

**MASSACHUSETTS MATHEMATICS LEAGUE**  
**CONTEST 5 - FEBRUARY 2013**  
**ROUND 4 ALG 1: WORD PROBLEMS**

**ANSWERS**

A) \_\_\_\_\_

B) \_\_\_\_\_

C) \_\_\_\_\_

A) A square of side  $N$  is cut from one corner of a  $3 \times 5$  index card, leaving 85% of the index card (by area). Compute  $N$ .

B) A jar contains 504 jelly beans, either red ( $R$ ) or green ( $G$ ).  
The initial ratio is  $R : G = 5 : 3$ . The red jelly beans are more tasty and disappear twice as fast as the green. How many jelly beans are left in the jar when  $R : G = 3 : 5$ ?

C) A simple majority wins the election for senior class president.  
Boris and Miles were the final two candidates for senior class president.  
Boris won the election; however, if exactly 8% of those who voted for Boris switched their vote to Miles and those who voted for Miles originally voted for him again, Miles would have won the election by one vote. More than 100 votes were cast in the election.  
Compute the minimum possible number of votes that were cast.