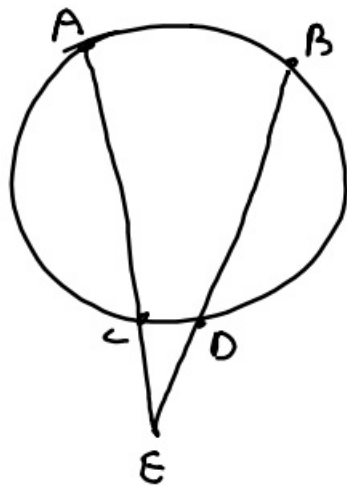
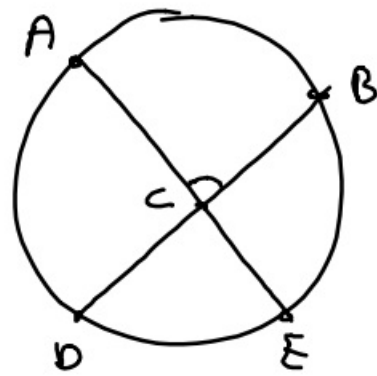


2-1-18 5th Geo

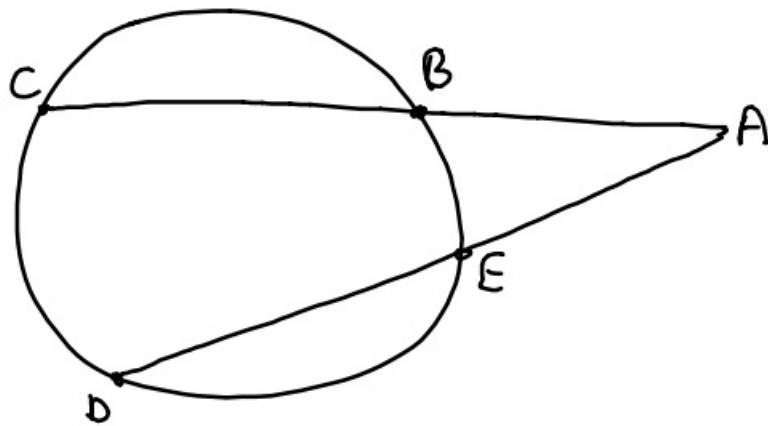


$$\angle E = \frac{1}{2} (\widehat{AB} - \widehat{CD})$$



$$\angle C = \frac{1}{2} (\widehat{AB} + \widehat{DE})$$

①



$$\angle A = 42^\circ \quad \widehat{CD} = 120^\circ \quad \widehat{BE} = ?$$

$$\angle A = \frac{1}{2} (\widehat{CD} - \widehat{BE})$$

$$2 \cdot 42 = \frac{1}{2} (120 - \widehat{BE})$$

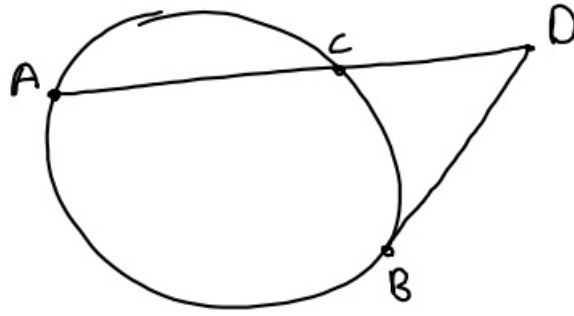
$$84 = 120 - \widehat{BE}$$

$$\begin{array}{r} 84 = 120 - \widehat{BE} \\ -120 \quad -120 \\ \hline \end{array}$$

$$-36 = -\widehat{BE}$$

$$\therefore \widehat{BE} = 36^\circ$$

②



$$\angle D = 62^\circ \quad \widehat{CB} = 70^\circ \quad \widehat{AB} = ?$$

$$\angle D = \frac{1}{2} (\widehat{AB} - \widehat{CB})$$

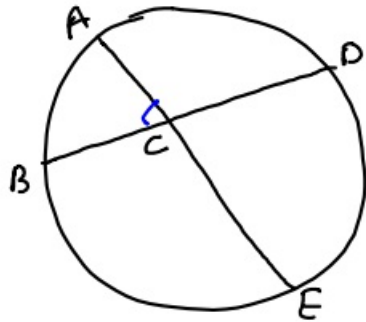
$$2 \cdot 62 = \frac{1}{2} (\widehat{AB} - 70)$$

$$124 = \widehat{AB} - 70$$

$$\begin{array}{r} +70 \\ \hline \end{array}$$

$$194 = \widehat{AB}$$

③



$$\angle ACB = 71^\circ$$

$$\widehat{AB} = 60$$

$$\widehat{DE} = ?$$

$$\angle ACB = \frac{1}{2} (\widehat{AB} + \widehat{DE})$$

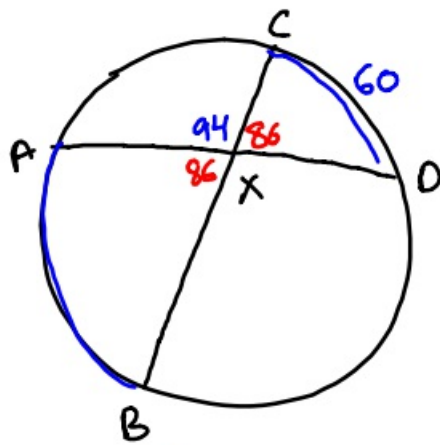
$$2 \cdot 71 = \frac{1}{2} (60 + \widehat{DE})$$

