STATISTICS APPLIED TO BUSINESS ADMINISTRATION
ACADEMIC YEAR 2022-2023
PRACTICAL EXERCISE 8 (30 MINUTES)

Date: _____

Complete name:_____ ID number:_____

EXERCISE 1 (5 POINTS)

A given individual wished to buy a specific type of television. In order to find out possible price ranges for it, s/he visits 31 different internet web pages for stores selling televisions and finds out that the sample average price for a television in those stores is 700 euros, with a sample standard deviation of 60 euros. It is assumed that the price for those specific televisions follows a normal distribution.

1. **(3 Points)** Obtain a 90% confidence interval for the mean price for that specific television type. At the 10% significance level, test the hypothesis that the mean price for this specific type of television is equal to 750 euros.
2. **(2 Points)** Obtain a 90% confidence interval for the variance of the price for this specific type of television.

EXERCISE 2 (5 POINTS)

We wish to estimate the proportion p of people that can be considered as frequent users of the subway as a means of transportation to go to work. In order to do so, a random sample of 700 individuals is taken, and 400 of them can be considered as frequent users of the subway to go to work.

1. **(2 Points)** Obtain an approximate 95% confidence interval for the proportion of people that can be considered as frequent users of the subway to go to work.
2. **(3 Points)** At the 5% significance level, test the hypothesis that the proportion of people that can be considered as frequent users of the subway to go to work is equal to 0.70.