**MASSACHUSETTS MATHEMATICS LEAGUE**
**CONTEST 5 - FEBRUARY 2016**
**ROUND 4 ALG 1: WORD PROBLEMS**

**ANSWERS**

A) _____

B) _____

C) ( _____ , _____ , _____ )

A) In my algebra class, there are 6 rows of 6 seats each.
When all the students are present, no row is empty and no two rows have the same number of students. On a day when two students are absent, how many seats are empty?

B) A soccer player hopes to make 90% of his penalty shots. So far this season, he has gotten two penalty shots per game, and has made 7 of 12 penalty shots. Assuming he continues to get two penalty shots per game and he hits on all of them, how many more games must he play before he reaches 90% accuracy?

C) A group of *N* people, where $N \geq 100$, were polled for their favorite ice cream.
These people liked 3 different nutty flavors

- *A* people liked maple walnut (*mw*),
- *B* people liked pistachio (*p*), and
- *C* people liked butter pecan (*bp*),

where $N = A + B + C$.
If one more person had liked each flavor, the ratio of responses would have been $mw : p : bp = 3 : 5 : 7$. If three fewer people had liked each flavor, the ratio of responses would have been $mw : p : bp = 5 : 9 : 13$.
Compute the ordered triple $(A, B, C)$, for a minimal value of *N*.