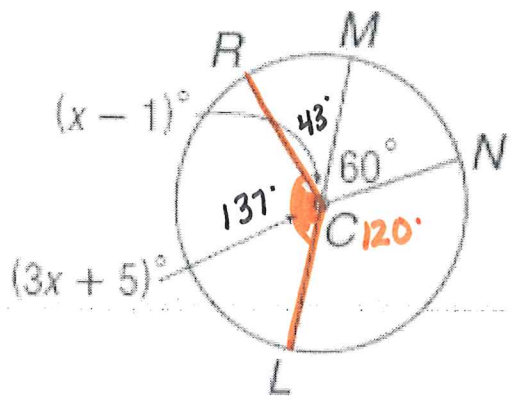


Name: _____

Key

Angles and Arcs Practice

For 1 - 4, find the measure of the indicated angles.



$$3x + 5 + x - 1 = 180$$

$$4x + 4 = 180$$

$$1. \ m\angle NCL = 120^\circ$$

$$4x = 176$$

$$x = 44$$

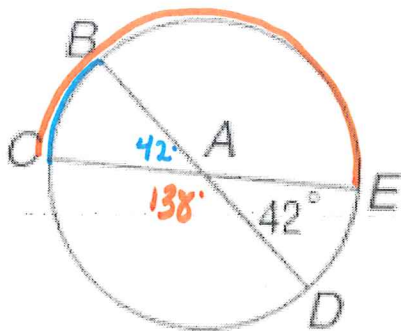
$$2. \ m\angle RCL = 137$$

$$3. \ m\angle RCM = 43^\circ$$

$$4. \ m\angle RCN = 43 + 60 = 103^\circ$$

For 5 - 8, find the measure of the indicated arc or arc length.

$$r = 7 \text{ in}$$



$$5. \ m\widehat{BC} = 42^\circ$$

$$6. \ m\widehat{CBE} = 180^\circ$$

7. arc length of \widehat{ED}

$$\frac{42}{360} \cdot 2\pi r$$

$$\frac{84r \cdot \pi}{360} = \frac{7r\pi}{30}$$

$$L = \frac{49\pi}{30} \text{ inches}$$

8. Arc length of \widehat{CD}

$$\frac{138}{360} \cdot 2\pi r$$

$$\frac{276r\pi}{360} = \frac{23r\pi}{30}$$

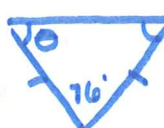
$$L = \frac{161\pi}{30} \text{ inches}$$

Name: Key


Angles and Arcs Homework

Directions: For 1 - 4, use Circle P and $m\widehat{SV} = 120$ and $m\angle RPS = 76$ to find each measure.

1. $m\angle PRS$
 Base \angle s of ISOSC As are \cong .
 radii are \cong

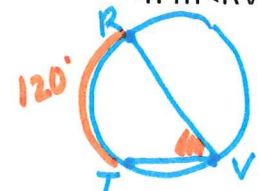
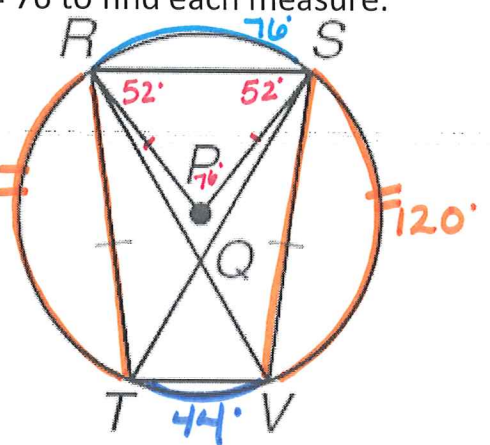


2. $m\widehat{RSV} = \frac{1}{2} \widehat{RV}$
 $= \frac{1}{2} 164$
 $= 82^\circ$



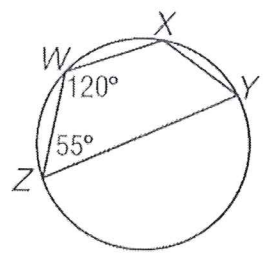
3. $m\widehat{RT} = 120^\circ$

4. $m\angle RVT = \frac{1}{2} \widehat{RT}$
 $= \frac{1}{2} 120$
 $\angle RVT = 60^\circ$

Directions: For 5-8, find the measure of each angle or segment in the figure.

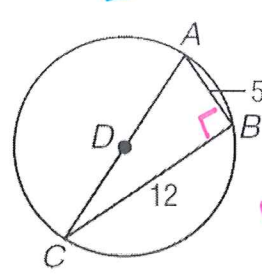
5. $m\angle X, m\angle Y$
 op. \angle s in an inscribed quadrilateral are suppl.



$\angle Z + \angle X = 180$
 $55 + \angle X = 180$
 $\angle X = 125^\circ$

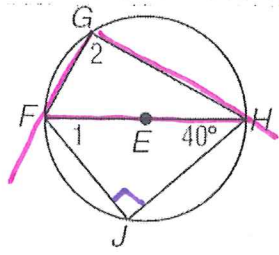
$\angle W + \angle Y = 180$
 $120 + \angle Y = 180$
 $\angle Y = 60^\circ$

6. $AD = \frac{1}{2} AC$
 $\angle B = \frac{1}{2}$ semi
 $\angle B = \frac{1}{2} 180$
 $\therefore \triangle ABC$ is a right \triangle and now we can do pyth. thm.



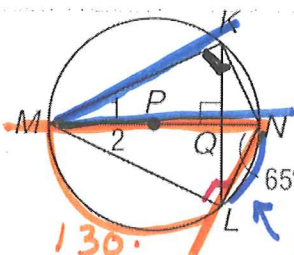
$5^2 + 12^2 = AC^2$
 $169 = AC^2$
 $13 = AC$
 $AD = \frac{1}{2} 13$
 $AD = 6.5$

7. $m\angle 1, m\angle 2$
 $\angle 1 + \angle J + 40 = 180$
 Δ sum
 $\angle 1 + 90 + 40 = 180$
 $\angle 1 + 130 = 180$
 $\angle 1 = 50^\circ$



$\angle 2 = \frac{1}{2}$ semi circle
 $\angle 2 = \frac{1}{2} 180$
 $\angle 2 = 90^\circ$

8. $m\angle 1, m\angle 2$
 $\angle MLN = 90^\circ$
 because it inscribed a semi circle.



$\triangle MNL$ Δ sum
 $\angle 2 + 65 + 90 = 180$
 $\angle 2 = 25^\circ$

op. \angle s in an inscribed quad. are suppl.
 $\angle MKN + \angle MLN = 180$
 $\angle MKN + 90 = 180 \therefore \angle MKN = 90$
 $\angle 1 = 25^\circ$ Also by reflection