Name ANSWERS Date _____

Chapter 12 Review

1) What is the difference between a central angle and an inscribed angle?

The vertex of a central angle is on the center. An inscribed angle's vertex is on the edge of a circle.

2) What is the degree relationship between a central angle and an inscribed angle that share the same intercepted arc?

An inscribed angle is half the intercepted arc.

3) What is the point of tangency?

The single point that a tangent lines touches a circle.

4) What is the relationship between a tangent and radius that meet at the same point on the outside of a circle?

They form a 90° angle.

5) What do we know about two tangent segments of a circle coming from the same point?

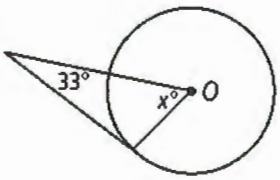
They are congruent

6) What is the formula of a circle on a coordinate plane with the center (h,k) and a radius r?

$(x-h)^2 + (y-k)^2 = r^2$

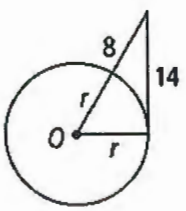
Find the value of the missing variable.

7)



$x = 57°$

8)



$r^2 + 14^2 = (r+8)^2$

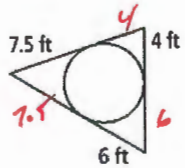
$r^2 + 14^2 = r^2 + 16r + 64$

$132 = 16r$

$r = 8.25$

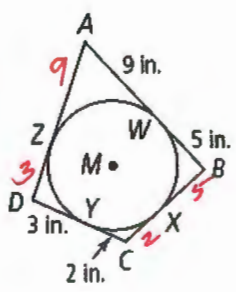
Find perimeter of the following polygons.

9)



35 ft

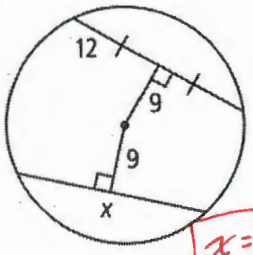
10)



38 in.

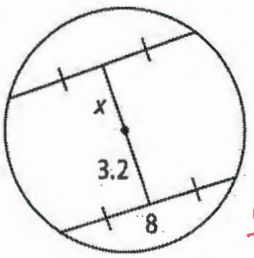
Find the value of the missing variable.

11)



$x = 24$

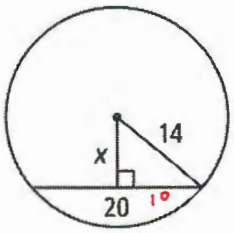
12)



$x = 3.2$

Find the value of the missing variable to the nearest tenth.

13)



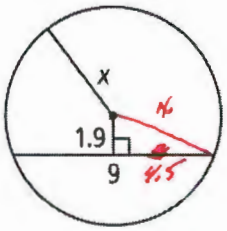
$x^2 + 10^2 = 14^2$

$x^2 = 96$

$x = 4\sqrt{6}$

$x \approx 9.8$

14)



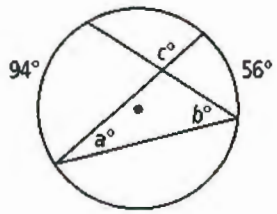
$1.9^2 + 4.5^2 = x^2$

$23.86 = x^2$

$x \approx 4.9$

Find the value of the missing variable.

15)

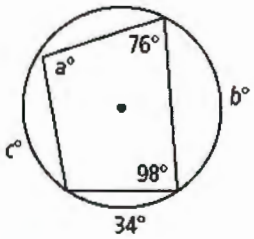


$a = 28°$

$b = 47°$

$c = 105°$

16)

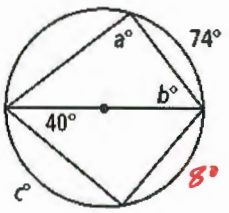


$a = 82°$

$b = 130°$

$c = 118°$

17)

