

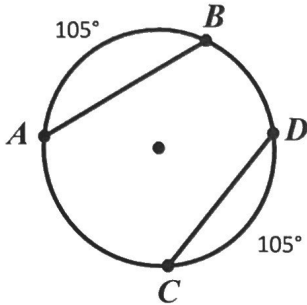
Geometry
Addition Practice

Name: Key
Date: _____ Period: _____

Directions: Use the theorems relating to arcs and chords to find the requested information. Figures are not drawn to scale.

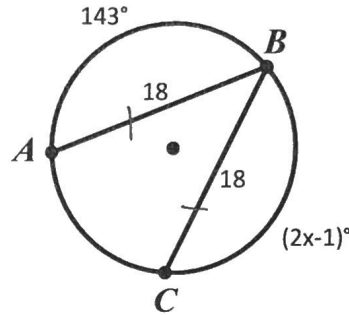
1. $AB = 10x - 1$ and $CD = 2x + 23$; $x = \underline{10.6}$

(*)



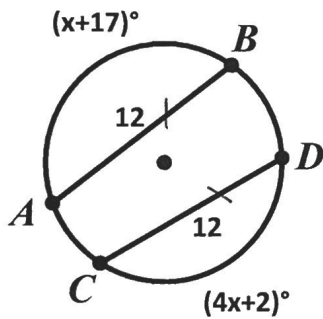
$$\begin{aligned} 105 &= 10x - 1 \\ +1 & \\ \hline 106 &= 10x \\ 2x + 23 &= 105 \\ 2x &= 82 \\ x &= 41 \end{aligned}$$

2. $x = \underline{72}$



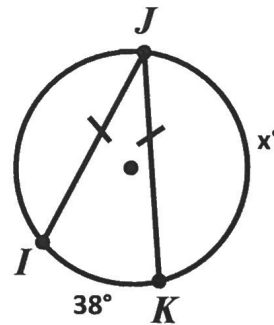
$$\begin{aligned} 2x - 1 &= 143 \\ 2x &= 144 \\ x &= 72 \end{aligned}$$

3. $x = \underline{5}$



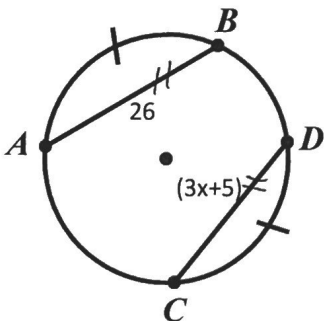
$$\begin{aligned} x + 17 &= 4x + 2 \\ -2 & \quad -x \\ \hline 15 &= 3x \\ \frac{15}{3} &= \frac{3x}{3} \end{aligned}$$

4. $x^\circ = \underline{161}$



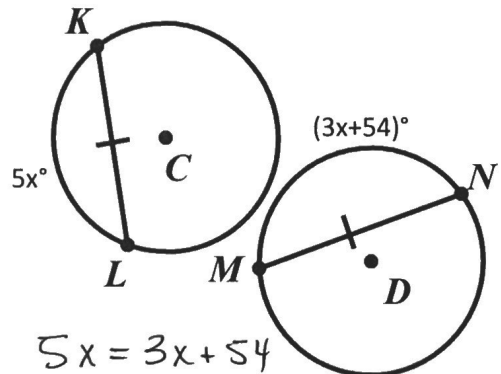
$$\begin{aligned} 360 \\ - 38 \\ \hline 322 / 2 \end{aligned}$$

5. $x = \underline{7}$



$$\begin{aligned} 26 &= 3x + 5 \\ 21 &= 3x \end{aligned}$$

6. $\odot C \cong \odot D$; $x = \underline{27}$



$$\begin{aligned} 5x &= 3x + 54 \\ 2x &= 54 \\ x &= 27 \end{aligned}$$

7. In $\odot K$, $\overline{AB} \cong \overline{BC}$.

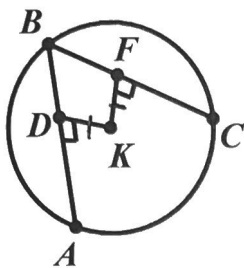
$DK = 5x + 6$

$FK = 2x + 21$

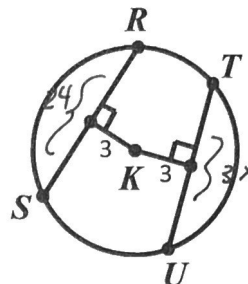
$x = \underline{5}$

$5x + 6 = 2x + 21$

$3x = 15$



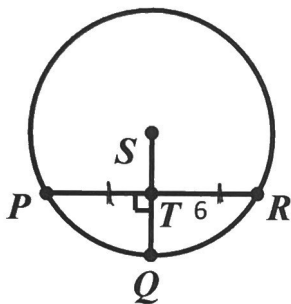
8. In $\odot K$, $SR = 24, UT = 3x$ $x = \underline{8}$



$24 = 3x$

9. In $\odot S$, $m\widehat{PR} = 98^\circ$ and $TR = 6$

$m\widehat{PQ} = \underline{49^\circ}; PR = \underline{6}$

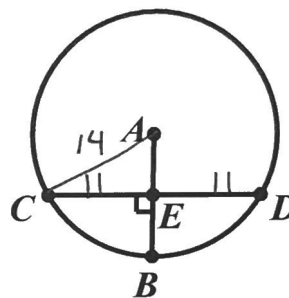


*The radius is perpendicular to a chord, so it bisects the chord and the arc.

$98/2 = 49^\circ$

10. In $\odot A$, $radius = 14$ and $CD = 22$

Find CE and EB . Round to 2 decimals.



$CE = \underline{11}$

$EB = \underline{5.34}$



*To find CE : The radius bisects chord \overline{CD} $14^2 = x^2 + 11^2$

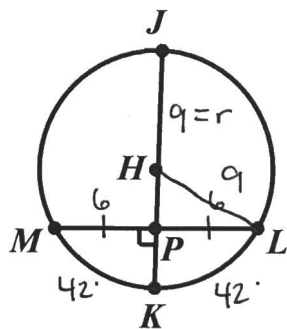
*To find EB : \overline{AB} is the radius of the circle, $x \approx 8.66$
but so is \overline{AC} or \overline{AD} . Create a right triangle $14 - 8.66$
to use the Pythagorean Theorem to find 5.34
 AE . Then use subtraction to find EB .

11. In $\odot H$, $diameter = 18, LM = 12$, and $m\widehat{LM} = 84^\circ$.

Find each measure. ($r = 9$)

Round to the nearest hundredth if necessary.

*Use the ideas from #9 and #10 to solve this problem.



$m\widehat{LK} = \underline{42^\circ}$

$HP = \underline{6.7}$

$PK = \underline{2.3}$ $9 - 6.7$

$LM = 84$



$81 = 36 + x^2$

$6.7 \approx x$