

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 5 - FEBRUARY 2014
ROUND 2 ARITHMETIC / NUMBER THEORY

ANSWERS

A) (_____ , _____)

B) _____

C) _____

- A) A teenager thought to himself, “Two years ago I was *in my prime***, but two years from now I won’t be”. Let M and m denote the maximum and minimum number of years until I am no longer a teenager. Determine the ordered pair (M, m) .

** Translation: My age (in years) was a prime number.

- B) Determine all integers between 2014 and 2140 which are multiples of both 6 and 21.

- C) Exactly three of the following numbers are the squares of primes:

3027 4489 5329 7921 9025

Compute the sum of these 3 primes.