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Homework #1
Math 080

42. Population: All fitness center clients
Sample: Clients that use the fitness center in a given week
Parameter: Average time whole population of clients use the center in a given week
Statistic: Average time the sample of clients use center in a given week
Variable: Time one client uses center in a given week
Data: Hours (or min. or sec.) of time used by clients of center in a given week.

44. Population: All of her patients who have had a heart attack
Sample: A group of her patients who have had a heart attack randomly selected
Parameter: Average recovery time of all of her patients who've had a heart attack
Statistic: Average recovery time of sample group
Variable: Recovery time of just one patient (mean recovery time)
Data: Recovery period of her patients who've had heart attacks measured in some continuous qualitative data (days, months, years, etc.)

46. Population: All voters in his district
Sample: A group of voters within his district randomly selected
Parameter: Proportion of voters in his district who think he's doing a good job
Statistic: Proportion of voters in his district of the sample group who think he's doing a good job
Variable: Number of voters in his district who think he's doing a good job
Data: Votes of Yes for good job, and No for bad job

51. A. Variable

52. C. Statistic

54. Quantitative continuous- example: having a body fat percentage of 18.4 %

56. Quantitative continuous-example: standing in line for 5.2 minutes

58. Qualitative-example: TV show The Big Bang Theory

60. Quantitative continuous-example: 10.32 miles away

66. Randomly choose a group of X amount of colleges within a given state (ex: 15 colleges within California). Collect number of all statistics classes in those X colleges (all statistic classes within those 15 California colleges). Then find the mean $\bar{x} = \frac{1}{N}\sum_i^N x_i$ where N = 15 colleges and x_i = number of statistics classes total in those 15 colleges.

76. a. 1936 = The Great Depression i.e. majority of population couldn't afford food much less subscriptions, registrations, automobiles, memberships, etc. Thus the majority of the population would be missing/excluded in data polls.

b. Sampling basis

c. Sampling error

d. Stratified

90. a. 40%

b. 13%

c. Different state means different environment and thus maybe different populations of commuters and how far they commute. Also the polling sizes would differ as there is a greater population in California than in Nevada.