Université Libanaise
Faculté d'Information
Br I

الجامعة اللبنانية
كلية الاعلام
الفرع الاول

الامتحانات النهائية 2022- 2021
الدورة الاولى

المادة: Statistics and Probability	المرحلة:
المدة: 90 دقيقة	السنة المنهجية: 2022-2021
الأستاذ: د. مروى الحاج	الاختصاص: Data Science

Exercise 1:

Australian sheepdogs have a relatively short life. The length of their life follows a uniform distribution between 8 and 14 years.

Draw this uniform distribution.

a. What are the height and base values?
b. Show the total area under the curve is 1.00.
c. Calculate the mean and the standard deviation of this distribution.
d. What is the probability a particular dog lives between 10 and 14 years?
e. What is the probability a dog will live less than 9 years?

Exercise 2:

A sample of eight college students revealed they owned the following number of CDs?

52	76	64	79	80	74	66	69

a. What is the mean number of CDs owned?
b. What is the median number of CDs owned?
c. What is the 40th percentile?
d. What is the range of the number of CDs owned?
e. What is the standard deviation of the number of CDs owned?

Exercise 3:

The mean of a normal probability distribution is 60; the standard deviation is 5.

a. About what percent of the observations lie between 55 and 65?
b. About what percent of the observations lie between 50 and 70?
c. About what percent of the observations lie between 45 and 75?

Exercise 4:

What are the four levels of measurements (differentiate between them) and give example on each.

Exercise 5:

In a Poisson distribution $\mu=0.4$.

a. What is the probability that $x = 0$?
b. What is the probability that $x > 0$?

Exercise 6:

www.golfsmith.com receives an average of 6.5 returns per day from online shoppers. For a sample of 12 days, it received the following number of returns.

0	4	3	4	9	4	5	9	1	6	7	10

At the 0 .01 significance level, we want to check if the mean number of returns is less than 6.5.

a. State the null hypothesis and the alternate hypothesis
b. Is this a one-tailed or a two-tailed test?
c. Calculate the mean and the standard deviation of the sample
d. Can you conclude that the mean number of return is less than 6.5?

GOOD LUCK