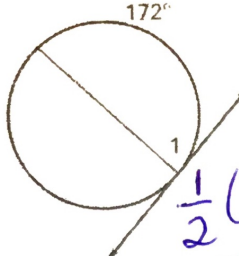
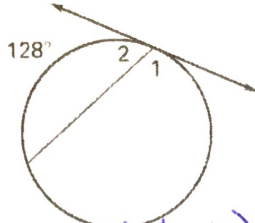
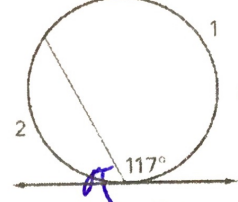


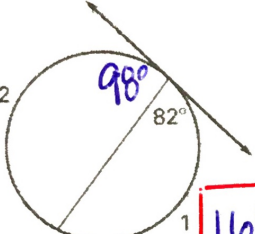
30.5 Practice - Other Angle Relationships in Circles

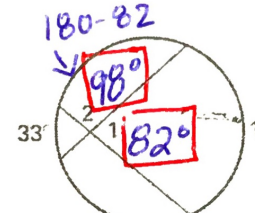
Find the measure of each numbered angle or arc.

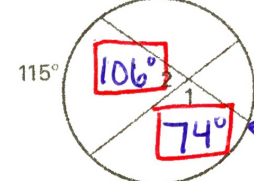
1.  $\frac{1}{2}(172)$
 $= 86^\circ$

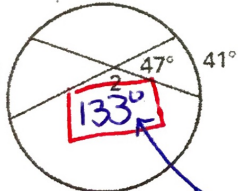
2.  $\angle 2 = \frac{1}{2}(128) = 64^\circ$
 $\angle 1 = 180 - 64 = 116^\circ$

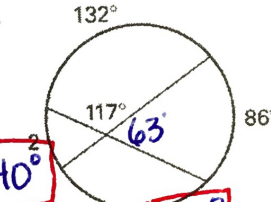
3.  $1 = 2(117)$
 $= 234^\circ (1)$
 $360 - 234 = 126^\circ (2)$

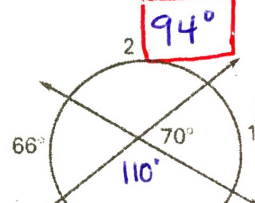
4.  196°
 164°

5.  $180 - 82 = 98^\circ$
 $\angle 1 = \frac{33 + 131}{2} = 82^\circ$

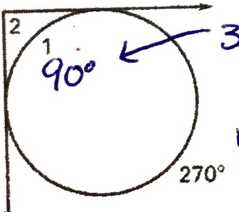
6.  106°
 74°
 $\angle 2 = \frac{115 + 97}{2} = 106$

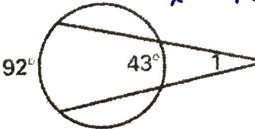
7.  53°
 133°
 $180 - 47$
 $1 \Rightarrow \frac{x + 41}{2} = 47$
 $1 \Rightarrow x + 41 = 94$
 $x = 53$

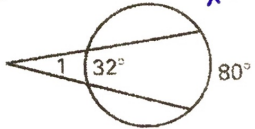
8.  40°
 102°
 63°
 $1 \Rightarrow x + 132 = 234$
 $x = 102$
 $2 \Rightarrow x + 86 = 126$
 $x = 40$

9.  94°
 74°
 110°
 126°
 $1 \Rightarrow x + 66 = 140$
 $x = 74$
 $2 \Rightarrow x + 126 = 220$
 $x = 94$

LOOK
 You can also solve #8 & 9 by subtracting the arc measures from 360°

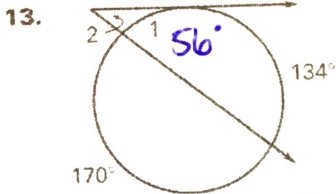
10.  90°
 270°
 $360 - 270$
 $\angle 1 = 360 - 270 = 90^\circ$
 $\angle 2 = \frac{270 - 90}{2} = 90^\circ$

11.  92°
 43°
 $\angle 1 = \frac{92 - 43}{2} = 24.5^\circ$

12.  32°
 80°
 $\angle 1 = \frac{80 - 32}{2} = 24^\circ$

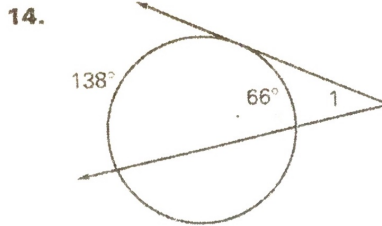
30.5 Practice *continued*

Find the measure of each numbered angle or arc.

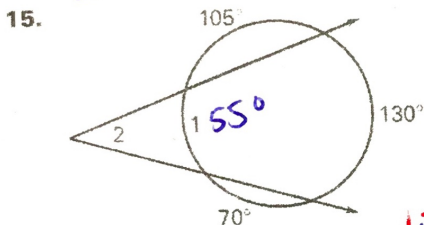


$$\angle 1 = 360 - 170 - 134 = 56^\circ$$

$$\angle 2 = \frac{134 - 56}{2} = 39^\circ$$



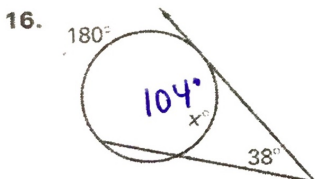
$$\angle 1 = \frac{138 - 66}{2} = 36^\circ$$



$$\angle 1 = 360 - 130 - 105 - 70 = 55^\circ$$

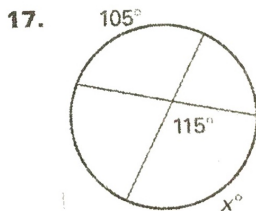
$$\angle 2 = \frac{130 - 55}{2} = 37.5^\circ$$

Find the value of x .



$$\textcircled{1} x \Rightarrow \frac{180 - x}{2} = 38 \quad \textcircled{2} -x = -104$$

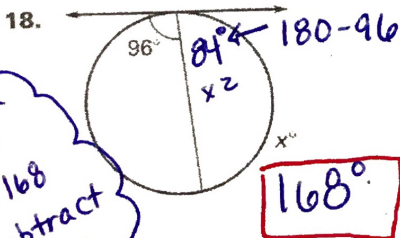
$$\textcircled{2} x \Rightarrow 180 - x = 76 \quad \textcircled{3} x = 104$$



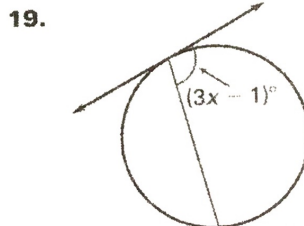
$$x \Rightarrow \frac{105 + x}{2} = 115$$

$$105 + x = 230$$

$$x = 125$$



You can also do $96 \times 2 = 168$ then subtract $360 - 168$



$$2(3x - 1) = 5x + 33$$

$$\begin{array}{r} 6x - 2 = 5x + 33 \\ -5x + 2 \quad -5x + 2 \\ \hline x = 35 \end{array}$$