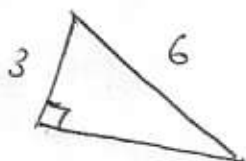


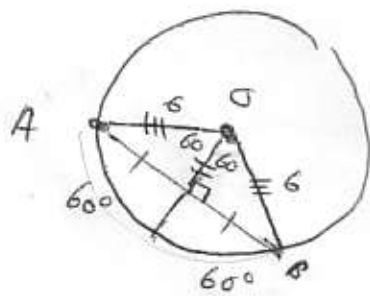
54



This is a 30-60-90  
rt triangle since  
the hypotenuse is double  
the shortest side

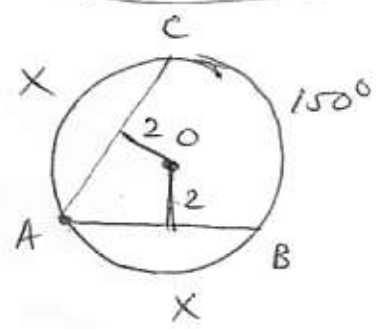


So  
by symmetry  
or SSS



So arc AB has  
measure of  $120^\circ$

55



The problem is somewhat flawed  
in the book. Assume  
both segments that measure 2  
are perpendicular to their chords.  
Then  $\overline{AC} \cong \overline{AB}$  and

$$m\widehat{AC} \cong m\widehat{AB}$$

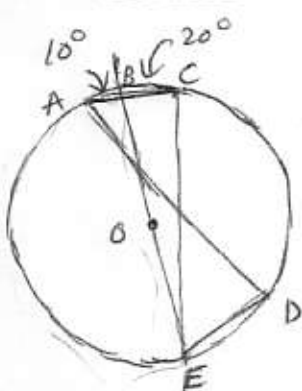
So

$$2x + 150 = 360$$

$$2x = 210$$

$$x = 105^\circ$$

56



- a)  $m\widehat{AE} = \overbrace{m\widehat{BAE} - m(\widehat{BA})} = 180 - 10 = 170^\circ$
- b)  $m\angle C = \frac{1}{2} m\widehat{AE} = \frac{1}{2}(170^\circ) = 85^\circ$
- c)  $m\angle BEC = \frac{1}{2} m\widehat{BC} = \frac{1}{2}(20^\circ) = 10^\circ$
- d)  $m\angle D = \frac{1}{2} m\widehat{AE} = \frac{1}{2}(170^\circ) = 85^\circ$