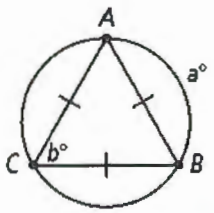


$a = 90°$

$b = 530$

$c = 100$

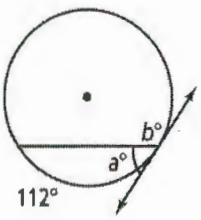
18)



$a = 120°$

$b = 60°$

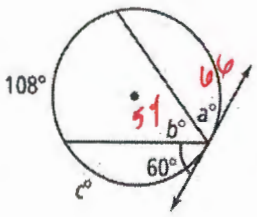
19)



$a = 56°$

$b = 124°$

20)

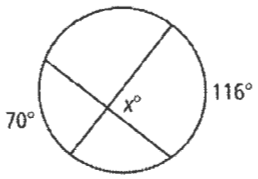


$a = 66°$

$b = 54°$

$c = 120°$

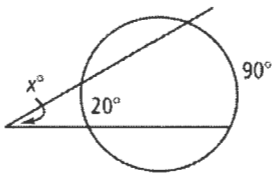
21)



$x = \frac{1}{2}(70 + 116)$

$\boxed{x = 93°}$

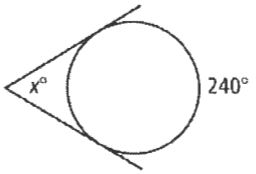
22)



$x = \frac{1}{2}(90 - 20)$

$\boxed{x = 35°}$

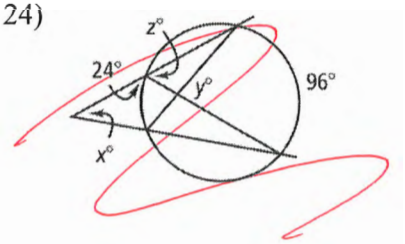
23)



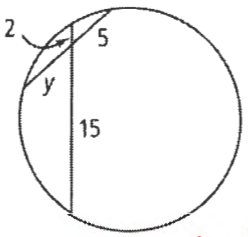
$x = \frac{1}{2}(240 - 120)$

$x = 60°$

24)



25)

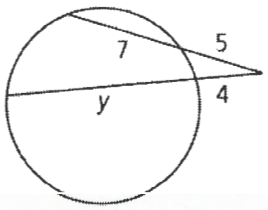


$5y = 2(15)$

$5y = 30$

$\boxed{y = 6}$

26)



$5(12) = 4(y + 4)$

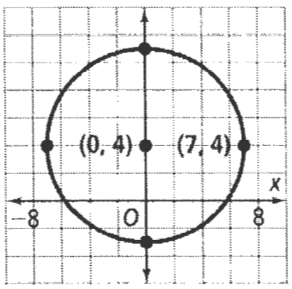
$60 = 4y + 16$

$44 = 4y$

$\boxed{11 = y}$

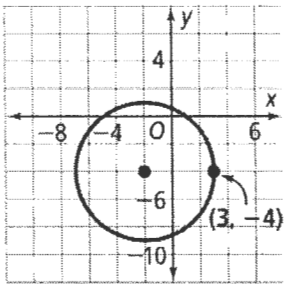
Write the standard equation of the circle.

27)



$x^2 + (y-4)^2 = 7^2$

28)



$(x+2)^2 + (y+4)^2 = 5^2$

Write the standard equation of the circle with the given center that passes through the given point.

29) center (2, −4); point (6, −4)

x

$x = \sqrt{(6-2)^2 + (-4--4)^2}$

$x = \sqrt{4^2 + 0^2}$

$x = \sqrt{4^2}$

$x = 4$

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

30) center (0, 2); point (3, −2)

$x = \sqrt{(3-0)^2 + (-2-2)^2}$

$x = \sqrt{3^2 + (-4)^2}$

$x = \sqrt{9+16}$

$x = \sqrt{25}$

$x = 5$ $\quad x^2 + (y-2)^2 = 5^2$