

# Circles – Central Angles

G.C.A.2

Hw Section 12.3

Name \_\_\_\_\_

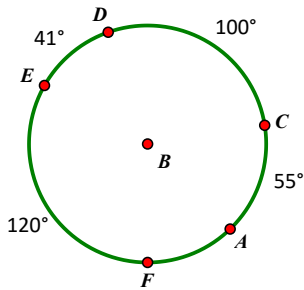
#1) Determine the arc measure.

$m\widehat{DF} = 161^\circ$

$m\widehat{ECA} = 196^\circ$

$m\widehat{AF} = 44^\circ$

$m\widehat{CFD} = 240^\circ$



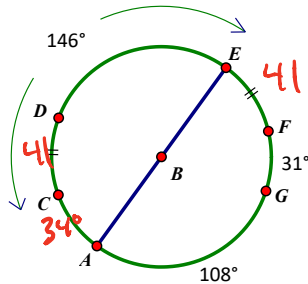
#2) Determine the arc measure.

$m\widehat{AC} = 34^\circ$

$m\widehat{DAG} = 183^\circ$

$m\widehat{AD} = 75^\circ$

$m\widehat{DAF} = 214^\circ$



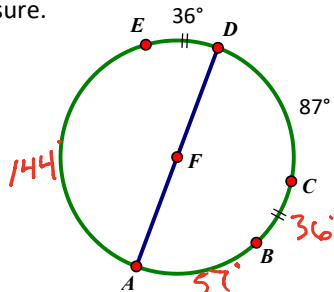
#3) Determine the arc measure.

$m\widehat{AE} = 144^\circ$

$m\widehat{AB} = 57^\circ$

$m\widehat{CDB} = 324^\circ$

$m\widehat{BD} = 173^\circ$



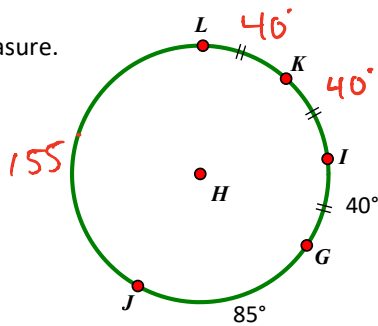
#4) Determine the arc measure.

$m\widehat{LJ} = 155^\circ$

$m\widehat{KJ} = 165^\circ$

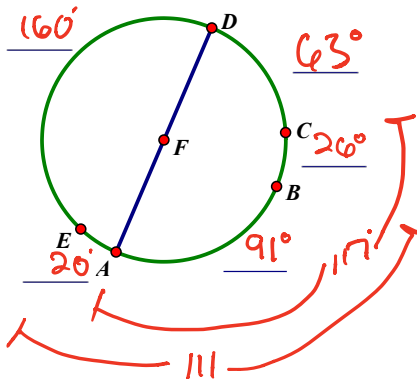
$m\widehat{GJK} = 280^\circ$

$m\widehat{KLI} = 320^\circ$



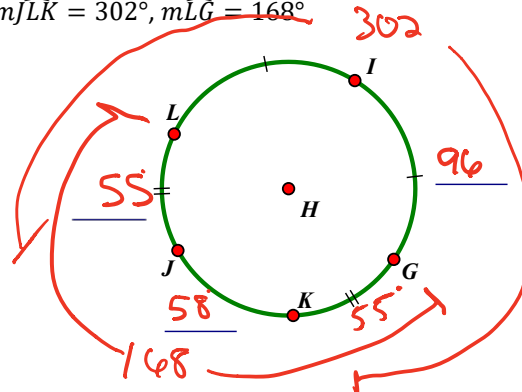
#5) Fill in the of the missing arcs on the circle.

$m\widehat{AC} = 117^\circ, m\widehat{BE} = 111^\circ, m\widehat{BA} = 91^\circ$

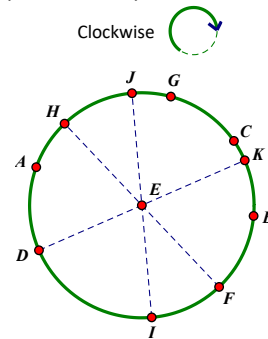


#6) Fill in the of the missing arcs on the circle.

$m\widehat{LK} = 302^\circ, m\widehat{LG} = 168^\circ$

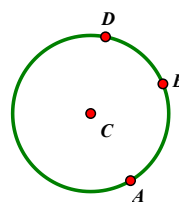


#7) From the given diagram, determine whether the arcs are Major, Minor or Semi-Circle. To describe the arc without giving it way through notation we will refer to clockwise and counterclockwise (counter cw).



