

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 3 - DECEMBER 2009
ROUND 2 ARITHMETIC/NUMBER THEORY

***** NO CALCULATORS IN THIS ROUND *****

ANSWERS

A) _____ %

B) _____

C) (_____ , _____)

A) A is multiplied by 4, divided by 5 and then multiplied by 6. What is the percent increase in the value of A after these three operations?

B) Find the sum of all positive integer divisors of 2009.

C) Find the ordered pair (x, y) so that $9x43y5$ is the smallest number divisible by 33.