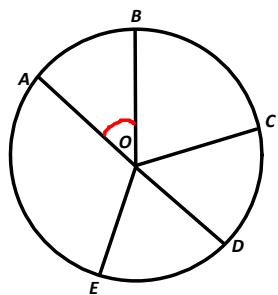


Arcs and Chords

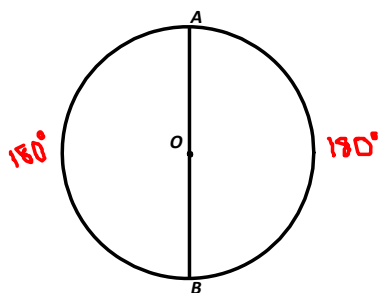


The sum of the measures of the central angles of a circle is 360° .

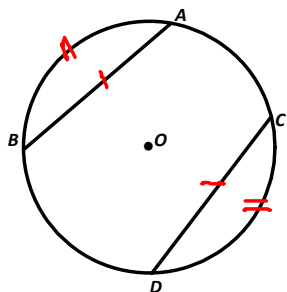
$$m\angle AOB + m\angle BOC + m\angle COD + m\angle DOE + m\angle EOA = 360^\circ$$

The sum of the measures of the arcs of a circle is 360° .

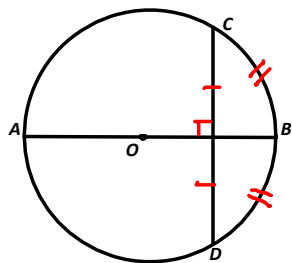
$$m\widehat{AB} + m\widehat{BC} + m\widehat{CD} + m\widehat{DE} + m\widehat{EA} = 360^\circ$$



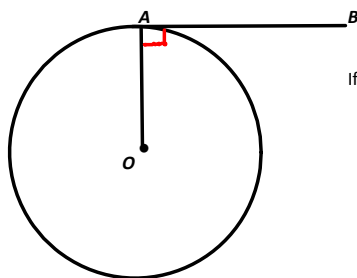
There are 180° in a semicircle.



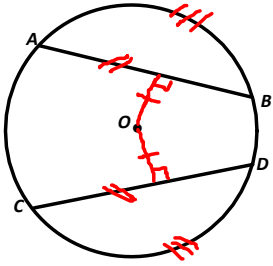
Minor arcs are congruent if their corresponding chords are congruent.



If a diameter or radius is perpendicular to a chord, then it bisects the chord and its arc.



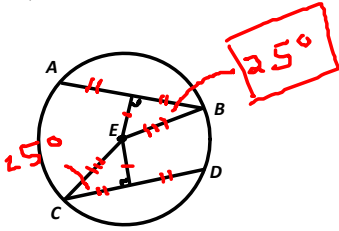
If a line is tangent to a circle then it is perpendicular to its radius.



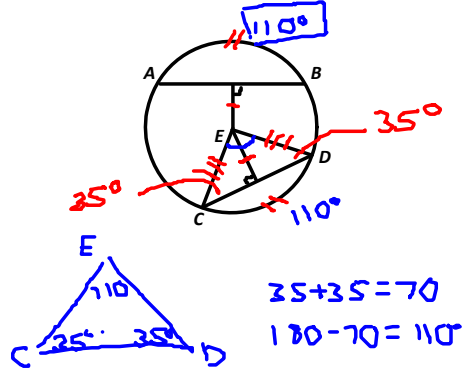
Two chords are congruent if and only if they are equidistant from the center.

1. Find the value of each.

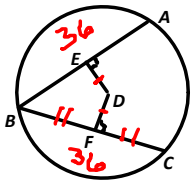
a) $m\angle ECD = 25^\circ$
 $m\angle EBA =$



b) $m\angle ECD = 35^\circ$
 $m\widehat{AB} =$



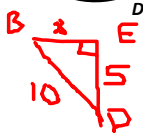
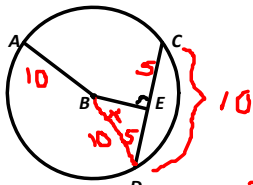
c) $\overline{AB} = 36$
 $\overline{BF} =$



$$\overline{BF} = 36 \div 2 = 18$$

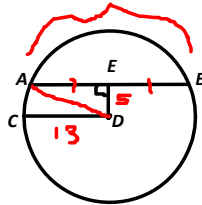
2. Find the value of x and round your answer to the nearest tenth.

- a) $AB = 10$
 $CD = 10$
 $BE = x$



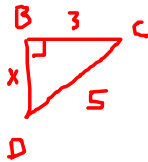
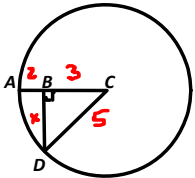
$$\begin{aligned}
 c^2 + b^2 &= c^2 \\
 x^2 + 5^2 &= 10^2 \\
 x^2 + 25 &= 100 \\
 &-25 \quad -25 \\
 \sqrt{x^2} &= \sqrt{75} \\
 x &= \boxed{8.7}
 \end{aligned}$$

- b) $ED = 5$
 $CD = 13$
 $AB = x$



$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 y^2 + 5^2 &= 13^2 \\
 y^2 + 25 &= 169 \\
 &-25 \quad -25 \\
 \sqrt{y^2} &= \sqrt{144} \\
 y &= \boxed{12}
 \end{aligned}$$

- c) $AB = 2$
 $CD = 5$
 $BD = x$



$$\begin{aligned}
 a^2 + b^2 &= c^2 \\
 x^2 + 3^2 &= 5^2 \\
 x^2 + 9 &= 25 \\
 &-9 \quad -9 \\
 \sqrt{x^2} &= \sqrt{16} \\
 x &= \boxed{4}
 \end{aligned}$$