

MASSACHUSETTS MATHEMATICS LEAGUE
CONTEST 6 - MARCH 2017
ROUND 6 ALG 2: PROBABILITY AND THE BINOMIAL THEOREM

ANSWERS

A) _____

B) _____

C) _____

A) How many coefficients in the expansion of $(x + y)^7$ will be even?

B) An integer is randomly selected from 10 to 999, inclusive. Compute the probability that the integer is divisible by 6, given that it is divisible by 2 or 3.

C) Compute all possible values of k , if the sum of the three middle terms in the expansion of $\left(k + \frac{1}{k}\right)^4$ is 23.