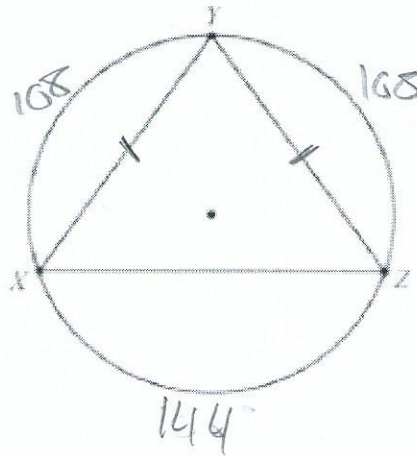


6. Isosceles triangle  $XYZ$  is inscribed in this circle.

because  $\overline{YZ} = \overline{XY}$   
 then  $\widehat{YZ} = \widehat{XY}$   
 so  $\widehat{XY} = 108$

so  $\widehat{XZ} = \frac{360}{2} - 108$

- $\widehat{XY} \cong \widehat{ZY}$
- $m\widehat{YZ} = 108^\circ$



inscribed Angle

$$m\angle = \frac{m\widehat{arc}}{2}$$

$$m\angle = \frac{144}{2}$$

$$m\angle = 72^\circ$$

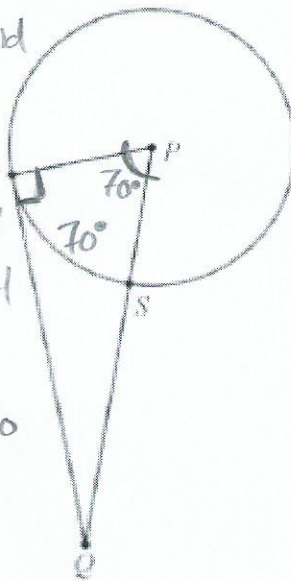
What is the measure of  $\angle XYZ$ ?

- A.  $48^\circ$
- B.  $54^\circ$
- C.  $72^\circ$
- D.  $108^\circ$

7. In this diagram, segment  $\overline{QT}$  is tangent to circle  $P$  at point  $T$ .

if  $\overline{QT}$  is tangent and  $\overline{PT}$  is radius then they form a  $90^\circ$  angle

Also  $\angle PTS$  is a central angle so  $m\angle = m\widehat{arc}$   
 or  
 $m\angle = 70$  so  $\angle TPS = 70$



So all triangles add up to  $180^\circ$ . We have 2 angles  $\rightarrow 90^\circ$  and  $70^\circ$  subtract those from 180 to find the missing angle.

$$\begin{array}{r} 180 \\ - 90 \\ - 70 \\ \hline 20 \end{array}$$

The measure of minor arc  $\widehat{ST}$  is  $70^\circ$ . What is  $m\angle TQP$ ?

- A.  $20^\circ$
- B.  $25^\circ$
- C.  $35^\circ$
- D.  $40^\circ$