F to G, clockwise	Major	Minor	Semi
A to F, clockwise	Major	Minor	Semi
J to C, clockwise	Major	Minor	Semi
K to D, clockwise	Major	Minor	Semi
D to I, counter cw	Major	Minor	Semi
C to A, counter cw	Major	Minor	Semi
F to J, clockwise	Major	Minor	Semi
G to I, counter cw	Major	Minor	Semi

#8) The teacher asks a student to write the name for the arc from A to B on the board. Jackie comes up writes  $\widehat{AB}$  or  $\widehat{BA}$ . Jeff raises his hand and says that he has a different answer. What might his answer be if it is different than Jackie's?



He might say  $\widehat{ADB}$  which is a major arc

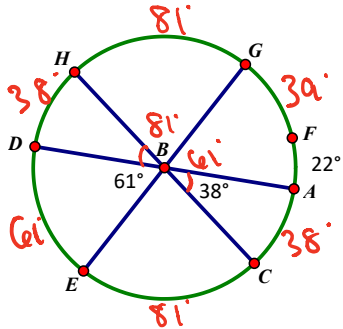
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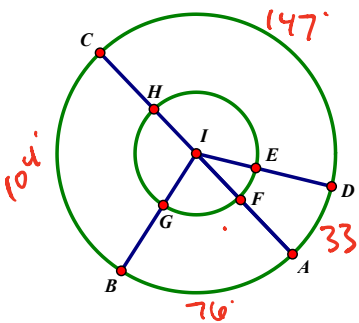
Name \_\_\_\_\_

#9) Given Circle B with diameters  $\overline{HC}$ ,  $\overline{DA}$  and  $\overline{EG}$ .



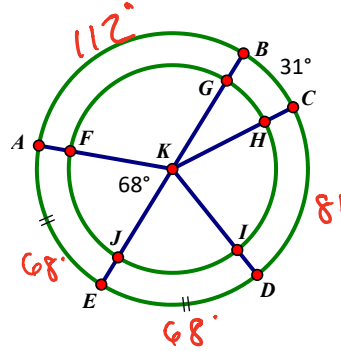
$m\angle DBH = \underline{38^\circ}$        $m\widehat{DCE} = \underline{299^\circ}$   
 $m\widehat{HG} = \underline{81^\circ}$        $m\widehat{HCF} = \underline{240^\circ}$   
 $m\angle HBA = \underline{142^\circ}$        $m\angle DBA = \underline{180^\circ}$

#10) Given concentric circles with  $m\widehat{GF} = 76^\circ$ ,  $m\angle HIE = 147^\circ$ , and  $\overline{CA}$  and  $\overline{FH}$  are diameters.



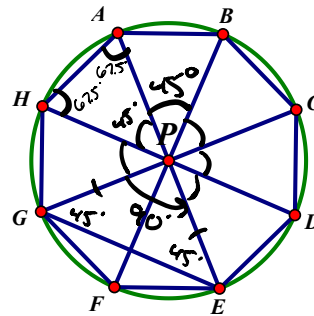
$m\widehat{CB} = \underline{104^\circ}$        $m\widehat{HE} = \underline{147^\circ}$   
 $m\widehat{BDC} = \underline{256^\circ}$        $m\angle CIB = \underline{104^\circ}$

#11) Given concentric circles with  $m\widehat{BC} = 31^\circ$ ,  $m\angle FKJ = 68^\circ$ , and  $\overline{EB}$  is a diameter.



$m\widehat{ED} = \underline{68^\circ}$        $m\angle GKH = \underline{31^\circ}$   
 $m\widehat{ABC} = \underline{143^\circ}$        $m\angle AKB = \underline{112^\circ}$

#12) Given a regular octagon. Answer each question.

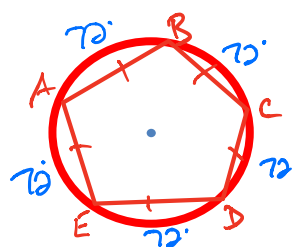


$m\angle APB = \frac{360}{n}$   
 $= \frac{360}{8}$   
 $= 45$

$m\angle APB = \underline{45^\circ}$        $m\angle HPF = \underline{90^\circ}$   
 $m\widehat{AGE} = \underline{180^\circ}$        $m\widehat{GEA} = \underline{270^\circ}$   
 $m\angle GPF = \underline{45^\circ}$        $m\angle PAH = \underline{67.5}$   
 $m\angle PGE = \underline{45^\circ}$

If  $HD = 12$  cm, then  $GE = \underline{6\sqrt{2}}$   $45-45-90$

#13) Points A, B, C, D, and E are placed on circle R in this order such that there are five congruent arcs. What is the  $m\widehat{BCE}$  =?



$m\angle BRC = \frac{360}{5} = 72^\circ$   


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 $m\widehat{BCE} = 72^\circ(3)$   
 $m\widehat{BCE} = 216^\circ$