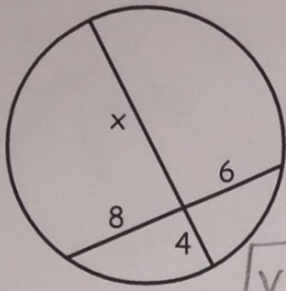


Geometry - Unit 4 Circles Review

Name Key

Find the value of x. Round to the nearest tenth, if necessary.

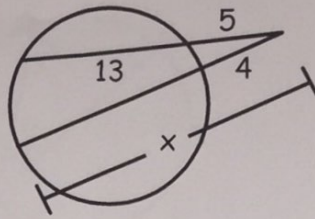
1.



$$\frac{4x}{4} = \frac{48}{4}$$

$$x = 12$$

2.



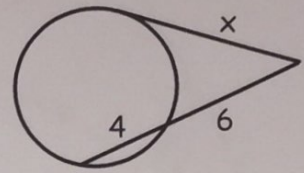
$$5(5+13) = 4(x)$$

$$5(18) = 4x$$

$$90 = 4x$$

$$x = 22.5$$

3.



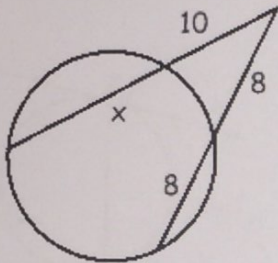
$$x^2 = 6(6+4)$$

$$x^2 = 6(10)$$

$$\sqrt{x^2} = \sqrt{60}$$

$$x = 7.7$$

4.



$$10(10+x) = 8(8+8)$$

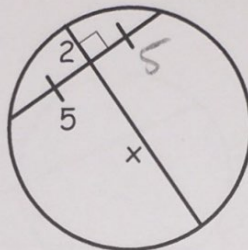
$$100 + 10x = 8(16)$$

$$100 + 10x = 128$$

$$-100$$

$$\frac{10x}{10} = \frac{28}{10} \quad x = 2.8$$

5.

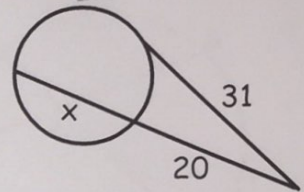


$$2(x) = 5(5)$$

$$\frac{2x}{2} = \frac{25}{2}$$

$$x = 12.5$$

6.



$$31^2 = 20(20+x)$$

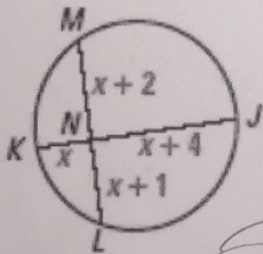
$$961 = 400 + 20x$$

$$-400 \quad -400$$

$$\frac{561}{20} = \frac{20x}{20}$$

$$x = 28.05$$

7.



$$x(x+4) = (x+2)(x+1)$$

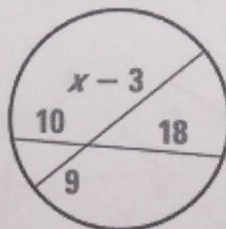
$$x^2 + 4x = x^2 + x + 2x + 2$$

$$+4x = x^2 + 3x + 2$$

$$4x = 3x + 2$$

$$x = 2$$

8.



$$9(x-3) = 10(18)$$

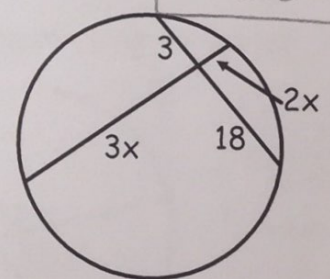
$$9x - 27 = 180$$

$$+27 \quad +27$$

$$\frac{9x}{9} = \frac{207}{9}$$

$$x = 23$$

9.



$$3x(2x) = 3(18)$$

$$\frac{6x^2}{6} = \frac{54}{6}$$

$$\sqrt{x^2} = \sqrt{9}$$

$$x = 3$$

Find the value of the variable for missing angles or arcs.

10. 
$$\begin{array}{r} 104 \\ \times 2 \\ \hline 208 \\ 360 \\ - 208 \\ \hline 152 \end{array}$$

11. 
$$\begin{array}{r} 42 \\ \times 2 \\ \hline 84 \end{array}$$

12. 
$$\frac{130 - 50}{2} = \frac{80}{2} = 40$$

13. 
$$\begin{array}{r} 76 \\ \times 2 \\ \hline 152 \\ 360 \\ - 152 \\ \hline 208 \end{array}$$

14. 
$$\begin{array}{r} 110 - x = 40 \\ \hline 110 - x = 80 \\ -110 \\ \hline -x = -30 \end{array}$$

15. 
$$\frac{148 + 38}{2} = \frac{186}{2} = 93$$

16. 
$$\begin{array}{r} 104 + x = 86 \\ \hline 104 + x = 172 \\ -104 \\ \hline x = 68 \end{array}$$

\* 17. Find  $m\angle ABD$

$$\begin{array}{r} 36 + 20 = 56 \\ \hline \frac{56}{2} = 28 \\ 180 - 28 = 152 \end{array}$$

18. Find the missing variables

$$\begin{array}{r} 42 + r = 60 \\ \hline 42 + r = 120 \\ -42 \\ \hline r = 78 \end{array}$$