

Honors Geometry
 Chapter 10
 Review Packet #1
 Find each missing length(s).

Name: Answer Key

Period: _____

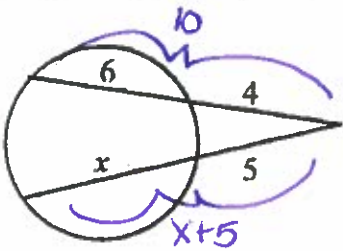
1.

$$10 \cdot 4 = (x+5)5$$

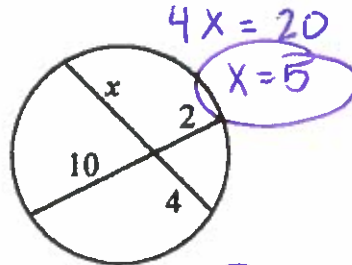
$$40 = 5x + 25$$

$$15 = 5x$$

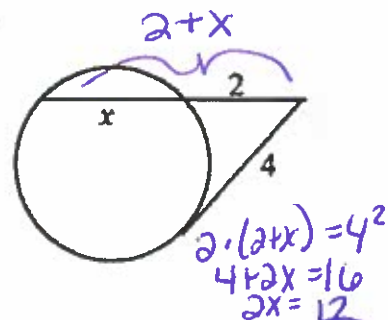
$$3 = x$$



2.



3.

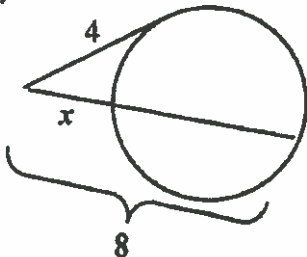


4.

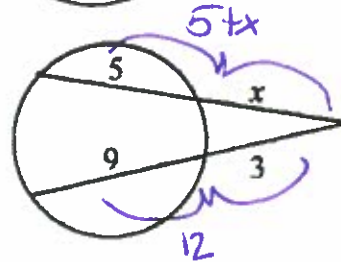
$$8 \cdot x = 4^2$$

$$8x = 16$$

$$x = 2$$



5.



$$(5+x)x = 3(12)$$

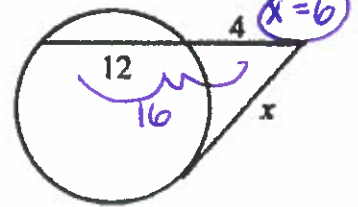
$$5x + x^2 = 36$$

$$x^2 + 5x - 36 = 0$$

$$(x+9)(x-4) = 0$$

$$x = 9 \text{ (x = 4)}$$

6.



$$x^2 = 4(16)$$

$$x^2 = 64$$

$$x = 8$$

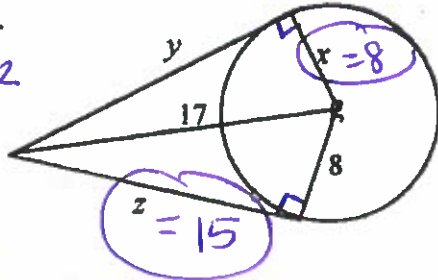
7.

$$y + 8^2 = 17^2$$

$$y^2 + 64 = 289$$

$$y^2 = 225$$

$$y = 15$$

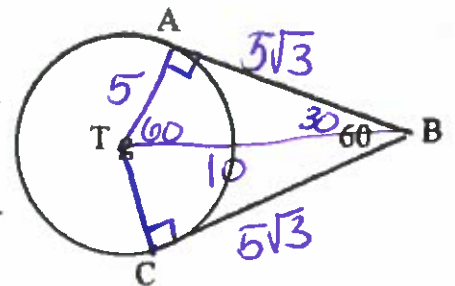


8. Given: Circle T with radius 5 cm
 Find: a) $AB = 5\sqrt{3}$

b) $BT = 10$

c) $m\angle TAB = 90^\circ$

d) $CB = 5\sqrt{3}$



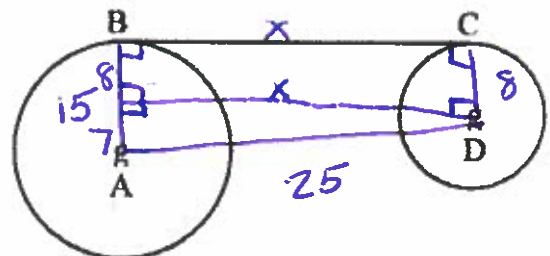
9. Given: Radius of Circle A = 15
 Radius of Circle D = 8
 $AD = 25$
 Find: BC

