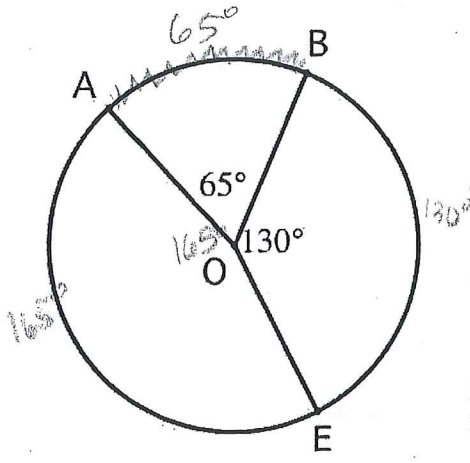
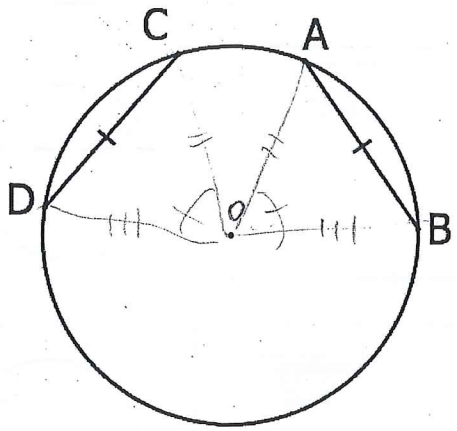
DG Unit 6 – Circle Properties NOTES 1 Lesson 6.1 p.306



∠AOB is a central angle
along with ∠BOE and ∠AOE

The measure of the intercepted arc (btn AB)
is equal to the measure of the central angle
So if $m\angle AOB$ = 65° then $m\overset{\frown}{AB}$ = 65°
also $m\overset{\frown}{BE}$ = 130° and $m\overset{\frown}{EA}$ = 165°
because the whole circle is worth 360°

360 − 65 − 130 = 165



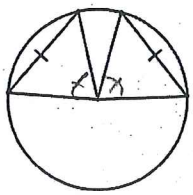
Given : Chords $\overline{DC} \cong \overline{AB}$ on circle O
Prove : $\angle DOC \cong \angle AOB$

Have to show △s are ≅

① chords $\overline{DC} \cong \overline{AB}$	① given
② $\overline{AO} \cong \overline{CO}$, $\overline{BO} \cong \overline{DO}$	② radii of the same circle
③ $\triangle ABO \cong \triangle CDO$	③ SSS
④ $\angle DOC \cong \angle AOB$	④ CPCTC

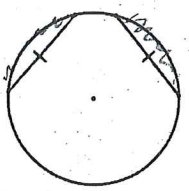
Chord Central Angles Conjecture C–54

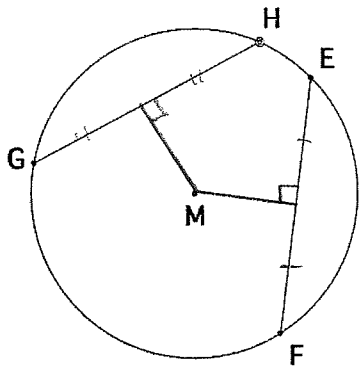
If two chords in a circle are ≅, then they determine two central angles that are congruent ≅.



Chord Arcs Conjecture C–55

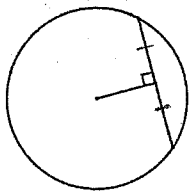
If two chords in a circle are ≅, then their intercepted arcs are congruent





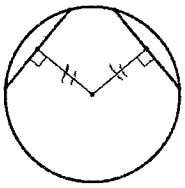
Perpendicular to a Chord Conjecture — C-56

The perpendicular from the center of a circle to a chord is the bisector of the chord.



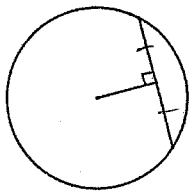
Chord Distance to Center Conjecture — C-57

Two congruent chords in a circle are equidistant from the center of the circle.

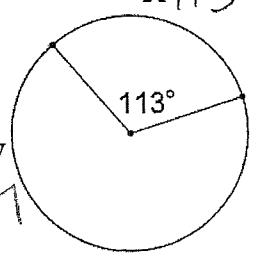


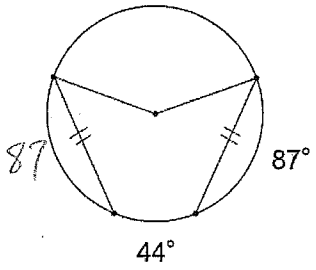
Perpendicular Bisector of a Chord Conjecture — C-58

The perpendicular bisector of a chord passes thru the center

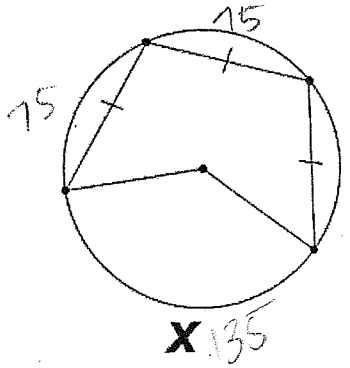


360 − 113 = 247





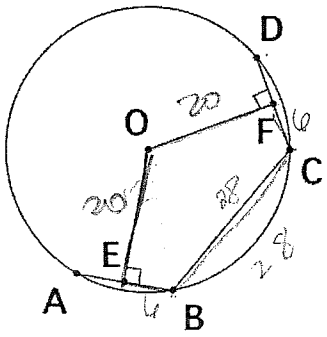
360 − 87 − 87 = 44 + 44 = 142



360 − 225 = 135

AB = 12cm
CD = 12cm
OF = 20cm
BC = 28cm

What is the perimeter of EBCFO ?



80 cm