

Key

Quiz Review Circles

1) The quadrilateral is inscribed in the circle with $m\angle A = 7x+2$, $m\angle B = 5y+6$, $m\angle C = 3x-4$, and $m\angle D = 3y+5$. Solve for x and y . Find all 4 angles. You can have a decimal answer.

$$x = 17.8 \quad 7x+2 + 3x-4 = 180$$

$$y = 21.125 \quad 5y+6 + 3y+5 = 180$$

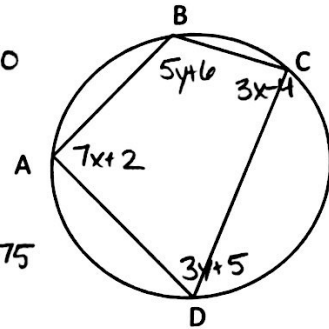
$$10x - 2 = 180 \quad 8y + 11 = 180$$

$$10x = 178 \quad 8y = 169$$

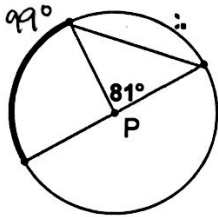
$$x = 17.8 \quad y = 21.125$$

Find all 4 Angles.

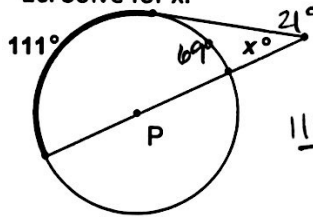
$$\angle A = 126.6 \quad \angle B = 111.625 \quad \angle C = 49.4 \quad \angle D = 68.375$$



1b. Find the measure of the highlighted arc.



1c. Solve for x .

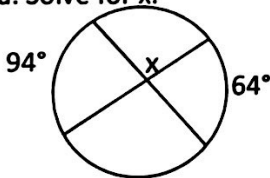


$$\frac{111 - 69}{2} = x$$

$$x = 21$$

2. SOLVE FOR x . Show Work. Do all 3 problems.

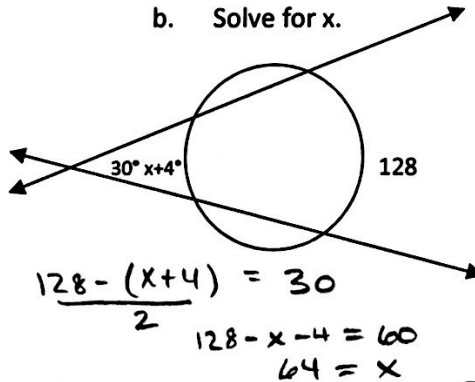
a. Solve for x .



$$\frac{94 + 64}{2} = x$$

$$x = 79^\circ$$

b. Solve for x .

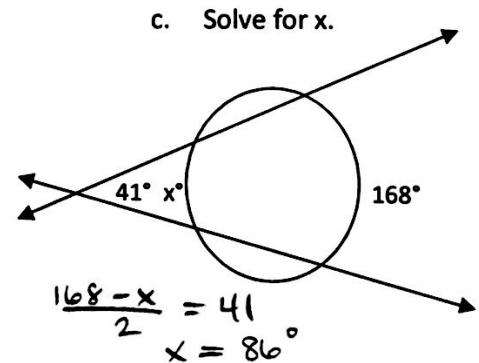


$$\frac{128 - (x+4)}{2} = 30$$

$$128 - x - 4 = 60$$

$$64 = x$$

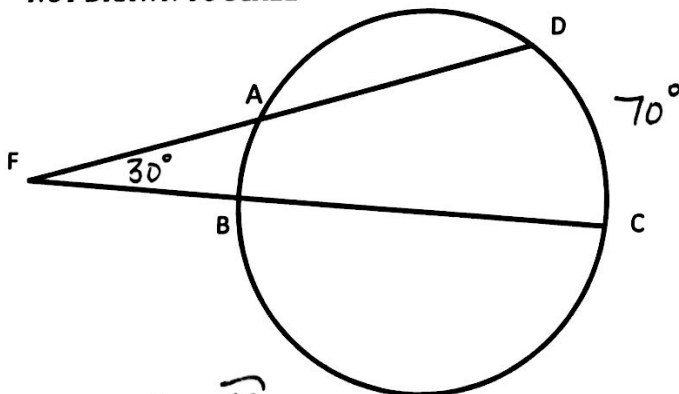
c. Solve for x .



$$\frac{168 - x}{2} = 41$$

$$x = 86^\circ$$

3A. $m\angle F = 30^\circ$. $m\widehat{DC} = 70$. FIND $m\widehat{AB}$. NOT DRAWN TO SCALE



$$\frac{70 - \widehat{AB}}{2} = 30$$

$$\widehat{AB} = 10$$

3 B. SAME DIAGRAM $m\widehat{DC} = 2x-15$ $m\widehat{AB} = x+5$. $m\angle F = 40^\circ$. Solve for x

$$\frac{(2x-15) - (x+5)}{2} = 40$$

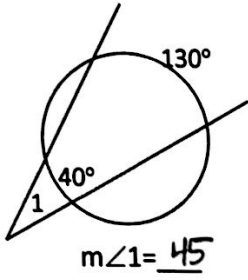
$$2x - 15 - x - 5 = 80$$

$$x - 20 = 80$$

$$x = 100$$

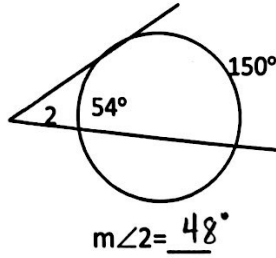
4.

a.



