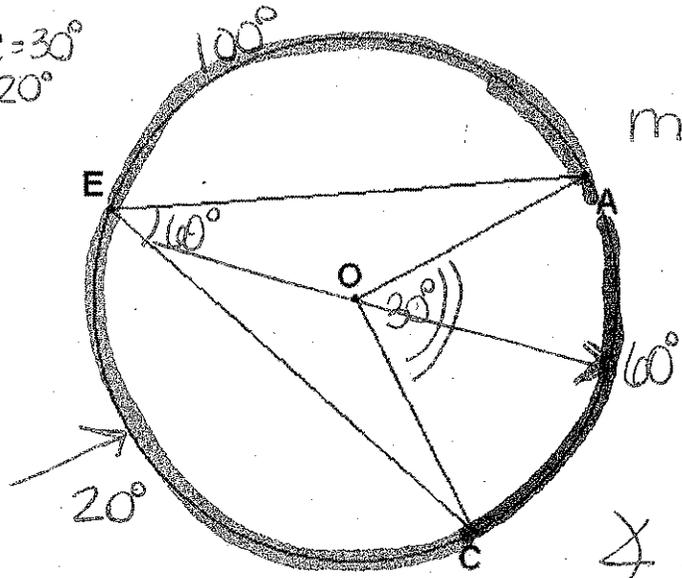


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If $m\angle AEC = 60^\circ$ and $m\widehat{AE} = 100^\circ$, find

- a) $m\angle AOC = 30^\circ$
- b) $m\widehat{EC} = 20^\circ$



$m\widehat{AC} = 60^\circ$ since $\angle AEC$ is a central angle.

$\angle AOC$ is inscribed angle
 so, $\angle AOC = \frac{1}{2} \widehat{AC}$
 $= \frac{1}{2}(60)^\circ$

$\angle AOC = 30^\circ$

$$m\widehat{EC} \Rightarrow 100 + 60 = 160^\circ$$

$m\widehat{EC} = 20^\circ$

made $m\widehat{AC}$ & $\angle AEC$ equal to each other because thought that the angle equal the arc. But act arc \widehat{AC} & $\angle AEC$ were inscribed angles $\angle AEC$ equal 60 degrees and \widehat{AC} equal 120 degrees. Then he also wrote that $\angle AOC$ was inscribed angle when it was an central angle.

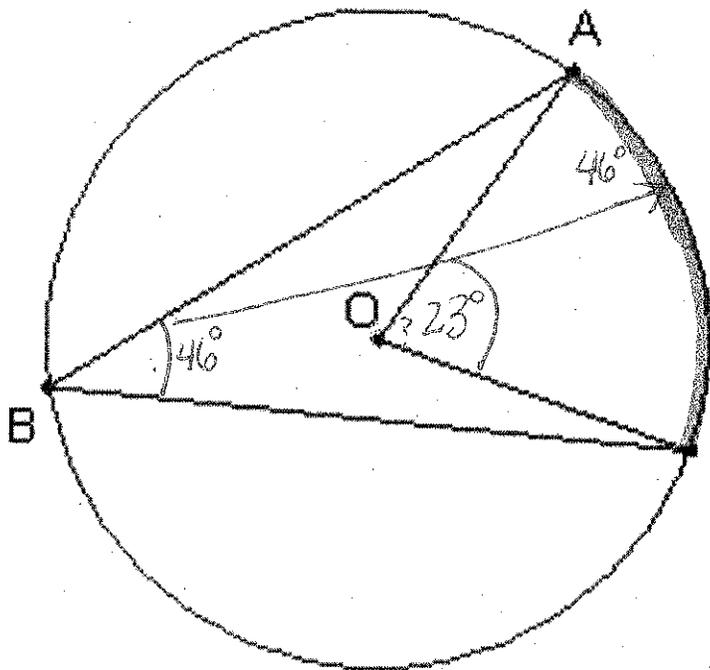
$$\angle AEC = \frac{1}{2} \widehat{AC}$$

$$60^\circ = \frac{1}{2}(120)$$

So \widehat{AC} equalled 120 and $\angle AOC$ was also 120 because it was a central angle. So once you add \widehat{EA} and \widehat{AC} you get 220 and \widehat{EC} is wrong, "20". When in actuality \widehat{EC} is 140.

