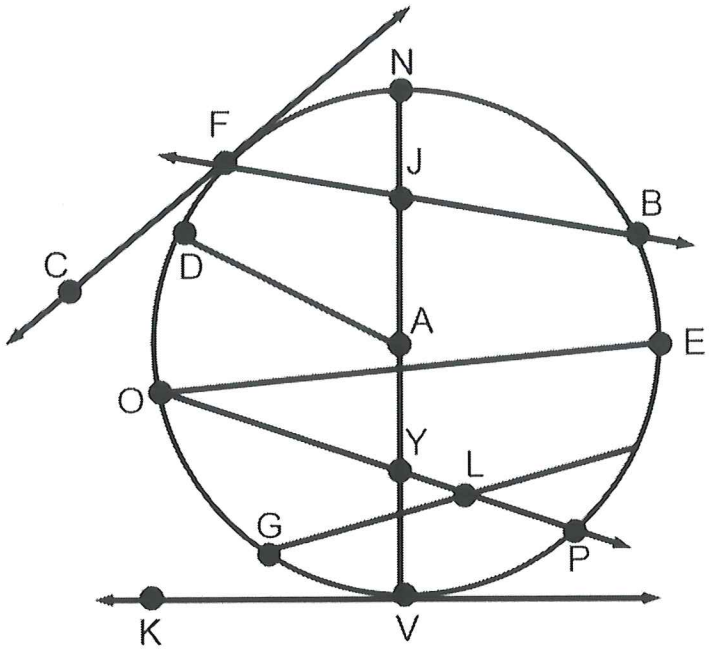
Chapter 9 Review
Math 3313

Name Key
Date _____ **Period** _____

Use the figure of Circle A at right to answer #1 - # 9. If a line appears tangent, assume it is tangent. Be as specific as possible.



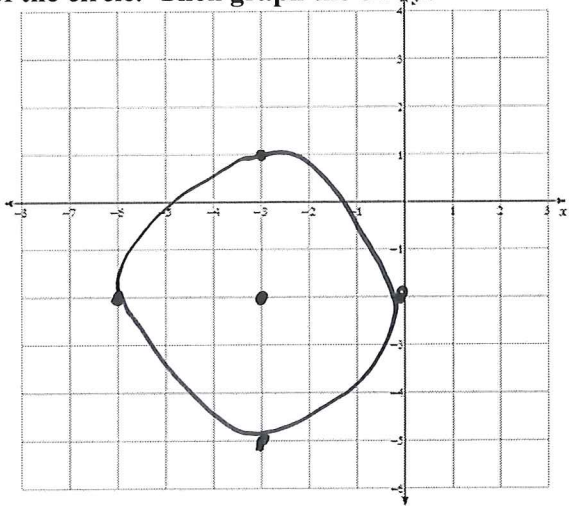
1. **Name two radii:** $\overline{NA}$, $\overline{AV}$, $\overline{DA}$,
2. **Name two chords:** $\overline{NV}$, $\overline{FB}$
3. **Name two secant:** $\overleftrightarrow{FB}$,
4. **Name two tangent:** $\overleftrightarrow{CF}$, $\overleftrightarrow{KV}$
5. **Name two Central angles:** $\angle DAN$, $\angle DAV$
6. **Name a diameter:** $\overline{NV}$
7. **F is a** Point of tangency
8. $\angle POE$ **is an** inscribed $\angle$
9. **Name a right angle:** $\angle KVA$, $\angle AVP$

Given the equation of a circle, find the center, and radius of the circle. Then graph the circle.