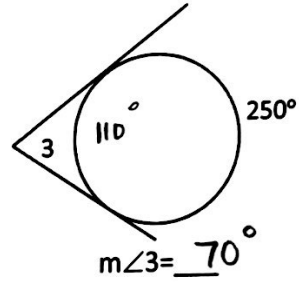
$$\frac{130 - 40}{2} = \angle 1$$

b.



$$\frac{150 - 54}{2} = \angle 2$$

c.



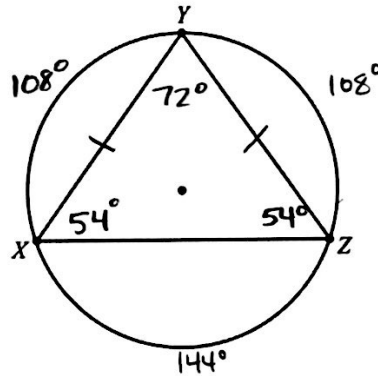
$$\frac{250 - 110}{2} = \angle 3$$

5a) Isosceles triangle XYZ is inscribed in this circle.

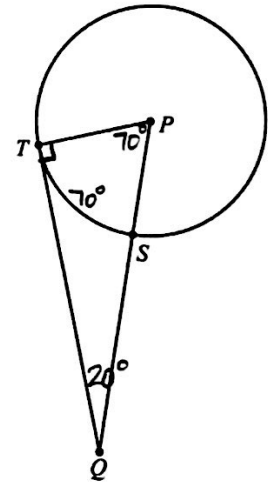
$$\overline{XY} \cong \overline{ZY}$$

$$m\widehat{YZ} = 108^\circ$$

What is the measure of $\angle XYZ$? 72°



5b) In this diagram, segment \overline{QT} is tangent to circle P at point T. The measure of minor arc $m\widehat{ST} = 70^\circ$. What is $m\angle TQP$? 20°

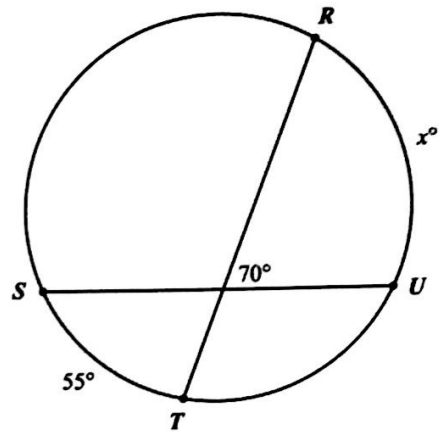


5c) Points R, S, T, and U lie on the circle. The measure of \widehat{RU} is represented by x.

What is the value of x?

$$\frac{55+x}{2} = 70^\circ$$

$$x = 85^\circ$$



6. Point of Tangency

E

Radius

\overline{CB} , \overline{CH} or \overline{CE}

Diameter

\overline{BH}

Chord

\overline{BE} or \overline{BH}

Secant

\overleftrightarrow{BH} or \overleftrightarrow{BE}

Tangent

\overleftrightarrow{DG}

Central Angle

$\angle BCE$ or $\angle HCE$

Inscribed Angle

$\angle HBE$ or $\angle CEB$, $\angle BED$, $\angle CEG$

Minor Arc

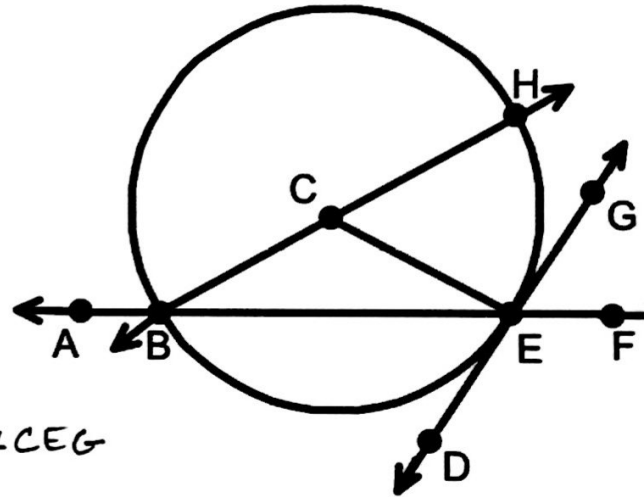
\widehat{HE} or \widehat{BE}

Major Arc

\widehat{HBE}

Semicircle

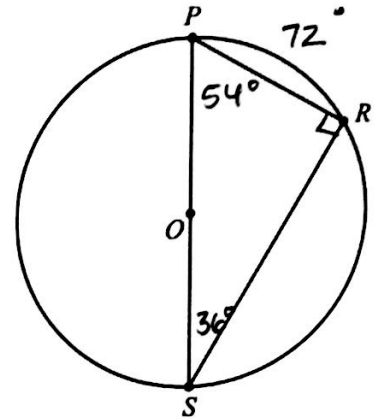
\widehat{BEH}



7a.

In circle O, the $m\widehat{PR}$ is 72° . What is the measure of $\angle SPR$?

54°



not drawn to scale

7b. $m\widehat{HE} = 80^\circ$ $m\angle BCE = 2x + 5$. Solve for x.

$$\begin{aligned} 2x + 5 &= 100 \\ 2x &= 95 \\ x &= 47.5 \end{aligned}$$

7c. $m\widehat{HE} = 3x - 10^\circ$ $m\angle BCE = 4x - 6$. Find $m\angle BCE$

$$\begin{aligned} 3x - 10 + 4x - 6 &= 180 \\ 7x - 16 &= 180 \\ 7x &= 196 \\ x &= 28^\circ \\ \angle BCE &= 4(28) - 6 = 106^\circ \end{aligned}$$

