Probability Calculus 2018/2019, Homework 1 (two problems)

Name and Surname ..... Student's number .....

In the problems below, please use the following: as k – the sum of digits in your student's number; as m – the sum of the two largest digits in your student's number; and as n – the smallest digit in your student's number plus 1. For example, if an index number is 609999: $k = 42$, $m = 18$, $n = 1$.
Please write down the solutions (transformations, substitutions etc.), and additionally provide the final answer in the space specified (the answer should be a number in decimal notation, rounded to four digits).

1. We draw $n+2$ numbers from the set $\{1, 2, \ldots, 2k\}$, without replacement. Calculate the probability of the event that all drawn numbers will be odd or one of the numbers will be equal to $2m + 1$.

ANSWER:

Solution:

2. We toss a regular tetrahedron die, with sides numbered from 1 to 4, n times; next, we toss a cubic die, with sides numbered from 1 to 6, m times; finally, we toss a regular octahedron die, with sides numbered from 1 to 8, k times. Calculate the probability of the event that there was at least one "1" in each of the three series of tosses.

ANSWER:

Solution: