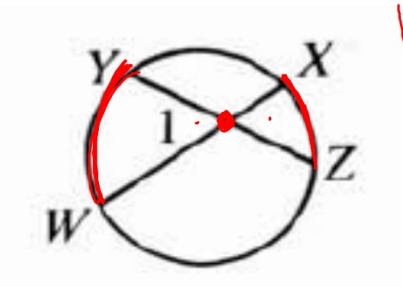
9-6 Other Angles

Feb 23

std. 21.0

measure of an angle formed when 2 chords intersect in a circle = 1/2(intercepted arc + arc intercepted by vertical angle)

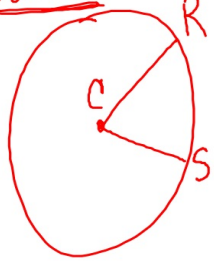


vertex inside ⊙

$m\angle 1 = \frac{1}{2}(m\overset{\frown}{YW} + m\overset{\frown}{XZ})$

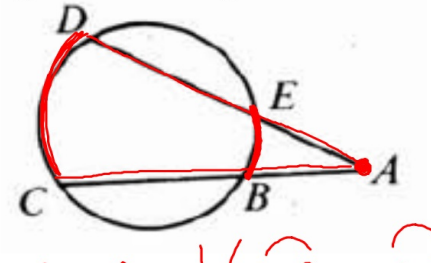
central ∠ $m\angle C = m\overset{\frown}{RS}$

vertex at center



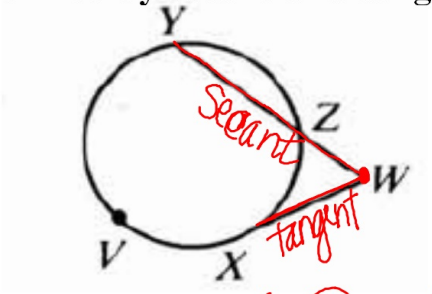
If the vertex of the angle is outside of the circle, the angle measure = 1/2 (difference of 2 intercepted arcs)

angle formed by 2 secants



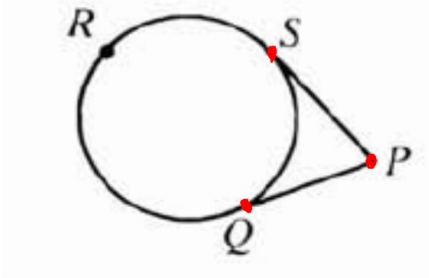
$m\angle A = \frac{1}{2}(m\overset{\frown}{DC} - m\overset{\frown}{EB})$

angle formed by secant and tangent



$m\angle W = \frac{1}{2}(m\overset{\frown}{YVX} - m\overset{\frown}{ZX})$

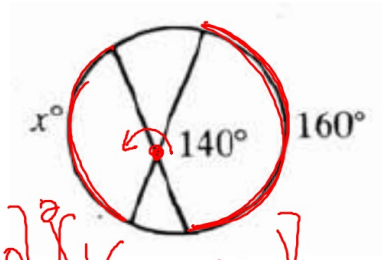
angle formed by 2 tangents



$m\angle P = \frac{1}{2}(m\overset{\frown}{SRQ} - m\overset{\frown}{SQ})$

Examples

5.

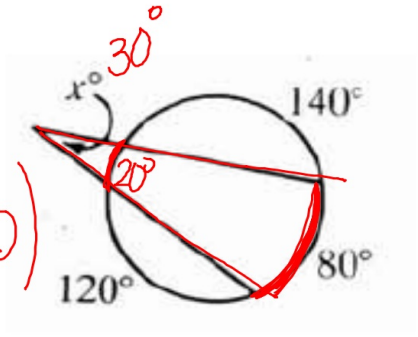


$2\left[140\right] = 2\left[\frac{1}{2}(160 + X)\right]$

$280 = 160 + X$

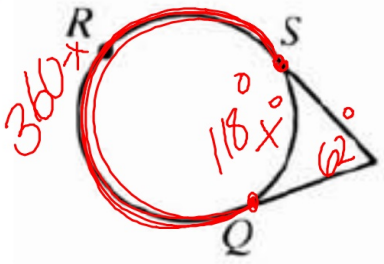
$120 = X$

6.



$X = \frac{1}{2}(80 - 20)$

7. $m\angle P = 62$. Find m $\overset{\frown}{SQ}$.



$62 = \frac{1}{2}(360 - x) - x$

$62 = \frac{1}{2}(360 - 2x)$

$62 = 180 - X$