

MASSACHUSETTS MATHEMATICS LEAGUE  
DECEMBER 2005  
ROUND 2 ELEMENTARY NUMBER THEORY

ANSWERS

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

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

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

- 
- 
- A) How many different positive integers are factors of 160?
- B) The product of  $123_4$  with  $567_8$  is  $1ABC0_9$ , a five-digit base nine number. Determine the ordered triplet of digits (A, B, C).
- C) The digits of a two-digit base ten positive integer are reversed, resulting in a 108% increase in value. What was the original number?