$$x^2 + 7^2 = 25^2$$

$$x^2 + 49 = 625$$

$$x^2 = 576$$

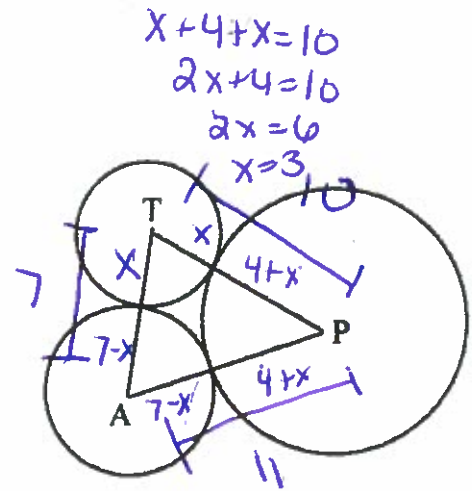
$$x = 24$$



$BC = 24$

10. Given: $PA=11, AT=7, PT=10$
Find: Radius for each circle

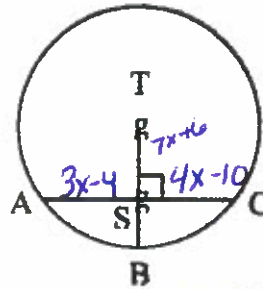
$T = \underline{3}$
 $A = \underline{7-3=4}$
 $P = \underline{4+3=7}$



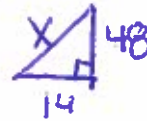
$x+4+x=10$
 $2x+4=10$
 $2x=6$
 $x=3$

11. Given: Circle T
 $AS=3x-4$
 $SC=4x-10$
 $ST=7x+6$

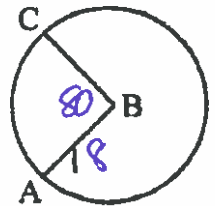
Find: $AC = \underline{28}$
 $TS = \underline{48}$
 $AT = \underline{50}$



$11 - (7-x) = 4+x$
 $3x-4 = 4x-10$
 $6 = x$



$14^2 + 48^2 = x^2$
 $2500 = x^2$
 $50 = x$



12. Given: Circle B
 $AB = 18$
 $m\angle ABC = 80^\circ$

Find: $m\angle AC = \underline{80^\circ}$
Circumference of e B = $2\pi(18) = 36\pi \approx 113.10$
Length of $\overset{\frown}{AC} = \underline{8\pi \approx 25.13}$

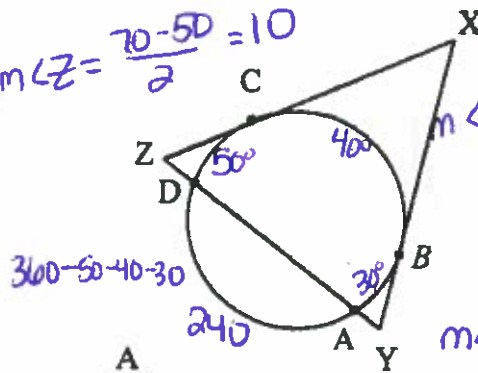
$\frac{80}{360} \cdot 2\pi(18)$
 8π

Side Note:
check ✓
should add to 180 since its a triangle!

13. Given: $\overset{\frown}{AB} = 30^\circ, \overset{\frown}{BC} = 40^\circ, \overset{\frown}{CD} = 50^\circ$

Find: $\angle X = \underline{140^\circ}$
 $\angle Y = \underline{30^\circ}$
 $\angle Z = \underline{10^\circ}$

$m\angle Z = \frac{70-50}{2} = 10$

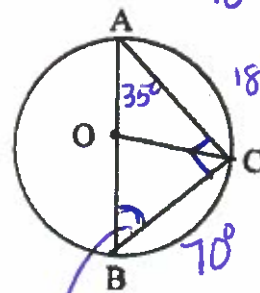


$m\angle X = \frac{(240+50+30)-40}{2} = 140^\circ$

$m\angle Y = \frac{90-30}{2} = 30^\circ$

14. Given: e O, $m\angle OAC = 35^\circ$

Find: $m\angle B = \underline{55^\circ}$

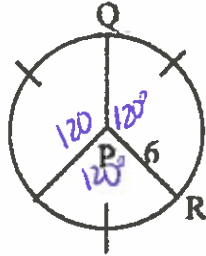


$180-70=110$

$\frac{110}{2} = 55$

15. Find the length of \widehat{QR} .

$$\frac{360}{3} = 120^\circ$$



$$\frac{120}{360} \cdot 2 \cdot \pi \cdot 6 = 4\pi \text{ u}$$

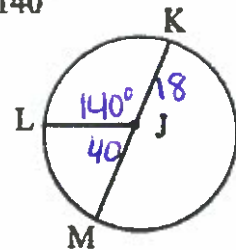
or

$$\approx 12.57$$

16. Given: \overline{KM} is a diameter with radius 18, and $m\angle KJL = 140^\circ$
Find: Length of each minor arc

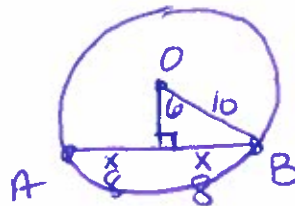
$$m\widehat{LK} = \frac{140}{360} \cdot 2\pi \cdot 18 = 14\pi \approx 43.98$$

$$m\widehat{LM} = \frac{40}{360} \cdot 2\pi \cdot (18) = 4\pi \approx 12.57$$



17. What is the length of a chord 6 inches from the center of a circle if the diameter of the circle is 20 inches?

$$\text{radius} = 10 \text{ in}$$

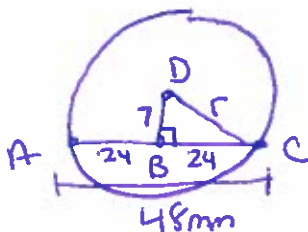


$$x^2 + 6^2 = 10^2$$

$$x = 8$$

$$\text{length of chord} = 16 \text{ in}$$

18. \overline{AC} is a chord of circle D. B is the midpoint of \overline{AC} . If $\overline{AC} = 48 \text{ mm}$ and $\overline{BD} = 7 \text{ mm}$, find the diameter of the circle.



