PROBABILITY

CROSSROADS ACADEMY
AMC–8 PREPARATION

1. Primes

Problem. *What is the probability that the top two cards of a shuffled deck are both face cards?*

Problem. *For three randomly selected integers, what is the probability that the sum of their units digit is even?*

Date: November 1, 2015.

Problem. *The school cafeteria has chocolate chip cookies and oatmeal cookies for dessert. What is the probability that exactly three of the next five students in line will select chocolate chip cookies if everyone selects a cookie, and students prefer chocolate to oatmeal 2 to 1?*

Problem. *Three numbers are selected at random without replacement from a bag containing each of the numbers 1 through 9. What is the probability that all three share a common factor greater than 1?*

Problem. *The digits 1 through 9 are divided into three sets of three digits. What is the probability that the product of one of the sets is odd?*

Problem. *The digits 1 through 4 are randomly arranged to create a four-digit number. What is the probability that the number formed is not divisible by 4?*