

Stat 130, Fall 2021, Homework-3, Due on October 15, 2021

Please e-mail your answer in a PDF file to

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by 12:00 Midnight on October 15.

Total Points = 5 + 10 = 15.

1. Points= $0.5 + 0.5 + 1 + 1 + 1 + 1 = 5$.

Please visit the website:

<https://www.census.gov/>

to doing the exercises below.

- (a) Find the USA population size from the population clock when you visit the website.
- (b) Find the world population size from the population clock when you visit the website.
- (c) Calculate the proportion of the USA population size relative to the world population size.
- (d) Calculate the percentage of the USA population size relative to the world population size.
- (e) For drawing a sample of five percent of the US population, calculate the sample size.
- (f) For drawing a sample of 1 in every 1000 from the population, calculate the sample size.

2. Points = $1 + 0.5 + 0.5 + 0.5 + 0.5 + 0.5 + 2 + 1 + 0.5 = 10$.

Please visit the website:

<https://ir.ucr.edu/stats/enroll/demographic>

to do the exercises below.

- (a) Present the numbers of Chicano/Latino students enrolled in Fall 2016, Fall 2017, Fall 2018,

Fall 2019, and Fall 2020 at UCR. Treat them as your population y values, meaning the numbers of Chicano/Latino students enrolled at UCR during the past five years in Fall.

- (b) What are the population units?
- (c) What is the population characteristic Y of interest?
- (d) Find the numerical value of the population size, N ?
- (e) What are the numerical values of y_1, \dots, y_N ?
- (f) Find the numerical value of the population mean?
- (g) Present all possible SRSWOR of size $n=3$ from the population of size N and the mean of y values for each sample.
- (h) Calculate the mean of all the mean values in (g)?
- (i) Compare your finding in (h) with that in (f).