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Quiz name

Weekly quiz 3 (DUE: Aug 11 10am)

1 | **MULTIPLE CHOICE** Edit

Probability distributions are fundamental to

Answer choices

A	statistics
B	computer science
C	english
D	languages



2

MULTIPLE CHOICE

Edit

There are hundreds of probability distributions, some sounding like monsters from medieval legend like the Muth or Lomax. Only about ___ distributions turn up consistently in practice though.

Answer choices

A 15

B 2

C 25

D 70

3

MULTIPLE CHOICE

Edit

Probability distributions describe what we think the probability of each _____ is

Answer choices

A observation

B experiment

C unit

D outcome

4 | TRUE/FALSE

Edit

flipping a fair coin has two outcomes: it lands heads or tails. (Assume it can't land on edge or be stolen by a seagull in mid-air.) Before the flip, we believe there's a 1 in 2 chance, or 0.5 probability, of heads. After you flip the coin the probability of heads is either 0 or 1.

Answer

True



5 | MULTIPLE CHOICE

Edit

Bernoulli distribution is a probability distribution over the ____ outcomes

Answer choices

A	one
B	three
C	two
D	five
E	unknown number of



6 | TRUE/FALSE

Edit

The Bernoulli distribution should not be used to represent outcomes that aren't equally likely, like the result of an unfair coin toss.

Answer

False



7

MULTIPLE CHOICE

Edit

Each distribution is described by a probability density function (PDF). To display the PDF we plot outcomes on the horizontal axis, and the _____ of the outcome on the vertical axis.

Answer choices

A	proportion
B	probability
C	p-value
D	prior

8

MULTIPLE CHOICE

Edit

It's a short jump from the Bernoulli to imagine a distribution over many equally-likely outcomes, the _____ distribution characterized by a flat PDF.

Answer choices

A	normal
B	binomial
C	uniform
D	Poisson

9

MULTIPLE CHOICE

Edit

The _____ distribution may be thought of as the sum of outcomes of things that follow a Bernoulli distribution.

Answer choices

A	normal
B	binomial
C	uniform
D	Poisson



10

MULTIPLE CHOICE

Edit

What distribution would be used to model the count of customers calling a support hotline each minute?

Answer choices

A	normal
B	binomial
C	uniform
D	Poisson



11 | **MULTIPLE CHOICE**[Edit](#)

What distribution best matches the number of times does a flipped coin come up tails before it first comes up heads?

Answer choices

A	normal
B	exponential
C	geometric
D	negative binomial

**12** | **MULTIPLE CHOICE**[Edit](#)

What distribution best matches how long the wait time until the next customer calls?

Answer choices

A	normal
B	exponential
C	geometric
D	negative binomial



13 | MULTIPLE CHOICE

Edit

Take a bunch of values following the same distribution—any distribution—and sum them. The distribution of their sum follows (approximately) the normal distribution. This is called

Answer choices

- | | |
|---|---------------------------|
| A | the central limit theorem |
| B | the law of large numbers |
| C | occums razor |
| D | asymptotic optimisation |



14 | TRUE/FALSE

Edit

The t-distribution arose from improving quality of beer production.

Answer

True



15 | TRUE/FALSE

Edit

The gamma distribution has a symmetric PDF.

Answer

False

[+ Multiple Choice](#)[+ True/False](#)[+ Short Answer](#)