10. $(x+3)^2 + (y+2)^2 = 9$

Center: (-3, -2)

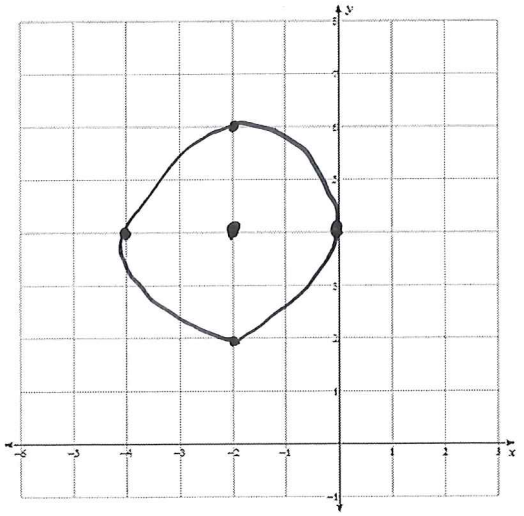
Radius: 3



10. $(x+2)^2 + (y-4)^2 = 4$

Center: (-2, 4)

Radius: 2



Use the figure of circle P at right to find the missing arc or angle measures.

12. $m\widehat{AC}$ = 33°

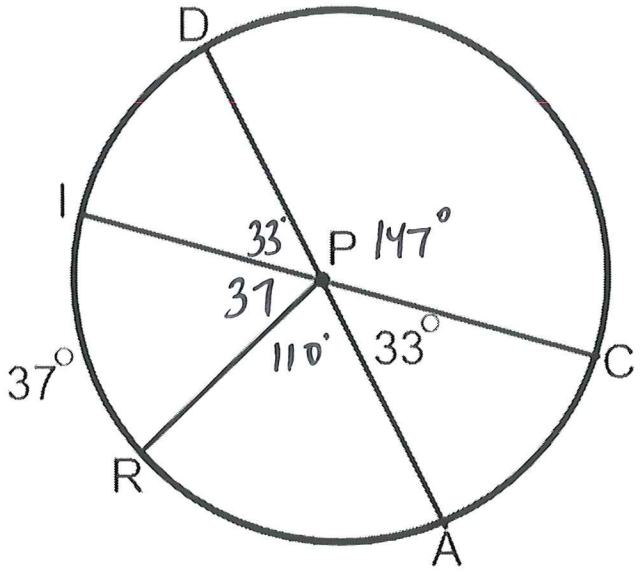
13. $m\widehat{RA}$ = 110°

14. $m\angle DPI$ = 33°

15. $m\angle CPD$ = 147°

16. $m\widehat{CDR}$ = 217°

17. $m\widehat{AI}$ = 147



Use the figure of circle P at right to find the missing arc or angle measures.

18. $m\widehat{RC}$ = 86°

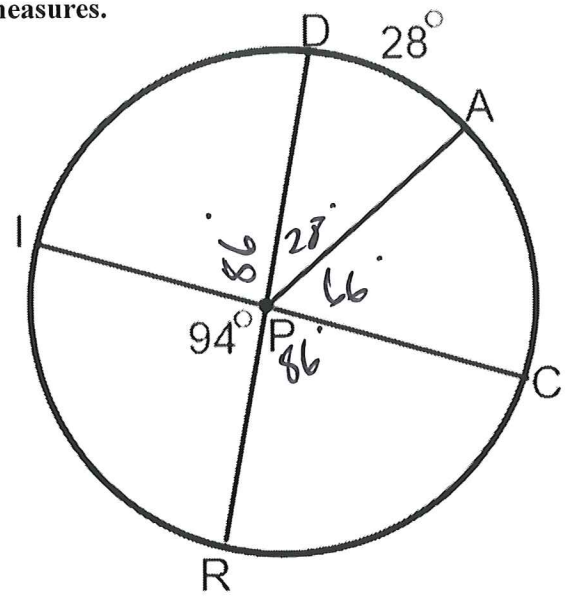
19. $m\widehat{ID}$ = 86°

20. $m\angle CPR$ = 86°

21. $m\angle APR$ = 152°

22. $m\angle IPA$ = 114°

23. $m\widehat{RIA}$ = 208



24. **Write equation of a circle with center (-8, 9) and radius 7.**

$$(x+8)^2+(y-9)^2=49$$

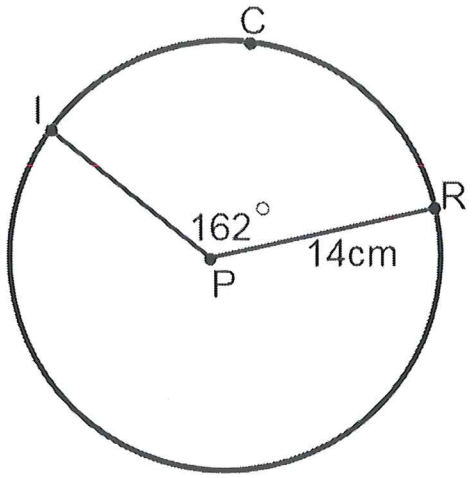
25. **Write equation of a circle with center (24, -13) and radius 13.**

$$(x-24)^2+(y+13)^2=169$$

For 26-27, find the arc length of the following.

