

**MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 4 - JANUARY 2016
ROUND 6 ALG 1: ANYTHING**

ANSWERS

A) _____

B) (_____ , _____ , _____)

C) _____

A) Given:
$$\begin{cases} \frac{A}{3} + \frac{B}{4} = 10 \\ 3A + 4B = 34 \end{cases}$$

Compute $A + B$.

B) $(\sqrt{3} + \sqrt{5} + \sqrt{15})(\sqrt{3} + \sqrt{5} - \sqrt{15}) = a + b\sqrt{c}$, where a , b , and c are integers.

Compute the ordered triple (a, b, c) .

- C) Two of my favorite flavors of SNAPPLE iced tea mix packets were on sale at Walmart. There were T packets in the case and there were 2.6 times as many Peach as Mango packets. However, at Costco I was able to buy a case containing the same number of packets, but there were 50 more Mango packets in the case, resulting in there being only twice as many Peach as Mango packets. Compute T , the total number of SNAPPLE drink packets in a case.