

MASSACHUSETTS MATHEMATICS LEAGUE

MARCH 2004

ROUND 6: PROB & BINOMIAL THEOREM

ANSWERS

A) _____

B) _____

C) _____

A) A fair coin is tossed ten times. What is the probability of getting exactly six heads?
Express the answer as a simplified fraction.

B) In the expansion of $(x^5 - 3)^{12}$ there is a term of the form kx^4 . ^{WHERE K IS A CONSTANT} In simplified form, find the value of k.

C) A test has eight multiple choice questions, each with four answer choices. What is the probability of answering exactly five questions correctly by random guessing?