MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2013
ROUND 6 PLANE GEOMETRY: ANGLES, TRIANGLES AND PARALLELS

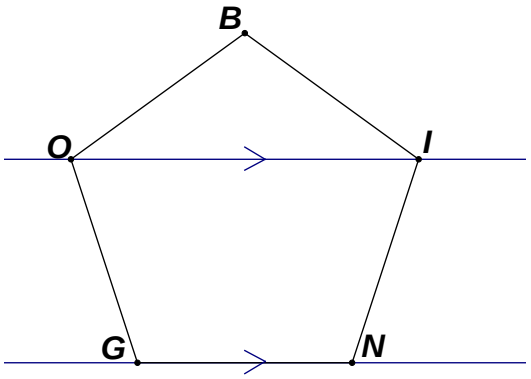
ANSWERS

A) _____

B) _____

C) _____

A) Given: Regular pentagon BINGO with $\overleftrightarrow{OI} \parallel \overleftrightarrow{GN}$
Compute $m\angle ING + m\angle BIO + m\angle OGI$.



B) In kite $ABCD, m\angle BAC = m\angle DAC = (2x + 35)°$ and $m\angle ABD = (80 - 3x)°$.
Compute the value of x.

C) In ΔABC, $\angle BAC$ is obtuse, $\overrightarrow{AD}$ is an angle bisector of $\angle BAC$.
$m\angle ABC = 30°$, and $AC = 24$.
$\overline{AE} \perp \overline{BC}$, $BE = 2DE$
Compute DC.