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In the accompanying figure of circle O, $m\angle ABC = 46^\circ$. What is $m\angle AOC$?



$$\angle ABC = m\widehat{AC}$$

$$\text{So, } m\widehat{AC} = 46^\circ$$

$\angle AOC$ is inscribed Angle

$$\text{So, } m\angle AOC = \frac{1}{2} \widehat{AC}$$

$$m\angle AOC = \frac{1}{2} (46^\circ)$$

$$m\angle AOC = 23^\circ$$

Label AOC 23°
 er he Label ABC 46°
 e. ABC is central he
 ste 46° to arc AC
 he ammwse. that
 was half of arc
 which is 46° .
 r. fore that's how
 got his answer that
 was 23°

- The correct way of solving this problem is ABC is inscribed angle. there fore you double the number 46° and you get 92°
- Then you get 92° for arc AC. The same degrees for AC is going to be the same angle for AOC because it's an central angle
- which means the arcs are

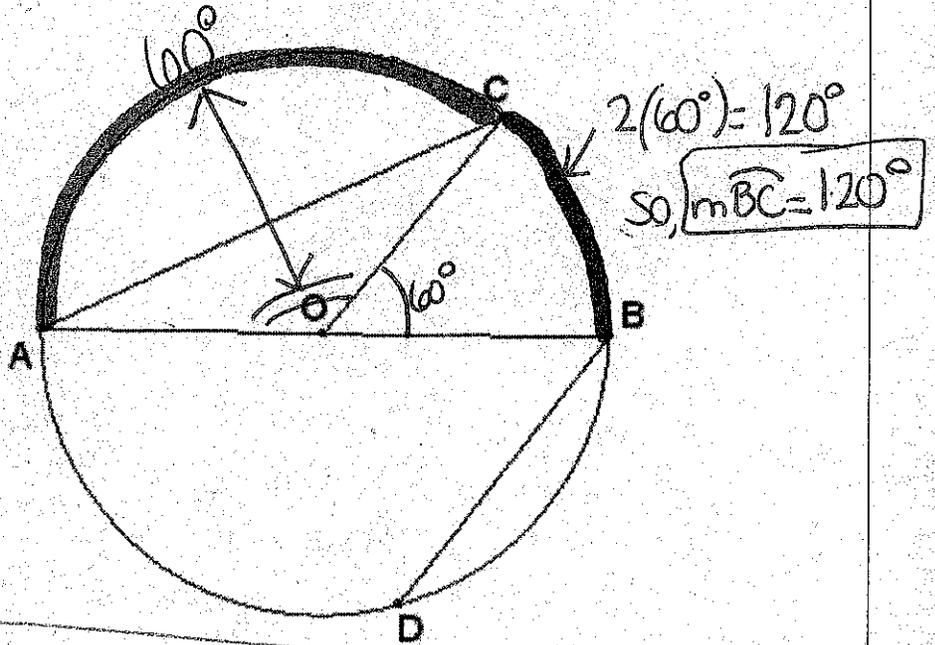
In circle O, diameter \overline{AOB} is drawn. $m\angle COB = 60^\circ$

Find:

$$m\angle AOC = 30^\circ$$

$$m\widehat{CB} = 120^\circ$$

$$m\widehat{AC} = 60^\circ$$



$$m\widehat{AC} = 180^\circ - 120^\circ = 60^\circ$$

$$m\angle ABC = \frac{1}{2} \widehat{AC}$$

(Inscribed Angle) $= \frac{1}{2}(60)^\circ$

$$m\angle AOC = 30^\circ$$

See
 13 An
 all angle ~~is~~

one thought that the angle CB was an inscribed angle 120
 for \widehat{CB} is 60 because it is central

should be 120 since it's central $\angle AOC$ also is 120
 reason that it's 120 because when it's an inscribed angle
 you have to double the angle towards the arc. But when
 it's central angle the angle and the arc is equal