MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 2 - NOVEMBER 2015
ROUND 6 PLANE GEOMETRY: ANGLES, TRIANGLES AND PARALLELS

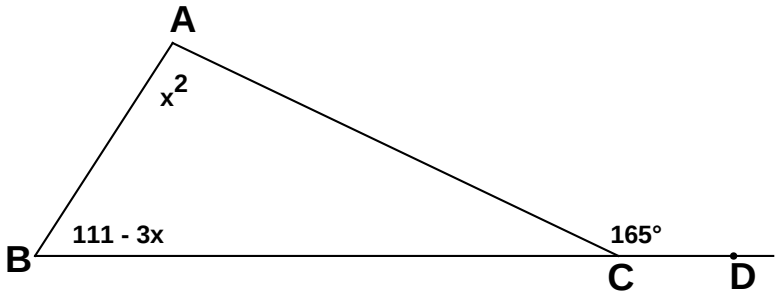
ANSWERS

A) _____

B) _____

C) _____

A) Compute the largest possible degree-measure of an angle of ΔABC.



B) An equilateral triangle *EDC* is constructed in the interior of square *ABCD*. $\overline{EF}$ is an altitude to $\overline{AB}$. Compute $m\angle ABE + m\angle FED$, in degrees.

C) In trapezoid *PQRS*, $\overline{PQ} \| \overline{RS}$, $\overline{PV}, \overline{QW} \perp \overline{SR}$ and the ratio of the area of ΔPSV to the area of ΔQWR is $2:3$.
If $a+b+c=60$, $b:c=5:6$, and $h:b=9:40$,
compute the area of ΔPVR.