MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 3 - DECEMBER 2016
ROUND 1 TRIG: RIGHT ANGLE PROBLEMS, LAWS OF SINES AND COSINES

ANSWERS

A) _____

B) _____

C) _____

A) The short leg in right triangle *ABC* has length 16. The hypotenuse is 2 units longer than the long leg. Compute the area of ΔABC.

B) In ΔABC, $AB = 12$, $BC = 15$, and $AC = 8$. Compute $\dfrac{\sin B + \sin C}{\sin A}$.

C) In right triangle *ABC*, $m\angle C = 90°$, median $AN = 2\sqrt{2}$, and median $BP = 3\sqrt{3}$. Compute the length of median $\overline{CM}$.