF COMPOSITE FIGURES

33.  A = _____
*Round to the nearest thousandth.*

3 in.

3 in.

6 in.

34.  A = _____

16

35.  A = _____

6

O

36.  A = _____
*Round to the nearest thousandth.*

8

16

37.  A = _____
*Round to the nearest thousandth.*
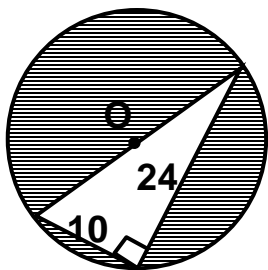


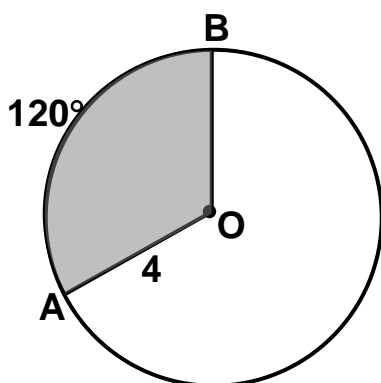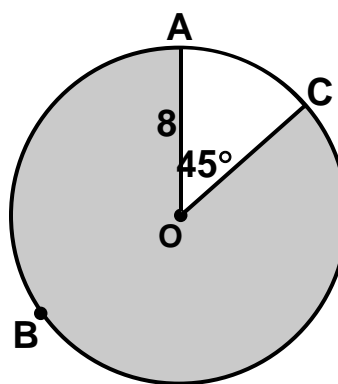38.  A = _____
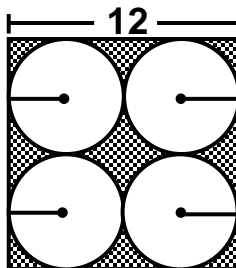


## PART 7:  ARC LENGTH & SECTOR AREA
**Find the indicated arc length and area of the given sector.  Answers to even numbered problems should be rounded to the nearest tenth.**

39.  $\overset{\frown}{AB}$ = _____  S.A. = _____



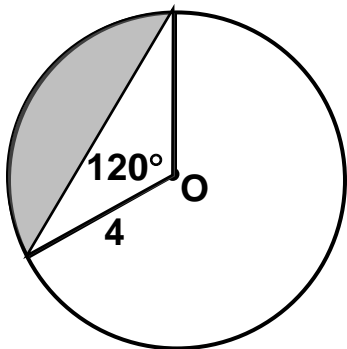40.  $\overset{\frown}{ABC}$ = _____  S.A. = _____



41. Arc Length = _____

In a circle with a radius of 15 cm, the measure of an arc is 150°.  Find the length of the arc.
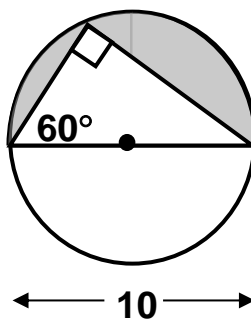
42. Radius = _____

In a circle, the length of an arc with a measure of 120° is $14\pi$.   Find the radius of the circle.

**For problems 43 - 46, find the area of the shaded region. Answers to the even problems should be rounded to the nearest tenth.**
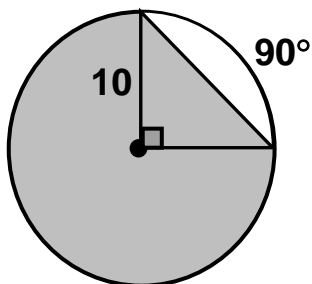
43. A = _____



44. A = _____



45. A = _____



46. A = _____