MASSACHUSETTS MATHEMATICS LEAGUE
NOVEMBER 2005
ROUND 6 PLANE GEOMETRY: ANGLES

ANSWERS

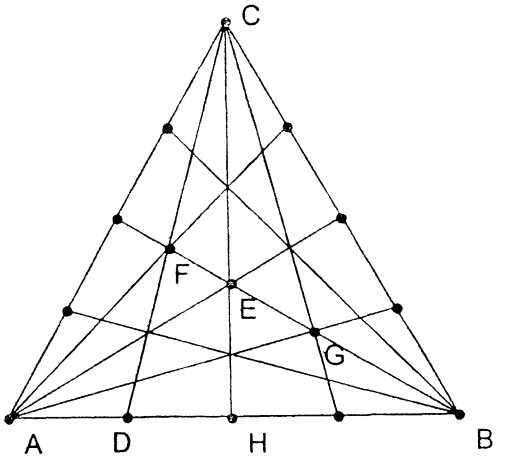
A)_____

B)_____

C)_____

A) **Given WXYZ a trapezoid with legs WX=8 and YZ=6. WZ : XY = 9: 5 . The bisectors of $\angle$ W and $\angle$ Z happen to intersect on $\overline{XY}$ Find WZ.**

B) **Each angle of an equilateral triangle is divided into 4 equal angles as shown. Find the sum of the measures of $\angle$ADF, $\angle$AEH, $\angle$FGC, and $\angle$AFD.**



C) **If $P_1P_2P_3 \ldots P_n$ are the vertices of a regular n-gon find in terms of n the measure of the acute angle formed by the intersection of P_1P_3 and P_2P_4**