$$142 = 60 + \widehat{DE}$$

$$\begin{array}{r} -60 \\ \hline \end{array}$$

$$82 = \widehat{DE}$$

④



$$\angle AXC = 94^\circ$$

$$\widehat{CD} = 60^\circ$$

$$\widehat{AB} = ?$$

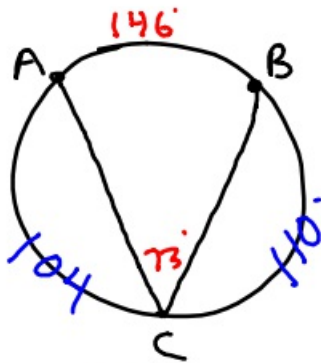
$$2 \cdot 86^\circ = \frac{1}{2}(60 + \widehat{AB})$$

$$172 = 60 + \widehat{AB}$$

$$\begin{array}{r} 172 = 60 + \widehat{AB} \\ - 60 \quad - 60 \\ \hline \end{array}$$

$$112 = \widehat{AB}$$

⑤

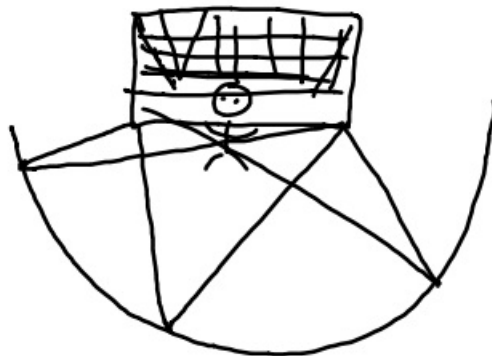


$$\widehat{AC} = 104$$

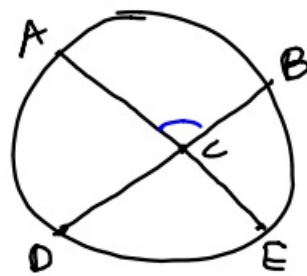
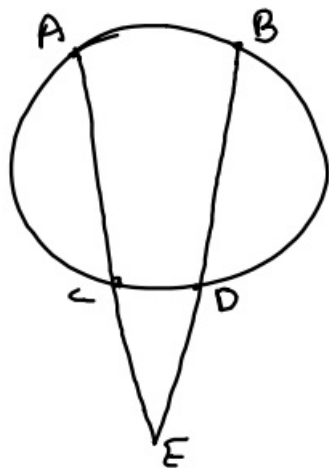
$$\widehat{BC} = 110$$

