Assignment 8
Due on 2023-04-22, 23:59 EDT.

1. Use the following information and the display a process known as density ratio where the length of each polygonal filament fluctuates clinically. The fluctuation in length is so large that their standard deviation is equal to the average length of a microfilament. In this case, the following theory helps to the exact distribution of the length of microfilament filaments?
   - Normal
   - Poisson
   - Uniform
   - None of these

   (1 point)

   No, the answer is incorrect.

   2. Which of the following is a continuous probability distribution?

   - Bernoulli
   - Poisson
   - Normal
   - Uniform

   (1 point)

   No, the answer is incorrect.

   3. Imagine that you are measuring one of these sets that you could see under microscope. The measurements you got are 65, 75, 85, 95, 105 - all in units of μm. What is the mean of the data?

   (1 point)

   No, the answer is incorrect.

   4. Calculate the mean and standard deviation of a set of data below:

   a = 40, b = 1

   (1 point)

   No, the answer is incorrect.

   5. Imagine that you are working with a group of students. In the group, each of you is doing a property designed survey asking 500 students from the city it is that you plan to use the mean to calculate the probability. The distribution of the mean can be approximated as normal distribution?

   - Normal
   - Poisson
   - Uniform
   - None of these

   (1 point)

   No, the answer is incorrect.

   6. Imagine that you are injecting a newly discovered drug to a batch of 10 mice. One day after injection, you are only rating down whether each mouse is dead or alive. If you want to calculate the probability that 3 out of these 10 mice are alive, we will use ______ distribution.

   - Normal
   - Poisson
   - Uniform
   - None of these

   (1 point)

   No, the answer is incorrect.

   7. The standard deviation of a sample of 100 observations equals 8. The variance of sample equals

   - 1
   - 10
   - 80
   - 640

   (1 point)

   No, the answer is incorrect.

   8. Consider every 5-base pair-long single stranded DNA pieces. Each of the piece has one adenine (A), one cytosine (C), one guanine (G) and one thymine (T). Assuming uniform distribution, what is the probability of finding a DNA piece with sequence ACCA?

   (1 point)

   No, the answer is incorrect.

   9. In normal distribution, the probability density function, then which of the following statement is true?

   - f(x) = \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}}
   - f(x) = \frac{1}{\sqrt{2\pi}} e^{-\frac{x^2}{2}}
   - f(x) = e^{-\frac{x^2}{2}}
   - None of these

   - No, the answer is incorrect.

   10. What is the probability of getting a number 7 in an unbiased dice?

   (1 point)

   - 0.1
   - 0.2
   - 0.3
   - 0.4

   - No, the answer is incorrect.