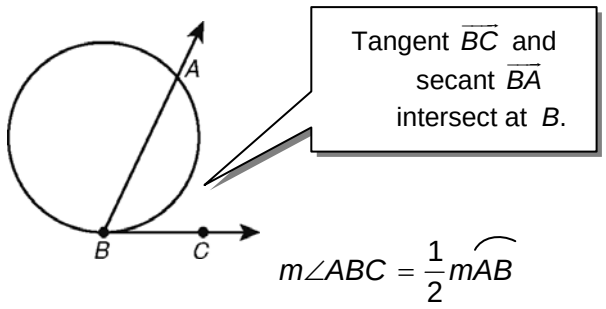
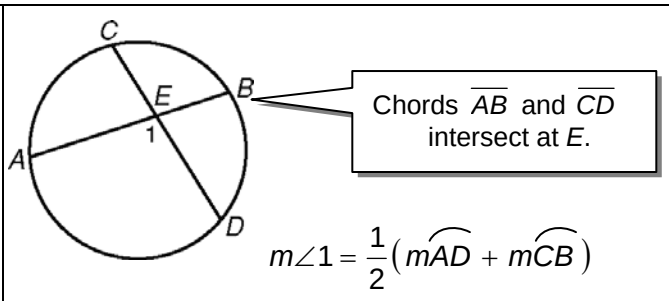
Name _____ Date _____ Class_____

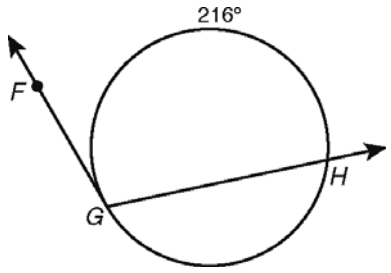
Geometry Notes Section 12-5

Angle Relationships in Circles

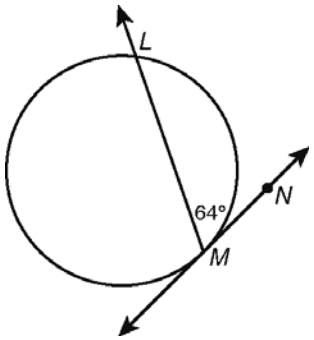
If a tangent and a secant (or chord) intersect <u>on</u> a circle at the point of tangency, then the measure of the angle formed is half the measure of its intercepted arc.	
If two secants or chords intersect <u>in the interior</u> of a circle, then the measure of the angle formed is half the sum of the measures of its intercepted arcs.	

Find each measure.

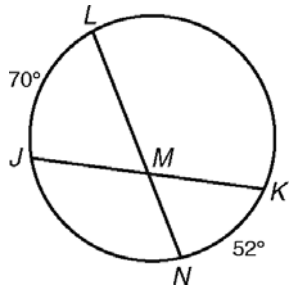
1. m$\angle FGH$



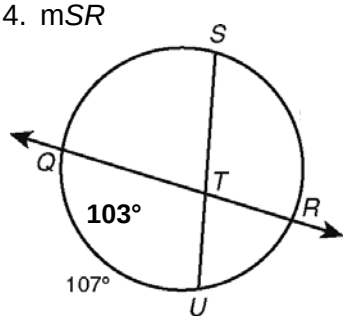
2. m$\overset{\frown}{LM}$



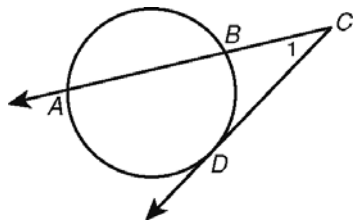
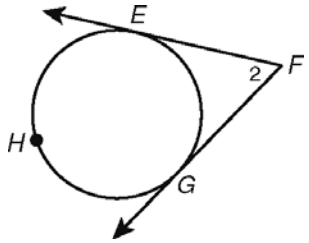
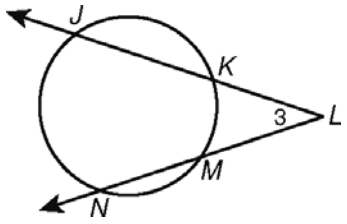
3. m$\angle JML$



4. m$\overset{\frown}{SR}$

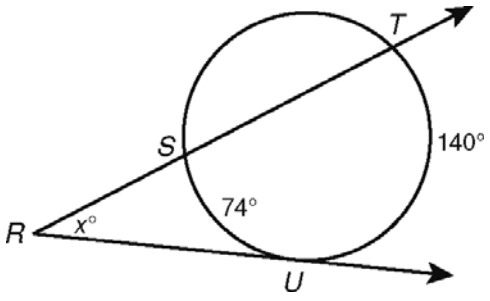


If two rays or segments intersect <u>in the exterior</u> of a circle, then the measure of the angle formed is half the difference of the measures of its intercepted arcs.

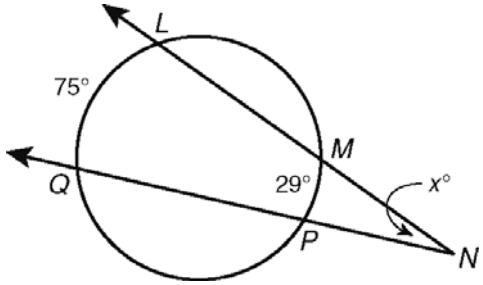
A Tangent and a Secant	Two Tangents	Two Secants
		
$m\angle 1 = \frac{1}{2}\left(m\overset{\frown}{AD} - m\overset{\frown}{BD}\right)$	$m\angle 2 = \frac{1}{2}\left(m\overset{\frown}{EHG} - m\overset{\frown}{EG}\right)$	$m\angle 3 = \frac{1}{2}\left(m\overset{\frown}{JN} - m\overset{\frown}{KM}\right)$

Find the value of *x*.

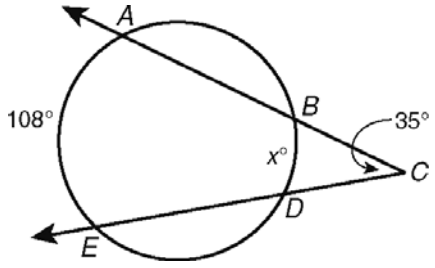
5.



6.



7. .



8. m∠*P* = 62°; find m$\overset{\frown}{SQ}$.