Name: Key

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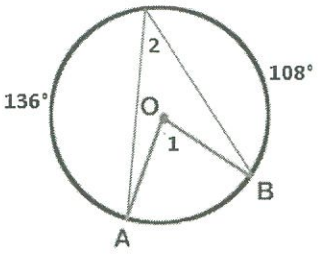
Circle Review

G.C.2, G.C.3

1. Find the measure of ∠1 and ∠2.



$m\overset{\frown}{AB} = 360 - (136 + 108) = 116°$

$m\angle 1 = 116°$ $m\angle 2 = \frac{116°}{2} = 58°$

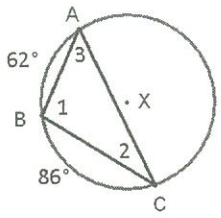
m∠1 = 116° m ∠2 = 58°

∠1 is a Central angle ∠2 is a Inscribed angle

Describe the relationship between the angle measures.

Central angle measure is equal to its intercepted arc. Inscribed angle measure is equal to half of its intercepted arc.

2. Find the measures of ∠1, ∠2 and ∠3.



$m\angle 2 = \frac{62°}{2} = 31°$ $m\angle 1 = 180 - 74°$

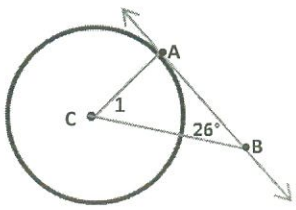
$m\angle 3 = \frac{86°}{2} = 43°$ $m\angle 1 = 106°$

m∠1 = 106° m ∠2 = 31° m∠3 = 74°

Describe how to find the angle measures.

the measures of ∠2 and ∠3 are each equal to half of their intercepted arc. The measure of ∠1 can be found by subtracting the measures of ∠2 and ∠3 from 180°.

3. Find the measure of ∠1



the $m\angle CAB = 90°$

$m\angle 1 = 180 - (90° + 29°) = 61°$

m∠1 = 61°

Describe how to find the angle measures.

If a line is tangent to a circle at its radius then it forms a 90° angle. The measure of ∠1 can be found using the triangle sum theorem.

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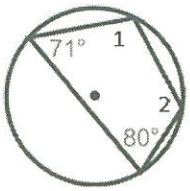
4. Find the measure of ∠1 and ∠2.



$m\angle 1 = 180° - 80° = 100°$

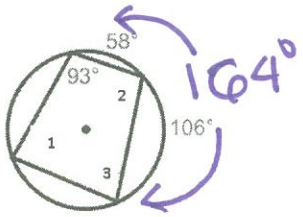
$m\angle 2 = 180° - 71° = 109°$

m∠1 = 100° ∠2 = 109°

Describe how to find the angle measures.

Opposite angles of an inscribed polygon are supplementary.

5. Find the measures of ∠1, ∠2 and ∠3.



$m\angle 3 = 180° - 93° = 87°$

$m\angle 1 = \frac{1}{2}(58 + 106) = \frac{1}{2}(164°) = 82°$

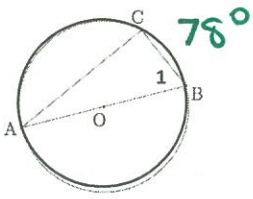
$m\angle 2 = 180° - 82° = 98°$

m∠1 = 82° m∠2 = 98° m∠3 = 87°

Describe how to find the angle measures.

The measure of ∠1 is equal to half of its intercepted arc. The measures of angles 2 and 3 are the supplements of the angles opposite them.

6. Find the measure of ∠1 if the mCB = 78°



$\angle BCA = 90°$

$\angle CAB = \frac{78°}{2} = 39°$

$m\angle 1 = 180° - (90 + 39)° = 51°$

m∠1 = 51°

Describe how to find the angle measure.

∠CAB intercepts an arc with a measure of 180°, so the angle has a measure of 90°. The measure of ∠CAB is half of its intercepted arc. The measure of angle 1 can be found using the triangle sum theorem.

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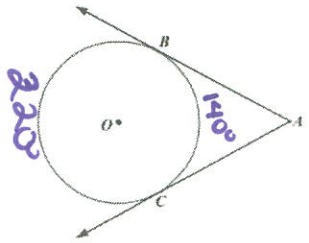
7. Find the measure of ∠A if the measure of arc CB is 140°.



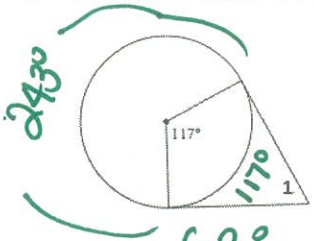
$m\angle A = \frac{220° - 140°}{2} = \frac{80°}{2} = 40°$

m∠A = 40°

Describe how to find the angle measure.

The measure of ∠A is equal to half of the difference of the large intercepted arc minus the small intercepted arc.

8. Find the measure of ∠1.



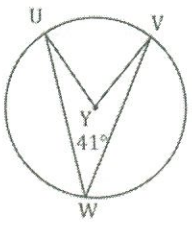
$m\angle 1 = \frac{1}{2}(243 - 117°) = \frac{126°}{2} = 63°$

m∠1 = 63°

Describe how to find the angle measure.

Same as problem 7.

9. Find the measure of ∠UYV



If $m\angle UWV = 41°$ then $m\overset{\frown}{VU} = 2(41°) = 82°$

$m\angle UYV = 82°$

m∠UYV = 82°

Describe how to find the angle measure.

the measure of an inscribed ∠ is half of its intercepted arc so $m\overset{\frown}{VU} = 2(41°) = 82°$. The $m\angle UYV = 82°$ because it is a central angle.

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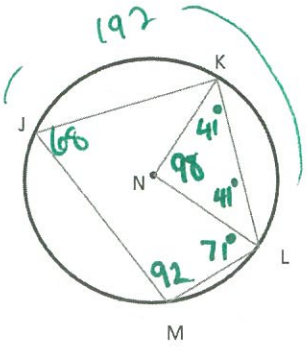
10. If the measure of ∠KNL is 98°, the measure of arc JKL is 192° and the measure ∠NLM = 71°, find the measures of the angles indicate below.



$m\angle KLM = 112°$

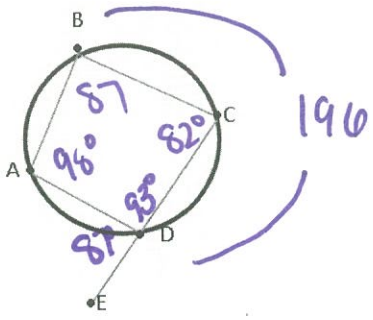
$m\angle MJK = 180 - 112° = 68°$

$m\angle LMJ = \frac{192}{2} = 96°$

$m\angle JKL = 180 - 92 = 88$

m∠MJK = 68° m∠JKL = 88° m∠KLM = 112° m∠LMJ = 92°

11. If the m∠ADE is 87° and the measure of arc BCD is 196° , find the measures of the angles indicated below.



$m\angle DAB = \frac{196}{2} = 98°$

$m\angle BCD = 180 - 98 = 82°$

$m\angle CDA = 180 - 87 = 93°$

$m\angle ABC = 180 - 93 = 87°$

m∠ABC = 87°, m∠BCD= 82°, m∠CDA = 93°, m∠DAB = 98°