Lecture 8: Quiz

Name:

Problem 1

How can one increase the bet in the game 21 (we saw clips of "21" and "hangover")?
a) By summing up the values of the previous cards.
b) Small cards 2-7 add to a count, large ones (10,J,Q,A) decrease.
c) Small cards 2-7 reduce the count, large ones (10,J,Q,A) increase.
d) By counting the large cards (10,J,Q,A) which appear.

Problem 2

What is an "event"?
a) An element in an element from the laboratory Ω
b) The laboratory set Ω
c) A subset of the set Ω
d) A function from the set Ω to the reals.

Problem 3

What is a "random variable"?
a) A function from the set Ω to the reals
b) A random member of the set Ω.
c) The function P which assigns to each set A a probability $P[A]$.
d) The variable ω used to describe experiments.

Problem 4

Which mathematician is credited to have first pondered the Petersburg Casino problem?
a) Bernoulli
b) Kolmogorov
c) Fermat
d) Pascal

Problem 5

The Monty-Hall problem has the following origin:
a) Monty Python sketch
b) Monty Hall was the name of a game show host.
c) A lecture hall name, where the question was first raised.
d) Monty is the main character from the movie "With honors" and poses this problem.

Problem 6

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

Problem 7

Which theorem assures that a normalized sum random variables converges to the normal distribution:
a) The weak law of large numbers.
b) The strong law of large numbers.
c) The central limit theorem.
d) The law of iterated logarithm.

Problem 8

What was the starting point of probability theory?
a) statistical analysis of data
b) statistical mechanics.
c) stock market and finance.
d) gambling

Problem 9

The correct answer in Bertrand's Paradox is:
a) 1/2
b) 1/3
c) 1/4
d) it depends.