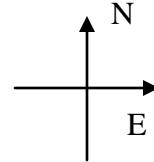


A.P. Statistics
Assignment 3.6

Remember to show your thinking through your work.

- 1) The ZZZ chain of motels has a standard method of constructing their rooms to maximize the ease of parking for its customers. The rooms are arranged in adjacent buildings so that each customer can park outside the rented room. The layout for the buildings with 48 rooms located along a famous highway is diagrammed below:



Route 66

Building A

Building B

The manager would like to survey customers in 12 of his rooms (one randomly selected customer per room) to assess their satisfaction with the motel services. The surveys will be placed on the customers' beds before they check in to the motel. In order to make the directions easy to follow, he elects to use systematic sampling.

- a) Explain how you would use random numbers to set up the systematic sampling process.

<type answer here>

- b) Write a short paragraph of directions for the maids, based on your description in part (a), telling them which rooms are to be surveyed.

<type answer here>

2) Bias is a serious problem that sometimes arises when one takes a sample.

a) In a few sentences, explain what bias is.

<type answer here>

b) What is the difference between response bias and non-response bias?

<type answer here>

3) During the 2000 presidential campaign, the candidates debated what to do with the large government surplus. The Pew Research Center asked two questions of random samples of adults. Both questions stated that social security would be “fixed.” Here are the uses suggested for the remaining surplus:

Should the money be used for a tax cut, or should it be used to fund new government programs?

Should the money be used for a tax cut, or should it be spent on programs for education, the environment, health care, crime fighting, and military defense?

One these questions drew 60% favoring the tax cut, the other dre 22% in favor of the tax cut. Which was which and why?

<type answer here>

4) A newspaper article about an opinion poll says that, “43% of Americans approve of the president’s overall job performance.” The poll is based on telephone interviews with 1210 adults from around the U.S., excluding Alaska and Hawaii.

a) What variable does this poll measure?

<type answer here>

b) What population do you think the newspaper is trying to represent?

<type answer here>

c) What was the sample?

<type answer here>

d) Are there any sources of bias present? Explain.

<type answer here>