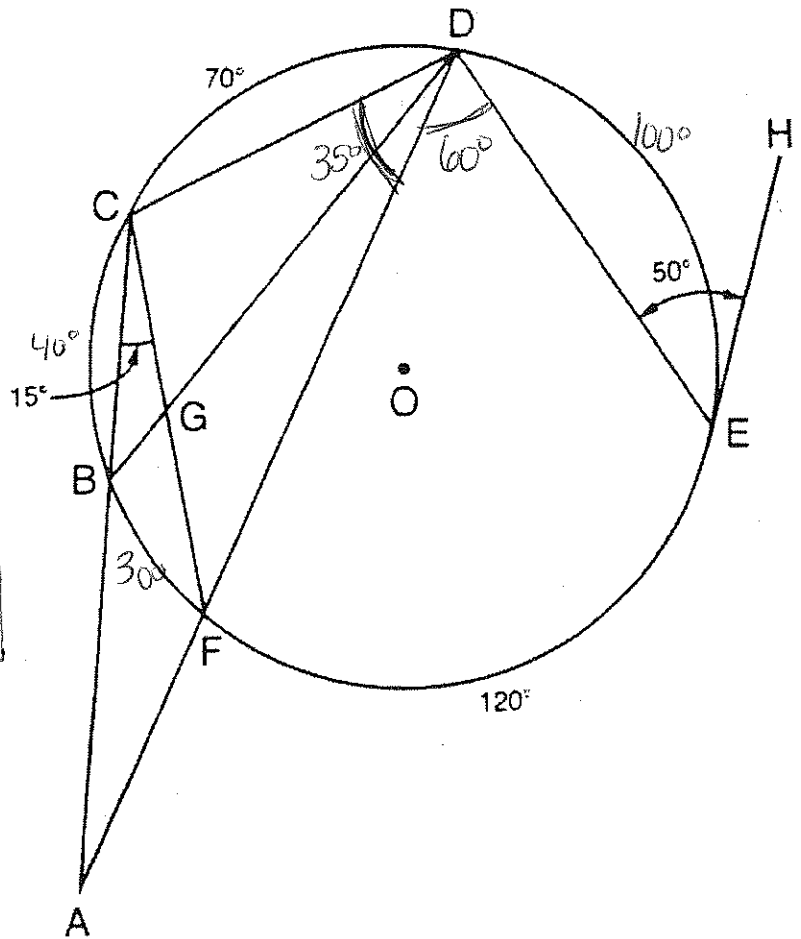


W.S. 10.4 – Super Problems

1) Given: \overline{OO}

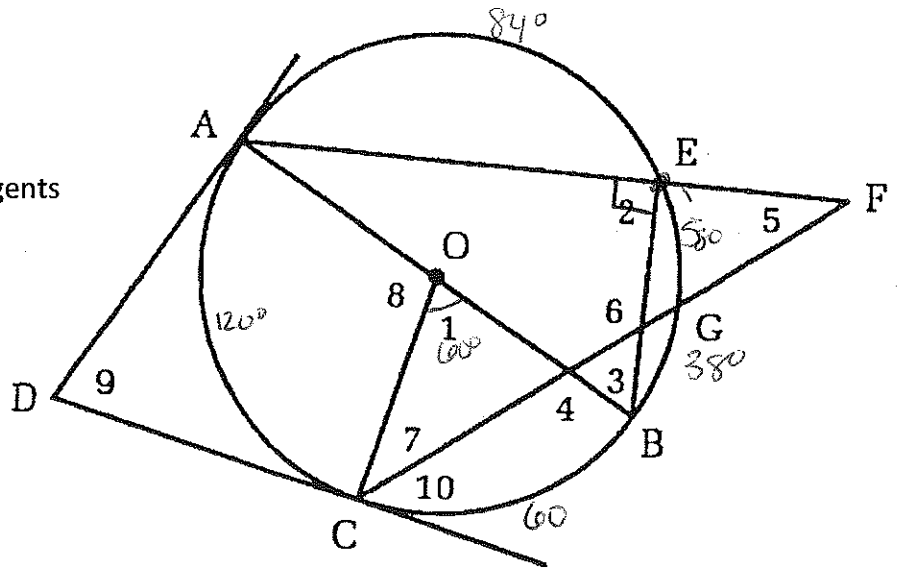
- \overline{EH} is a tangent
- \overline{AC} and \overline{AD} are secants
- $m\angle DEH = 50$
- $m\angle BCG = 15$
- $m\widehat{CD} = 70$
- $m\widehat{FE} = 120$



Find:

- a. $m\widehat{DE}$
 $50 = \frac{DE}{2}$
 $DE = 100^\circ$
- b. $m\angle FDE$
 $m\angle FDE = \frac{120}{2} = 60^\circ$
- c. $m\widehat{BF}$
 $15 = \frac{BF}{2}$
 $BF = 30^\circ$
- d. $m\widehat{CB}$
 $360 - 30 - 120 - 100 - 70 = 40^\circ$
- e. $m\angle CDF$
 $m\angle CDF = \frac{40 + 30}{2} = 35^\circ$
- f. $m\angle A$
 $m\angle A = \frac{70 - 30}{2} = \frac{40}{2} = 20^\circ$
- g. $m\angle CGD$
 $m\angle CGD = \frac{70 + 30}{2} = \frac{100}{2} = 50^\circ$

- 2) Given: \overline{OO}
 \overline{AB} is a diameter
 \overline{DA} and \overline{DC} are tangents
 $m\widehat{AC} = 120$
 $m\widehat{AE} = 84$
 $m\widehat{EG} = 58$



Find:

a. $\angle 1 = \boxed{60^\circ}$

$180 - 120 = 60^\circ$

b. $\angle 2 = \boxed{90^\circ}$

$\frac{180}{2}$

c. $\angle 3$

$m\angle 3 = \frac{84}{2} = \boxed{42^\circ}$

d. $\angle 4$

$m\angle 4 = \frac{84 + 58 + 60}{2} = \boxed{101^\circ}$

e. $\angle 5$

$m\angle 5 = \frac{120 - 58}{2} = \boxed{31^\circ}$

f. $\angle 6$

$m\angle 6 = \frac{120 + 84 + 38}{2} = \boxed{121^\circ}$

g. $\angle 7$

Use triangle $180 - 60 - 79 = \boxed{41^\circ}$

h. $\angle 8$

$180 - 60 = \boxed{120^\circ}$

i. $\angle 9$

$m\angle 9 = \frac{240 - 120}{2} = \boxed{60^\circ}$

j. $\angle 10$

$m\angle 10 = \frac{60 + 38}{2} = \boxed{49^\circ}$

$360 - 84 - 58 - 120 - 60 = 38^\circ$

$(44) 180 - 101 = 79^\circ$