

STATISTICS APPLIED TO BUSINESS ADMINISTRATION
ACADEMIC YEAR 2018-2019
PRACTICAL EXERCISE 8 (20 MINUTES)

Date: _____

Complete name: _____ ID number: _____

EXERCISE 1 (4 POINTS)

We wish to estimate the proportion of people that, out of a total of 200000 inhabitants of a given city, like to go to the movies at least once per month. Compute the minimum sample size that is required to estimate this proportion of people with a 90% confidence and an error that is no larger than 6% if simple random sampling without replacement is used.

EXERCISE 2 (6 POINTS)

In order to estimate the mean meat consumption per month, a stratified two-strata population is considered. That is, the population is divided in two different strata. It is known that the first stratum includes 1500 individuals and that its population quasi standard deviation is $\sigma_1^* = 80$, and that the second stratum includes 3500 and that its population quasi standard deviation is $\sigma_2^* = 40$. We wish to take a sample of 500 individuals.

1. (2 Points) If uniform allocation is used, what would the sample size for each stratum in the population under study be?
2. (2 Points) If proportional allocation is used, what would the sample size for each stratum in the population under study be?
3. (2 Points) If n-optimal allocation is used, what would the sample size for each stratum in the population under study be?