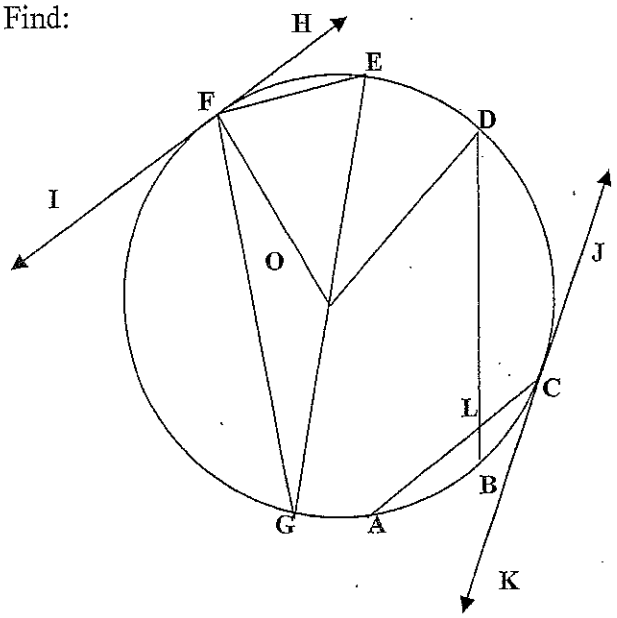
Geometry **Name**_____
Worksheet – Find angles in circles **Date**_____ **Period**_____

1. $\overline{GE}$ is a diameter of circle O. $\overleftrightarrow{IH}$ and $\overleftrightarrow{KJ}$ are tangents of circle O.

   m$\overset{\frown}{FE}$=40, m$\overset{\frown}{ED}$=20, m$\overset{\frown}{DC}$=76, m$\overset{\frown}{AB}$=30, m$\overset{\frown}{GA}$=10. Find:



(a) m∠ALB=_____ (g) m∠ACK=_____

(b) m∠BLC=_____ (h) m∠FGE=_____

(c) m∠JCA=_____ (i) m∠EFG=_____

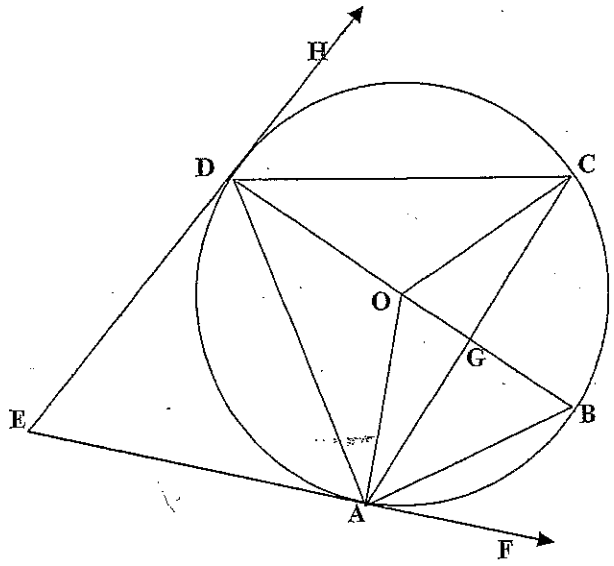
(d) m∠EOD=_____ (j) m∠GFO=_____

(e) m∠FEG=_____ (k) m∠IFG=_____

(f) m∠FOE=_____ (l) m∠HFE=_____

2. $\overline{DB}$ is a diameter of circle O. $\overleftrightarrow{ED}$ and $\overleftrightarrow{EA}$ are tangents of circle O

   m$\overset{\frown}{AB}$=76 and m$\overset{\frown}{DC}$=110. Find:



(a) m$\overset{\frown}{BC}$=_____ (i) m∠EAD=_____

(b) m$\overset{\frown}{AD}$=_____ (j) m∠BAF=_____

(c) m∠DOA=_____ (k) m∠DCA=_____

(d) m∠DAO=_____ (l) m∠DGC=_____

(e) m∠OAC=_____ (m) m∠DBA=_____

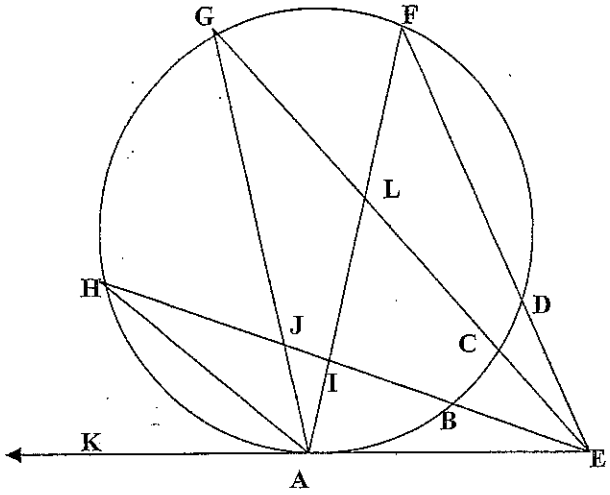
(f) m∠CAB=_____ (n) m∠ADO=_____

(g) m∠EDA=_____ (o) m∠ODC=_____

(h) m∠DEA=_____ (p) m∠HDC=_____

3. $\overleftrightarrow{AE}$ is a tangent. m∠FAE=85, m∠HJG=55, m∠GAK=75, m$\overset{\frown}{AB}$=40, m$\overset{\frown}{BC}$=16, m$\overset{\frown}{CD}$=10

Find:



(a) m$\overset{\frown}{DF}$=_____ (i) m∠HAG=_____

(b) m$\overset{\frown}{FG}$=_____ (j) m∠GAF=_____

(c) m$\overset{\frown}{GH}$=_____ (k) m∠ALC=_____

(d) m$\overset{\frown}{HA}$=_____ (l) m∠FIB=_____

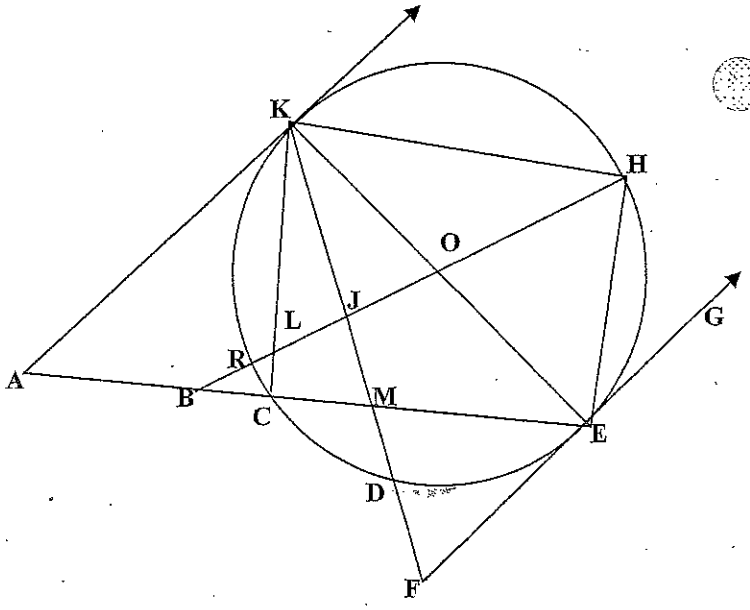
(e) m∠AFD=_____ (m) m∠KEH=_____

(f) m∠AGC=_____ (n) m∠HEG=_____

(g) m∠AHB=_____ (o) m∠GEF=_____

(h) m∠KAH=_____

4. $\overline{RH}$ and $\overline{KE}$ are diameters of circle O. $\overleftrightarrow{FE}$ and $\overleftrightarrow{AK}$ are tangents. m∠EOH=70, m$\overset{\frown}{CR}$=10, m$\overset{\frown}{DE}$=60. Find:



(a) m$\overset{\frown}{RK}$=_____ (j) m∠KEH=_____

(b) m$\overset{\frown}{KH}$=_____ (k) m∠HEG=_____

(c) m$\overset{\frown}{HE}$=_____ (l) m∠RHE=_____

(d) m∠KAE=_____ (m) m∠RHK=_____

(e) m∠HBE=_____ (n) m∠HKO=_____

(f) m∠KCE=_____ (o) m∠EKD=_____

(g) m∠EMD=_____ (p) m∠CKD=_____

(h) m∠KFE=_____ (q) m∠KLH=_____

(i) m∠CEK=_____ (r) m∠KJH=_____