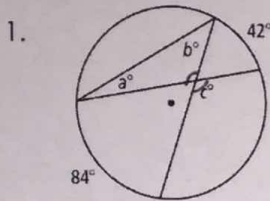


# Homework 6.9: Inscribed Angles

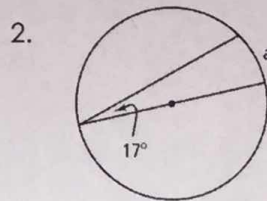
Math 3

Name: Key

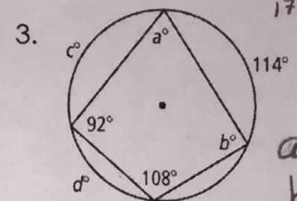
**Directions:** Find the value of each variable. For each circle, the dot represents the center.



$$\begin{aligned} a &= 21^\circ \\ b &= 42^\circ \\ c &= 117^\circ \end{aligned}$$



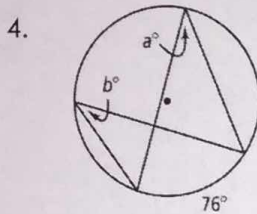
$$a = 34^\circ$$



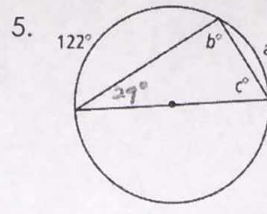
$$\begin{aligned} 108 &= \frac{1}{2}(c + 114) \\ 216 &= c + 114 \\ \hline 102 & \end{aligned}$$

$$\begin{aligned} 88 &= \frac{1}{2}(102 + d) \\ 176 &= 102 + d \end{aligned}$$

$$\begin{aligned} a &= 72^\circ \\ b &= 88^\circ \\ c &= 102^\circ \\ d &= 74^\circ \end{aligned}$$

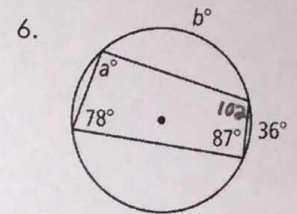


$$\begin{aligned} a &= 38^\circ \\ b &= 38^\circ \end{aligned}$$



$$\begin{aligned} a &= 58^\circ \\ b &= 90^\circ \\ c &= 61^\circ \end{aligned}$$

$$150 - 90 = 60$$

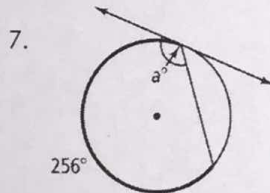


$$\begin{aligned} 78 &= \frac{1}{2}(b + 36) \\ 156 &= b + 36 \end{aligned}$$

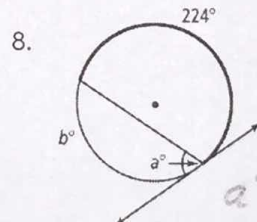
$$\begin{aligned} a &= 93^\circ \\ b &= 120^\circ \\ c &= 150^\circ \end{aligned}$$

$$\begin{aligned} 93 &= \frac{1}{2}(36 + c) \\ 186 &= 36 + c \end{aligned}$$

**Directions:** Find the value of each variable. Lines that appear to be tangent are tangent.

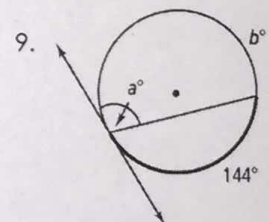


$$a = 128^\circ$$



$$\begin{aligned} a &= 68^\circ \\ b &= 136^\circ \end{aligned}$$

$$360 - 224 = 136$$



$$\begin{aligned} a &= 108^\circ \\ b &= 216^\circ \end{aligned}$$

$$360 - 144 = 216$$

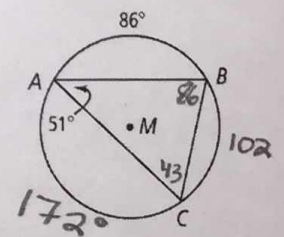
**Directions:** Find each indicated measure for  $\odot M$ .

10.  $m\angle B = 86^\circ$

11.  $m\angle C = 43^\circ$

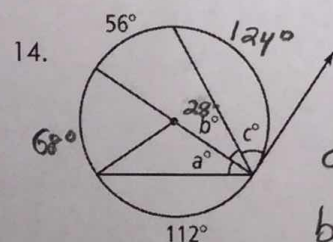
12.  $m\widehat{BC} = 102^\circ$

13.  $m\widehat{AC} = 172^\circ$

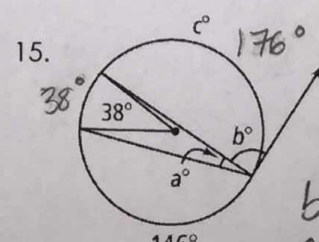


$$\begin{aligned} 102 & \\ 86 & \\ \hline 188 \end{aligned}$$

**Directions:** Find the value of each variable. For each circle, the dot represents the center.

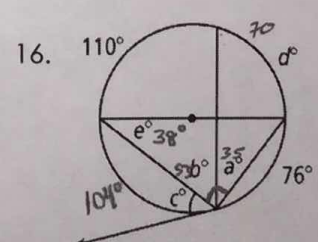


$$\begin{aligned} a &= 34^\circ \\ b &= 28^\circ \\ c &= 62^\circ \end{aligned}$$



$$\begin{aligned} a &= 19^\circ \\ b &= 88^\circ \\ c &= 176^\circ \end{aligned}$$

$$\begin{aligned} 146 + 38 &= 184 \\ 360 & \\ \hline 176 \end{aligned}$$



$$\begin{aligned} a &= 35^\circ \\ b &= 55^\circ \\ c &= 52^\circ \\ d &= 70^\circ \\ e &= 38^\circ \end{aligned}$$

$$\begin{aligned} 360 - (110 + 70 + 76) &= 104 \\ 360 - 256 &= 104 \end{aligned}$$