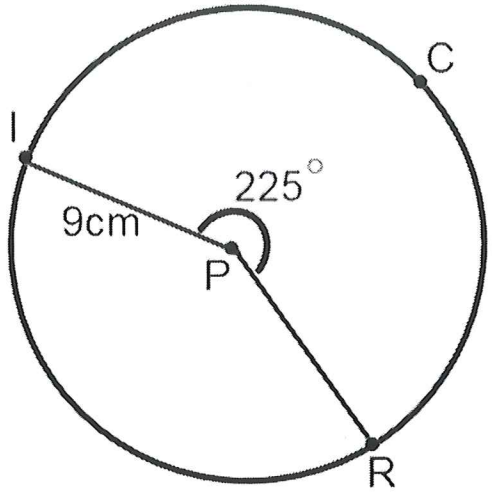
26. Exact arc length of ICR: $\frac{9}{20} \cdot 28\pi = \frac{63}{5}\pi$ cm

Approximate arc length of ICR: 39.58cm



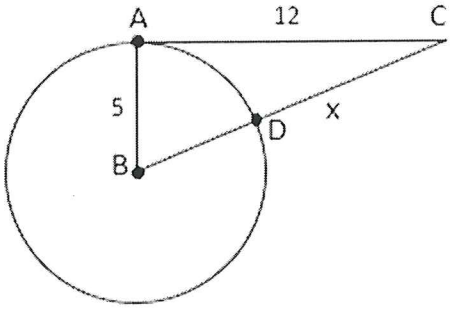
27. Exact arc length of ICR: $\frac{5}{8} \cdot 18\pi = \frac{45}{4}\pi$ cm

Approximate arc length ICR: 35.34cm



Solve for the value of x.

28.



$5^2 + 12^2 = (x+5)^2$

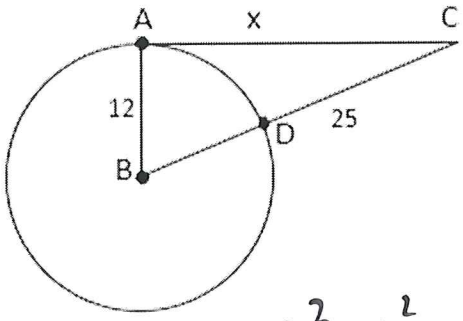
$169 = x^2 + 10x + 25$

$0 = x^2 + 5x - 144$

$0 = (x-8)(x+18)$

$x = 8$ or $x = -18$

29.



