MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 3 – DECEMBER 2010
ROUND 1 TRIG: RIGHT ANGLE PROBLEMS, LAWS OF SINES AND COSINES

ANSWERS

A) _____

B) _____

C) _____

****** NO CALCULATORS ON THIS ROUND ******

A) Given: ΔABC with $AC = 8$, $BC = 15$ and $m\angle C = 60°$
Compute AB.

B) The sides of a right triangle have lengths $k + 1$, $4k + 1$ and $4k$.
Compute all possible sums of the lengths of the two legs.

C) In <u>regular</u> octagon $ABCDEFGH$, $AC^2 = AD$.
Compute AB.