

Chapter 19 Exercise Set A

- 1 All undergraduates = population
Actual %age of undergraduates living at home = parameter.
- 2 a - Yes
b - No, it's a cluster sample.
c - No, everyone could get in the sample.
- 3 ii - they use a probability method. (Reading)
- 4 All 18 yr olds who take the test = population = sample
There is no sampling error because population = sample
it follows then that statistic = parameter!
- 5 Yes, it would introduce selection & non-response bias.
selection bias because some people do not have a phone & non-response because some people won't answer.
Telephone book would bring in more bias! Lots of unlisted #'s.
- 6 No, a black would probably feel more comfortable talking to a fellow black.
- 7 No, there could be plantations that are systematically different due to location.
- 8 Not particularly, it's a multistage cluster; Not SRS in any level.
- 9 quite a bit different. Someone with a problem is more likely to get tested early on.
- 10 This is just a disclaimer that they may not be doing the sampling right. Not good. ☹
- 11 The reported #'s indicate an incredibly high non-response bias. The non-reported numbers are much more trustworthy 50% response is pretty good.
- 12 False; the problem is the nonresponse bias because those people may be different than responders.

Chapter 19 Review Exercises

1) Probably false, SRS aren't practical for voting surveys.

2) No, wives could just say they use the detergent to please the interviewer giving inaccurate results.

3) No, this county could be much different from the norm.

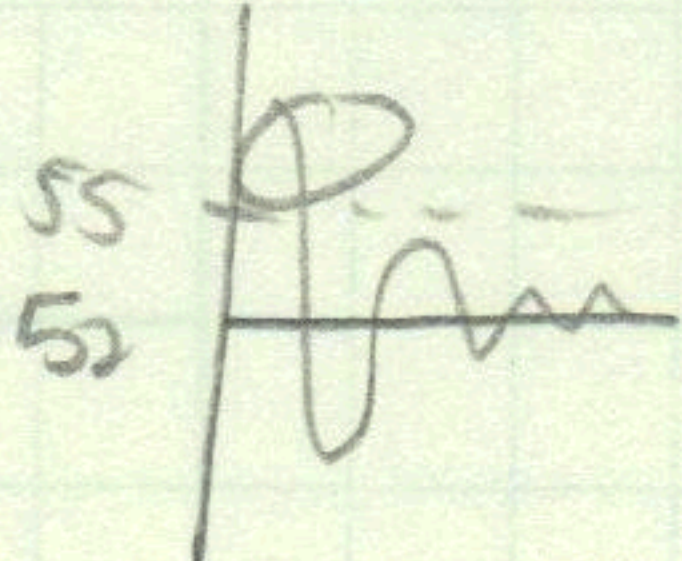
4) Maybe people w/ degrees live in a different type of area than what was surveyed.

5) High because they filled in with the 1st 347 respondents these were likely to be stay-at-home mom's with families.

6) No, only certain students would go to that location at those times so they are leaving many out.

7) (i) this means you win if the number of heads is between 480 and 520.

8) Can't tell because we don't know what the bars represent. You have to know how the histogram is drawn to answer this question.

9) Law of Averages.  Smaller Hospital by Law of Averages.

10) 45-55 because $EV_{sum}=50$ and $SE_{sum}=5$.

11) HARD! $EV_{sum}=50$ $SE_{sum}=5$

a- $65-50=15$ so look in 10-20

b- $95-50=45$ so look in 40-50

c- # he tells you - EV then look in ± 5 boxes.

d- 68% by the SD/SE rules.

12a) Because the survey is for high achieving students in "Who's Who"

12b) No, there is an extremely high non-response bias!