

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 5 - FEBRUARY 2009
ROUND 4 ALG 1: WORD PROBLEMS

ANSWERS

A) _____minutes

B) _____

C) _____

A) A machine can complete a job in 2 hours. A second, slower machine, can complete the same job in 3 hours. The faster machine begins the job 15 minute before the slower machine is available and then the two machines working together complete the job in T minutes. Compute T .

B) If a certain number is decreased by 2008 and the difference is multiplied by 2008, the result is the same as when the number is decreased by 2009 and the difference is multiplied by 2009. Find the number.

C) The ten's digit of a certain 3-digit number N is half of the units digit. The hundreds digit is equal to the sum of the units digit and the tens digit.
 N is never divisible by d . Choose all possible values of d from: 3, 4, 6, 7, 13