

Lecture 8: Quiz

Name:

Problem 1

Who started the investigation of probability theory?

- Bernoulli.
- Euler.
- Cardano.
- Kolmogorov

Problem 2

What is the counting strategy to increase the winning chance in the game 21. Remember the clips of "21" and "hangover"?

- By summing up all the values of the previous cards.
- Small cards 2-7 add to a count, large ones (10,J,Q,A) decrease.
- Small cards 2-7 reduce the count, large ones (10,J,Q,A) increase.
- By counting the aces which appear.

Problem 3

What is the Martingale strategy? a) Always bet on black.

- Double the bet when losing, quit after first win.
- Count the values of the card

Problem 3

What is an "event"?

- An element in an element from the laboratory Ω
- The laboratory set Ω
- A subset of the set Ω
- A function from the set Ω to the reals.

Problem 4

In how many ways can one permute 4 letters a) $4(3-1)/2 = 4$

- 4.
- $4! = 24$.
- $4!3!2!1 = 288$

Problem 5

Which mathematician is credited to have first pondered the Petersburg Casino problem?

- Bernoulli
- Kolmogorov
- Fermat
- Pascal

Problem 6

The Monty-Hall problem has the following origin:

- A lecture hall name, where the question was first raised.
- The Monty Python sketch: on how to irritate people.
- Monty Hall was the name of a game show host.
- Monty is the main character from the movie "With honors".

Problem 7

The expectation of a random variable X is

- a real number which tells, what values the variable is expected to have.
- a random variable which gives the best possible guess for X .
- in a finite laboratory, it is the event which occurs most.
- it is the expected deviation from the mean.

Problem 8

Which theorem assures that a normalized sum random variables converges to the normal distribution:

- The weak law of large numbers.
- The strong law of large numbers.
- The central limit theorem.
- The law of iterated logarithm.

Problem 8

What was the starting point of probability theory?

- statistical analysis of data
- statistical mechanics.
- stock market and finance.
- gambling

Problem 10

The correct answer in Bertrand's Paradox is:

- 1/2
- 1/3
- 1/4
- it depends.