Geometry CC – Mr. Valentino
Unit 12 Day 8: Super Circles Day 2

Name: _____
Date: _____ Per: _____

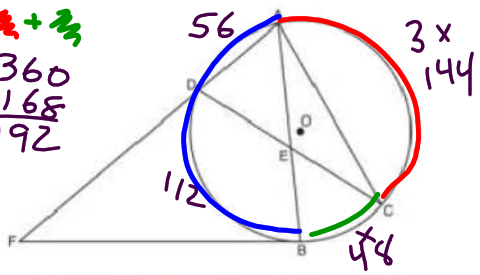
Aim: How can I use my circle strategies to solve for missing values in Super Circles?

1. Chords $\overline{AB}$ and $\overline{CD}$ intersect at E in circle O, as shown in the diagram below. Secant $\overline{FDA}$ and tangent $\overline{FB}$ are drawn to circle O from external point F and chord $\overline{AC}$ is drawn. The $m\overset{\frown}{DA} = 56$, $m\overset{\frown}{DB} = 112$, and the ratio of $m\overset{\frown}{AC} : m\overset{\frown}{CB} = 3:1$

$3x + 1x = 192$
$4x = 192$
$x = 48$

112
+ 56
168

360
−168
192



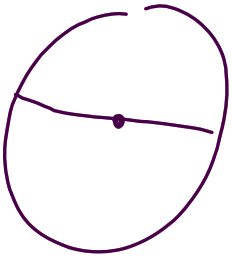
Determine $m\angle CEB$. Determine $m\angle F$. Determine $m\angle DAC$.

∡CEB =

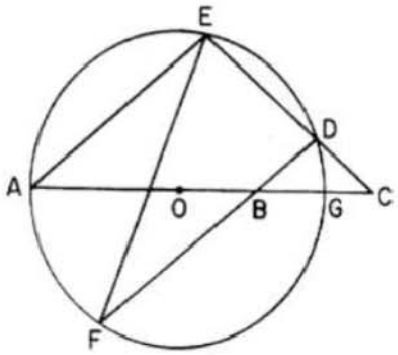
∡F =

∡DAC =

HW: #1, #3, #4



2. In the accompanying diagram of circle O, $\overline{AE}$ and $\overline{FD}$ are chords, $\overline{AOBG}$ is a diameter and is extended to C, $\overline{CDE}$ is a secant, $\overline{AE} \parallel \overline{FD}$, and $m\overset{\frown}{AE} : m\overset{\frown}{ED} : m\overset{\frown}{DG} = 5:3:1$.



Find $m\overset{\frown}{DG}$, $m\angle AEF$, $m\angle DBG$, $m\angle DCA$, and $m\angle CDF$

$m\overset{\frown}{DG}$ =

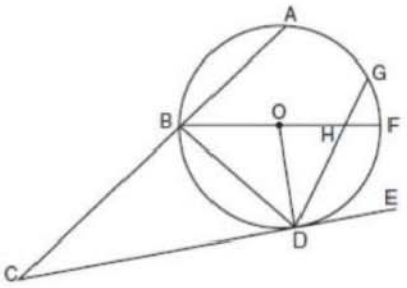
∡AEF =

∡DBG =

∡DCA =

∡CDF =

3. In the accompanying diagram, circle O has radius $\overline{OD}$, diameter $\overline{BOHF}$, secant $\overline{CBA}$, and chords $\overline{DHG}$ and $\overline{BD}$; $\overline{CE}$ is tangent to circle O at D; $m\overset{\frown}{DF} = 80$; and $m\overset{\frown}{BA} : m\overset{\frown}{AG} : m\overset{\frown}{GF} = 3:2:1$. Find $m\overset{\frown}{GF}$, $m\angle BHD$, $m\angle BDG$, $m\angle GDE$, $m\angle C$, and $m\angle BOD$.



$m\overset{\frown}{GF}$ =

∡BHD =

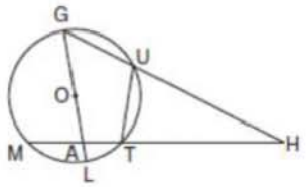
∡BDG =

∡GDE =

∡C =

∡BOD =

4. Given circle O with diameter $\overline{GOAL}$; secants $\overline{HUG}$ and $\overline{HTAM}$ intersect at point H; $m\overset{\frown}{GM} : m\overset{\frown}{ML} : m\overset{\frown}{LT} = 7:3:2$; and chord $\overline{GU} \cong$ chord $\overline{UT}$. Find the ratio of $m\angle UGL$ to $m\angle H$.

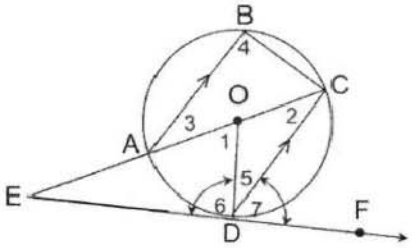


∡UGL =

∡H =

∡UGL : ∡H is _____

5. Given tangent $\overline{EDF}$ at D, secant $\overline{EAC}$ through center, $\overline{AB} \parallel \overline{DC}$, and $m\angle E = 40°$.



∡1 =

∡2 =

∡3 =

∡4 =

∡5 =

∡6 =

∡7 =