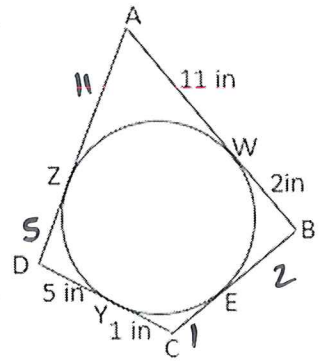
$12^2 + x^2 = (25+12)^2$

$144 + x^2 = 1369$

$x^2 = 1225$

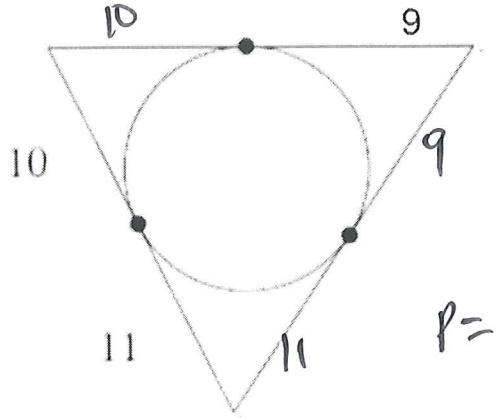
$x = 35$

30. Find the perimeter of quadrilateral ABCD.



P = 38

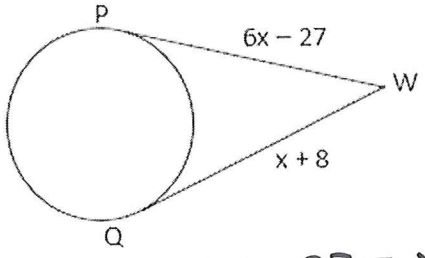
31. Find the perimeter of the triangle.



P = 60

Find the value of the following variables.

32.

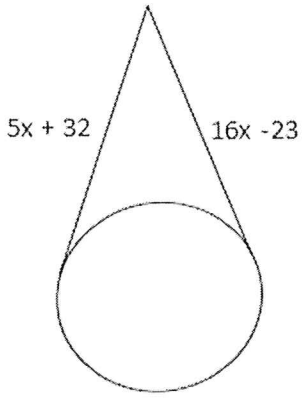


$6x - 27 = x + 8$

$5x = 35$

$x = 7$

33.

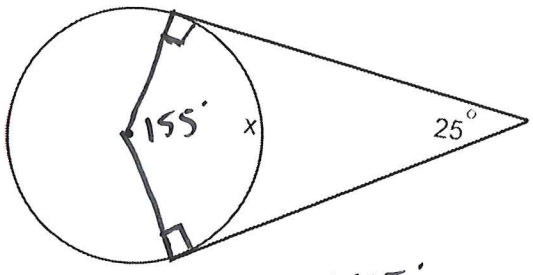


$5x + 32 = 16x - 23$

$55 = 11x$

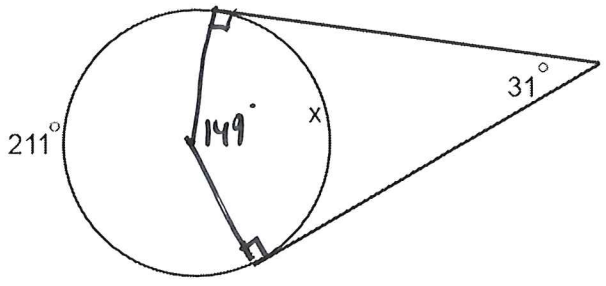
$\boxed{5 = x}$

34.



$x = 155°$

35.



$x = 149$

Find the following missing measures.

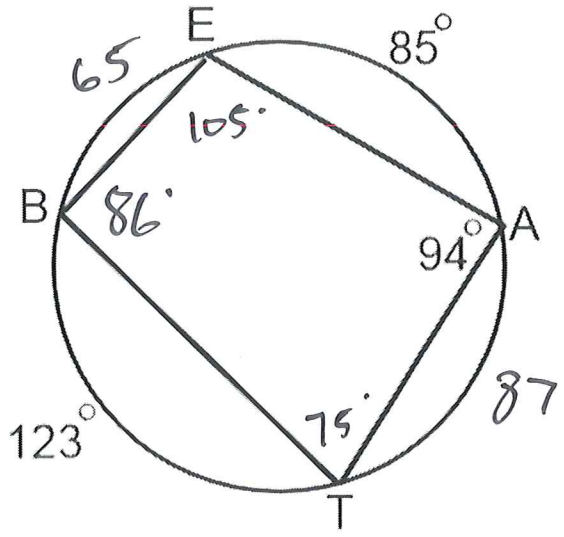
36. $m\angle TBE =$ 86°

37. $m\widehat{AT} =$ 87°

38. $m\widehat{BE} =$ 65°

36. $m\angle ATB =$ 75°

39. $m\angle BEA =$ 105°



Find the following missing measures.