$$\angle ACB = ? \quad 73^\circ$$

$$360 - 104 - 110 = \boxed{146}$$

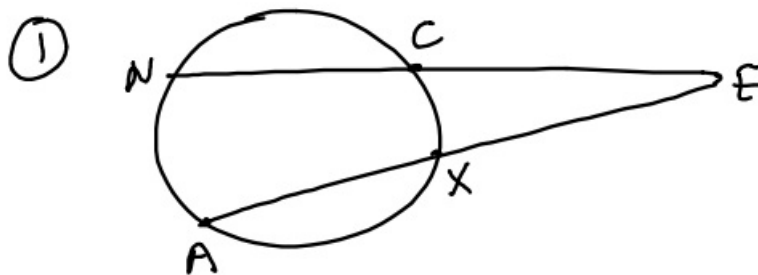


2-1-18 6th Geo



$$\angle ACB = \frac{1}{2}(\widehat{AB} + \widehat{DE})$$

$$\angle E = \frac{1}{2}(\widehat{AB} - \widehat{CD})$$

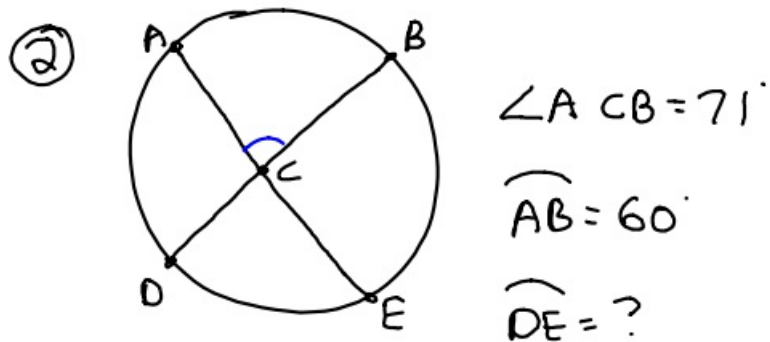


$$\widehat{CX} = 44^\circ \quad \angle E = 58^\circ \quad \widehat{NA} = ?$$

$$\angle E = \frac{1}{2}(\widehat{NA} - \widehat{CX})$$

$$2 \cdot 58^\circ = 2 \cdot \frac{1}{2}(\widehat{NA} - 44)$$

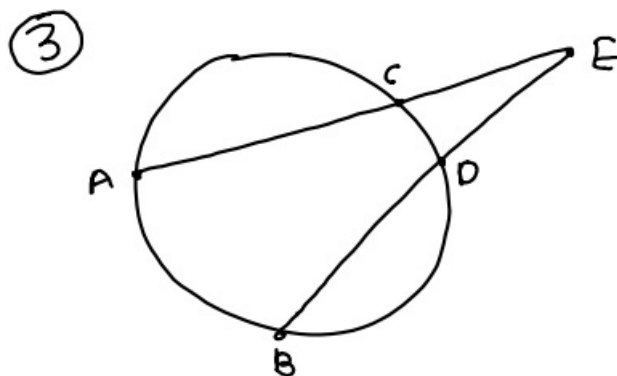
$$\begin{array}{r} 116 = \widehat{NA} - 44 \\ + 44 \qquad \qquad + 44 \\ \hline 160 = \widehat{NA} \end{array}$$



$$\angle ACB = \frac{1}{2}(\widehat{AB} + \widehat{DE})$$

$$2 \cdot 71 = 2 \cdot \frac{1}{2}(60 + \widehat{DE})$$

$$\begin{array}{r}
 142 = 60 + \widehat{DE} \\
 -60 \quad -60 \\
 \hline
 82 = \widehat{DE}
 \end{array}$$



$$\widehat{AB} = 107^\circ \quad \angle E = 58^\circ \quad \widehat{CD} = ?$$

$$\angle E = \frac{1}{2}(\widehat{AB} - \widehat{CD})$$

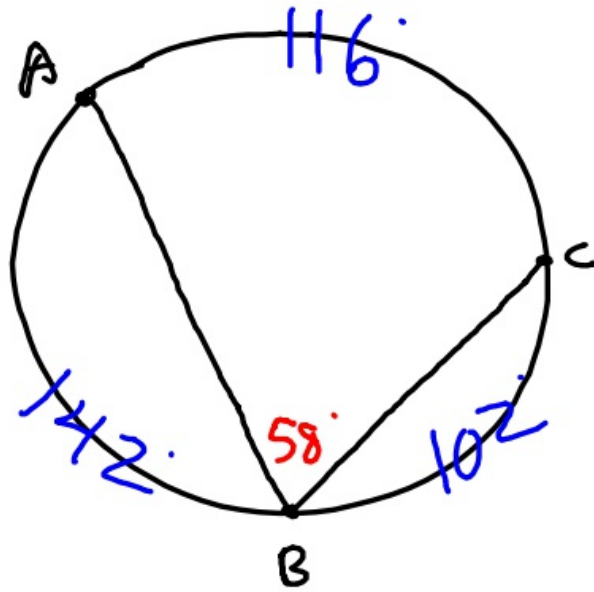
$$2 \cdot 58 = 2 \cdot \frac{1}{2}(107 - \widehat{CD})$$

$$\begin{array}{r}
 116 = 107 - \widehat{CD} \\
 -107 \quad -107 \\
 \hline
 9 = -\widehat{CD}
 \end{array}$$

$$9 = -\widehat{CD}$$

$$\therefore \widehat{CD} = -9^\circ \leftarrow \text{Not possible}$$

④

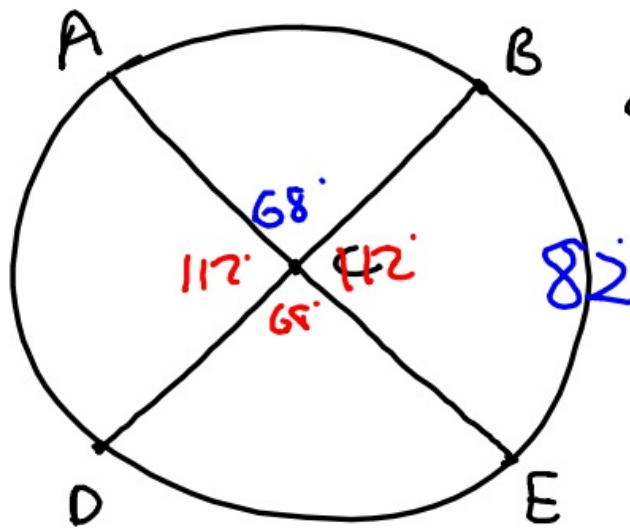


$$\widehat{AB} = 142^\circ$$

$$\widehat{BC} = 102^\circ$$

$$\angle ABC = ?$$

⑤



$$\angle ACB = 68^\circ$$

$$\widehat{BE} = 82^\circ$$

$$\widehat{AD} = ?$$

$$2 \cdot 112 = 2 \cdot \frac{1}{2} (82 + \widehat{AD})$$

$$224 = 82 + \widehat{AD}$$

$$\begin{array}{r} - 82 \quad - 82 \\ \hline \end{array}$$

$$142 = \widehat{AD}$$