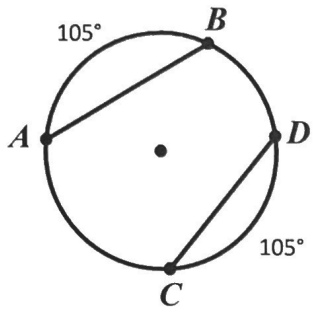
Geometry
Addition Practice

Name: Key
Date: _____ **Period:** _____

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

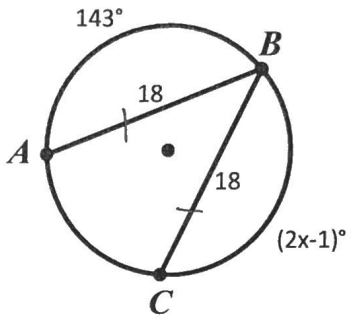
1. $AB = 10x - 1$ and $CD = 2x + 23$; $x =$ 10.6



$105 = 10x - 1$
$+1 \quad +1$
$106 = 10x$

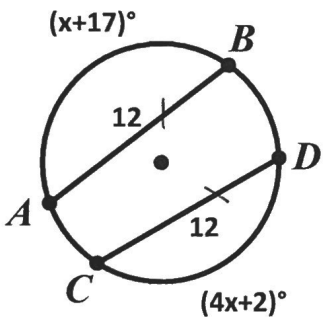
$2x + 23 = 105$
$2x = 82$
$x = 41$

2. $x =$ 72



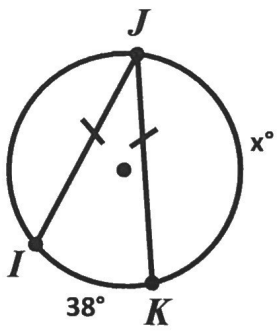
$2x - 1 = 143$
$2x = 144$
$x = 72$

3. $x =$ 5



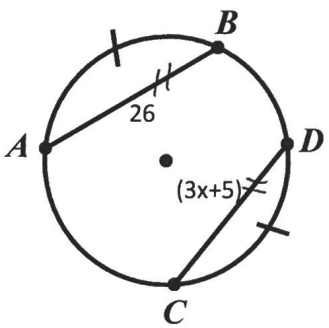
$x + 17 = 4x + 2$
$-2 \quad -x$
$15 = 3x$
$\frac{15}{3} = \frac{3x}{3}$

4. $x° =$ 161°



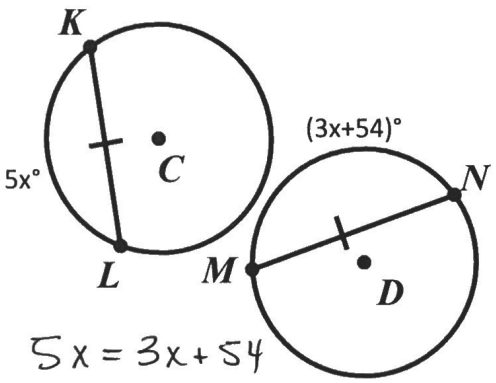
360
- 38
322
/2

5. $x =$ 7



$26 = 3x + 5$
$21 = 3x$

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



$5x = 3x + 54$
$2x = 54$
$x = 27$

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

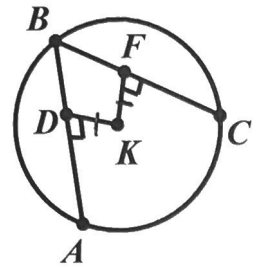
$DK = 5x + 6$

$FK = 2x + 21$

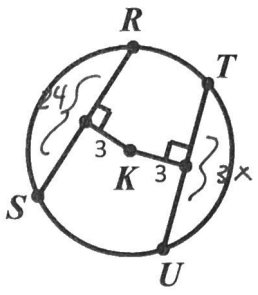
$x =$ 5

$5x + 6 = 2x + 21$

$3x = 15$



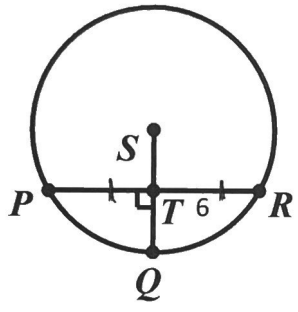
8. In $\odot K$, $SR = 24, UT = 3x$ $x =$ 8



$24 = 3x$

9. In $\odot S$, $m\overset{\frown}{PR} = 98°$ and $TR = 6$

$m\overset{\frown}{PQ} =$ 49°; $PR =$ 6

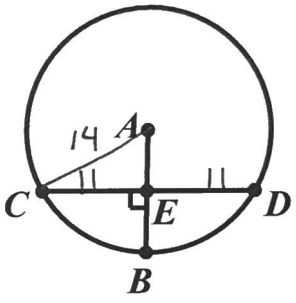


*The radius is perpendicular to a chord, so it bisects the chord and the arc.

$98/2 = 49°$

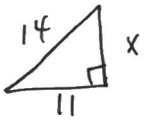
10. In $\odot A$, *radius* $= 14$ and $CD = 22$

Find CE and EB. Round to 2 decimals.



$CE =$ 11

$EB =$ 5.34



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

$x \approx 8.66$

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

$14 - 8.66$

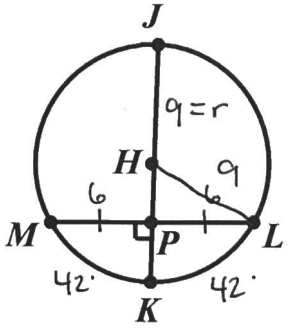
5.34

11. In $\odot H$, *diameter* $= 18$, $LM = 12$, and $m\overset{\frown}{LM} = 84°$.

Find each measure. $(r = 9)$

Round to the nearest hundredth if necessary.

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

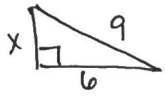


$LM = 84$

$m\overset{\frown}{LK} =$ 42°

$HP =$ 6.7

$PK =$ 2.3 $9 - 6.7$



$81 = 36 * x^2$

$6.7 \approx x$