$$7^2 + 24^2 = r^2$$

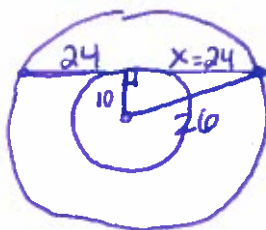
$$49 + 576 = r^2$$

$$625 = r^2$$

$$25 = \text{radius}$$

$$\text{diameter} = 50 \text{ mm}$$

19. Two concentric circles have radii of 10 in and 26 in. Find the length of a chord of the larger circle that is tangent to the smaller circle.



$$10^2 + x^2 = 26^2$$

$$100 + x^2 = 676$$

$$x^2 = 576$$

$$x = 24$$

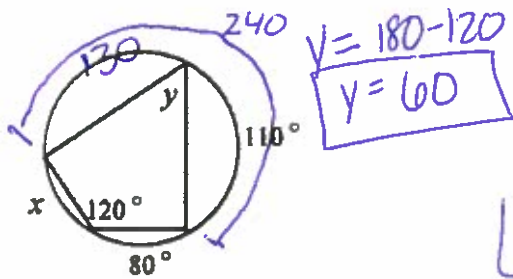
$$\text{chord} = 48 \text{ in}$$

For #20-27, find the value of each variable.

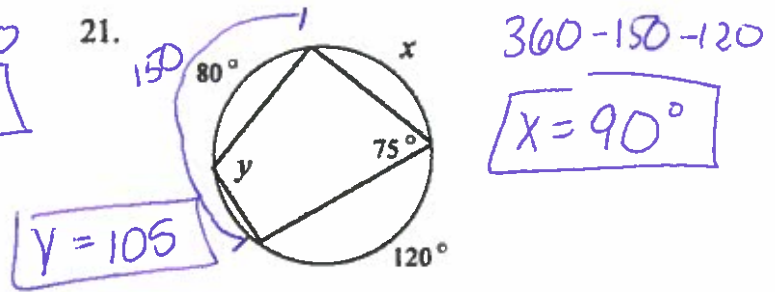
20.

$$360 - 130 - 110 - 80$$

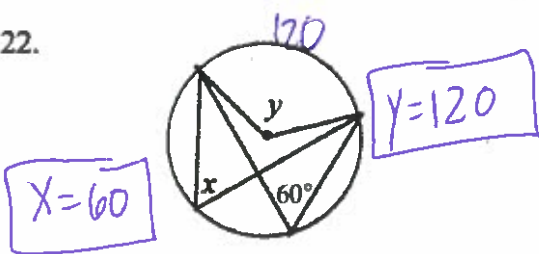
$$X = 40$$



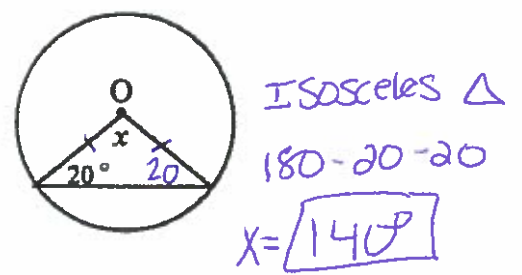
21.



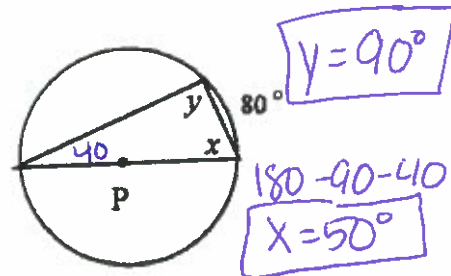
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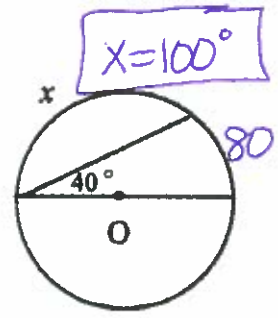
23.



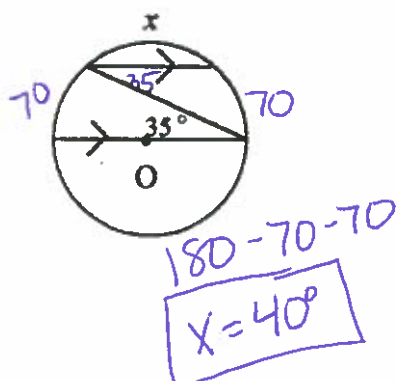
24.



25.



26.



27. **HEXAGO** is a hexagon and is inscribed in the circle.