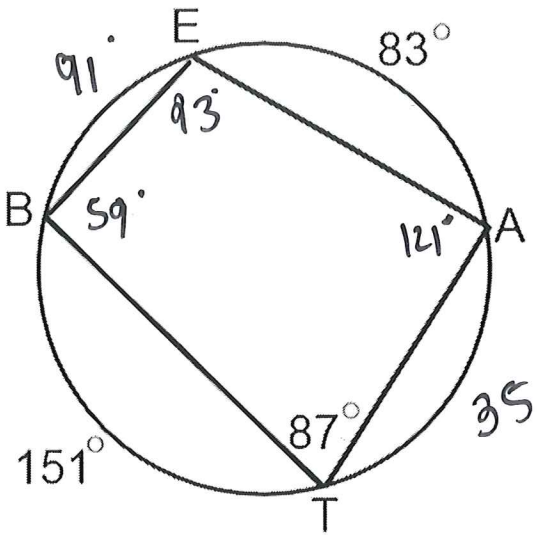
36. $m\angle TBE =$ 59°

37. $m\widehat{AT} =$ 35°

38. $m\widehat{BE} =$ 91°

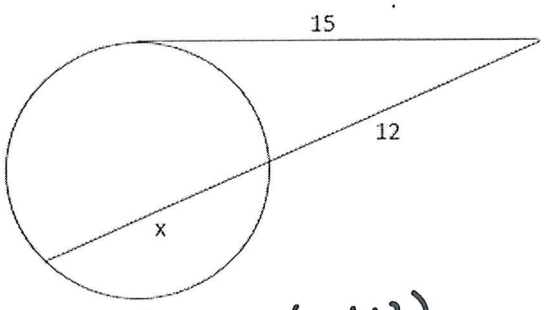
36. $m\angle ATB =$ 87°

39. $m\angle BEA =$ 93°



Find the value of the following variables.

40.



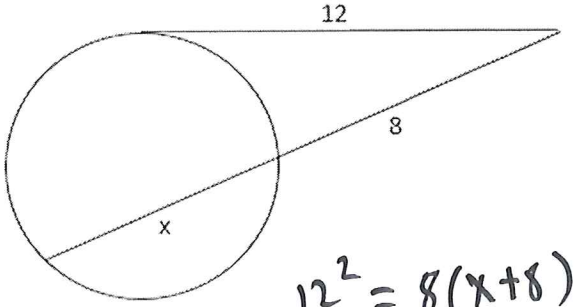
$15^2 = 12(x+12)$

$225 = 12x + 24$

$201 = 12x$

$16.75 = x$

41.



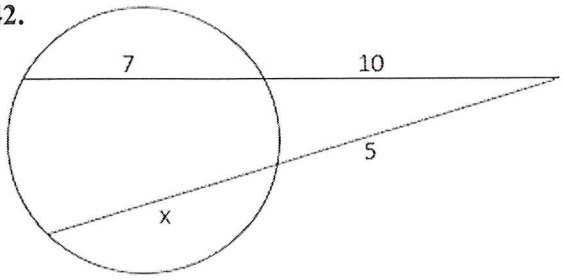
$12^2 = 8(x+8)$

$18 = x + 8$

$\boxed{10 = x}$

Find the value of the following variables.

42.



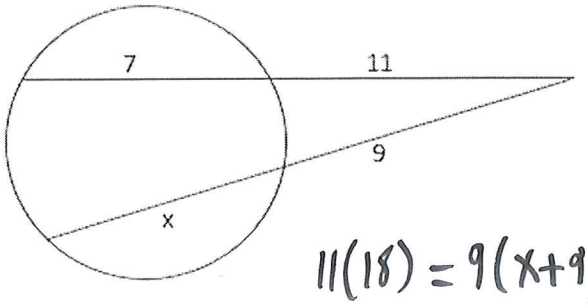
$10(17) = 5(x+5)$

$170 = 5(x+5)$

$34 = x+5$

$29 = x$

43.

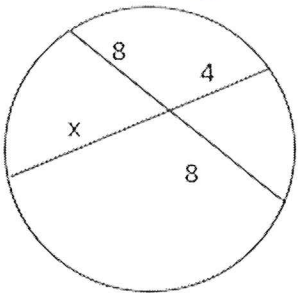


$11(18) = 9(x+9)$

$22 = x+9$

$13 = x$

44.

