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42) **Population**: People who use gym exercising.
Sample: People who use the gym which is going to do the experiment.
Statistic- a number of hours a person works out week. For example: 3 hours a week is a mean amount of hours a person works out in our sample.
Parameter- We can assume that in average, people exercise for about 3 hours a week at their local gyms.
The variable: number of hours (Quantitative Continuous)

44) **Population**: People who have had heart attacks
Sample: Patients of the Cardiologist who have had heart attack
Statistic: Amount of time recovering from a heart attack. For example: 4 weeks is the mean recovery period for this specific sample.
Parameter- We can assume that, on average, it takes 4 weeks to recover from a hear attack
The variable: number of days/weeks (Quantitative Continuous)

46) Population: People at his district
Sample: Voters in his district
Statistic: Amount of voters in his district that think that he does a good job in relation to the whole district population. For example: 15 % of the sample think he does a good job.
Parameter: 15% of the people in his district think he does a good job
The variable: Amount of voters that think he does a good job (Quantitative Discreet)

51)A
52)C
54)Quantitative Continuos (10 Percent body fat)
56) Quantitative Continuos (45 min)
58) Quantitative Discrete (Count total number of views, like 3 million views)
60)Quantitative Continuous – 600 meters

66)I would use systematic sampling. So say there are 2000 schools which have statistics class in them. We would count the number of students in each statistics class of the selected schools. Lets say we going to do it for every 10^{th} school on our list of schools in the area, that would make it a good estimate for the mean number of students per statistic class in the population

76)a) 1930s is a time of Great Depression, so it means that a lot of people did not have money for automobile certification lists, phones and other things. The sample does not represent the population correctly.
B) Low response lowers the reliability of the data, because it does not represent the population correctly
C) Sampling error- the sample chosen does not represent the population correctly
D) Cluster sampling

90)

A) 4%
B) 100
C) Would not be the same, the data may vary