Introduction to Psychological statistics PSYC 204

Assignment #1, Due Monday May 15 in class

Make sure to include the cover page, without it your assignment will not be graded

1- For scores of {2,5,-3,7,4,3,12,0} and N of 8.

(a) Calculate $\frac{N\sum X^2 - (\sum X)^2}{N(N-1)}$

(b) Calculate $\frac{\sum (X - \frac{\sum X}{N})^2}{N-1}$

2- Below you can find scores of a test:

{35,42,52,52,53,56,57,58,59,61,65,68,70,70,71,72,74,74,75,75,
76,78,81,83,83,85,85,86,87,99}

(a) Obtain a frequency distribution for the test.

(b) Draw a frequency histogram.

(c) Use the frequency distribution to compute the mean and the median and variance. Are there any outliers in this data set? Plot the box plot of data.

(d) Calculate the standard score for the test scores of 35 and 72.

(e) With assumption that professor's ideal distribution has a mean of 70 and standard deviation of 10, calculate new score of students with the following original scores {43,70, 87}.

3- A survey was taken on 40 classes at a school to find the total number of left-handed students in each class. The table below shows the results:

# of left-handed students	0	1	2	3	4	5	6
Frequency (# of classes)	2	3	6	13	8	5	3

A class was selected at random.

a) Find the probability that the class has 2 left-handed students.

b) What is the probability that the class has at least 3 left-handed students?

c) Given that the total number of students in the 40 classes is 1200, find the probability that a student randomly chosen from these 40 classes is left-handed.

4- In how many different ways can the letters of the word 'OPTICAL' be arranged so that the vowels always come together?

5- A test is conducted which is consisting of 20 multiple choices questions with each having its four options out of which only one is correct. Imagine you didn't study and randomly select the answer. Determine the probability that you answered exactly 5 questions wrong? Got more than 15 of them right? What is the expected value of the number of right answer?

McGill

May, 2017

Introduction to Psychological Statistics

Assignment 1

STUDENT NAME:		**McGILL ID:**								
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