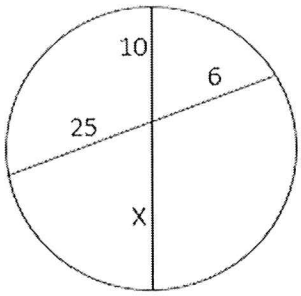


$(8)(8) = 4x$

$64 = 4x$

$16 = x$

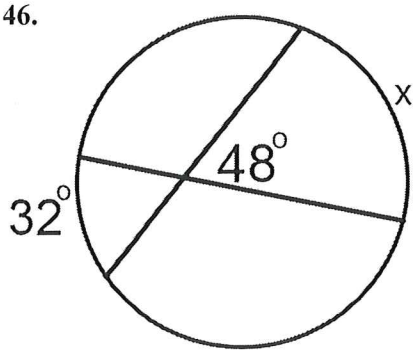
45.



$10x = 150$

$x = 15$

46.

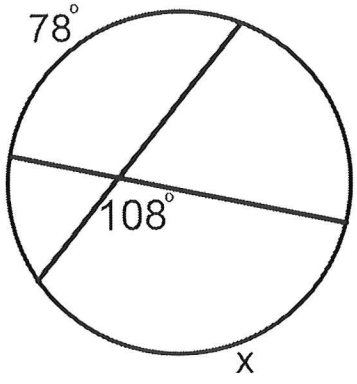


$\frac{32+x}{2} = 48$

$32+x = 96$

$x = 64°$

47.



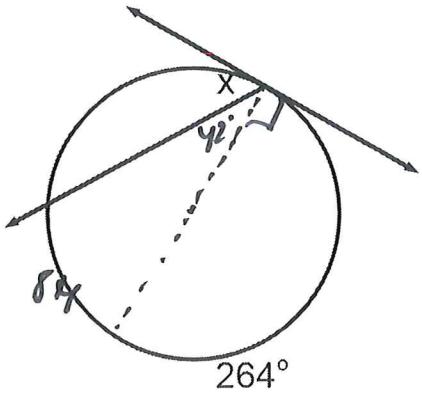
$\frac{78°+x}{2} = 108°$

$78+x = 216$

$x = 138°$

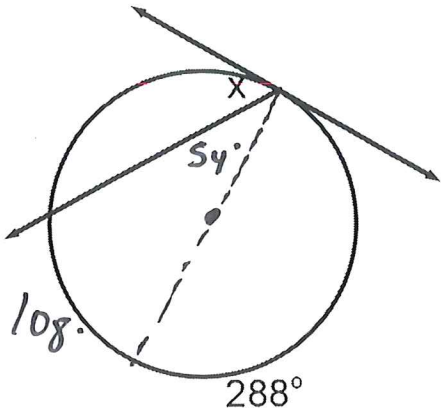
Find the value of the following variables.

48.



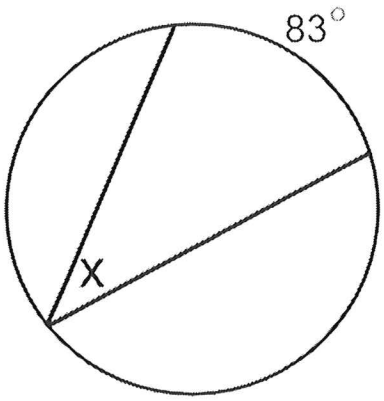
$x = 48°$

49.



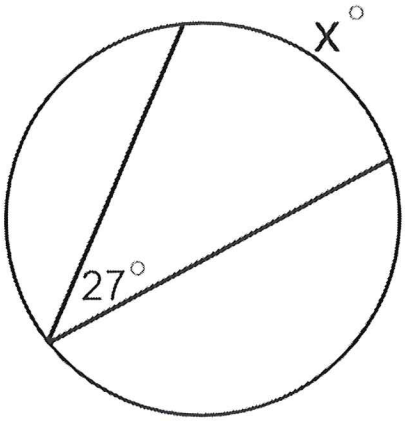
$x = 36°$

50.



$x = 41.5°$

51.



$54° = x°$