<https://kpfu.ru/docs/F712446781/ZadachiTheorVer.pdf>

Ticket to Ride. Building a tunnel: There are 110 cards in the game: 96 train cards (12 each in Red, Orange, Yellow, Green, Blue, Purple, Black & White) and 14 Locomotive cards, which can substitute any other color. The player has 8 Blue cards and 1 Locomotive card. When building a tunnel 3 random cards are dealt. To build a tunnel, the player has to put 8 cards plus the number of Blue or Locomotive cards out of the 3 cards from the deck.

1. What are the chances for the player to build a tunnel?
2. Same question if cards are “exceptionally well shuffled” (there is no cards of the same kind in 3 random cards dealt).

Among 25 tasks for the exam 5 are “lucky”, the others are not. Students come to take the tasks one by one. Who has the better chances to get “lucky” question - the first student or the second one?

P (A | B) > P (B | A). Is it true that P (A) > P (B)?

P (A | B) > P (A). Is it true that P (B | A) > P (B)?

The first of two twins is a boy. What’s the probability that the second is also a boy if the probability of two boys is ***p*** and two girls is ***q.*** If twins are of different genders the probability that the first is a boy is ½.

One of 10 coins has heads on both sides, others are ordinary. Random coin is tossed 10 times. Every time the result is a head. Find the probability that two-headed coin has been chosen.

The probability that the letter is in the desk is ***p***, and with equal probability it can be in any of the eight drawers of the desk. 7 drawers were opened and no letter was found. What’s the probability that the letter is in the 8th drawer?

Function is expected to be given to students in the exam. Students should calculate k-th order derivative of the function randomly chosen on the set of possible derivatives. Student X doesn’t know how to calculate derivatives and tries to learn the answers by heart. How many answers should he learn to have probability ½ to pass the exam?

Мне написал студент с просьбой пересдать решение 2-й задачи SGA. Наверно такие случаи уже бывали, как обычно поступают?

Если решение за мной, то я бы дал, так как, похоже, его работа пока не проверена и видно, что решал сам, так как решение, мягко говоря, странное.

Как перезалить новое решение?

Если мне пишут в письме по-русски, против ли правил отвечать тоже по-русски?

Как технически отвечать на такие письма?

At the webinar, we will solve some problems on the independence of events and random variables, the Bayes formula and the calculation of expected value