MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2016
ROUND 6 PLANE GEOMETRY: ANGLES, TRIANGLES AND PARALLELS

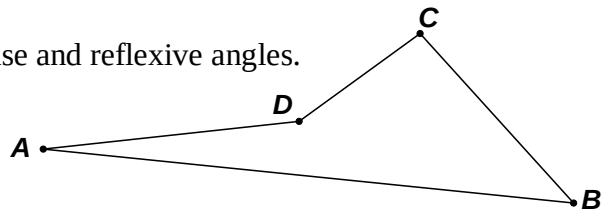
ANSWERS

A) _____

B) (_____ , _____)

C) _____

A) A concave quadrilateral has interior angles which measure $x°$, $(2x)°$, $(4x)°$ and $(8x)°$.
One of these angles is obtuse, and another is reflexive, i.e. with a degree measure between 180° and 360°.
Compute the sum of the degree-measures of the obtuse and reflexive angles.



B) Each interior angle of a regular polygon with N sides measures more than 178°and less than 179°. The minimum value of N is m and the maximum value of N is M.
Compute the ordered pair (m, M).

C) Shortly after 5PM, the hour and minute hands of a circular clock form an angle of 110°. Within the hour, this happens again. Compute the elapsed time (in minutes) between these two occurrences.