

4.1 day 1 homework

② Population (N) = all the artifacts discovered
Sample (n) = the artifacts ^{at the dig} chosen for inspection

④ Population (N) = all 45,000 people who made credit card purchases
Sample (n) = the 137 people who returned the survey form

⑥ This is a voluntary response sample. The proportion of letters opposed to the insurance is probably not a fair representation of the attitudes of her constituents. Only those with very strong opinions will respond. It is likely that the true proportion of people who oppose the bill is less than $\frac{871}{1128}$

⑧ This is a convenience sample. The sample is likely to:

① overestimate the unemployment rate because the people w/out jobs have more time to be at the mall than people who are employed.



② underestimate the unemployment rate because people w/out jobs don't want to spend unnecessary money.

⑩ a) A voluntary response sample.

b) The reported value of 85% is probably higher than the true percent because readers who have been involved in an accident caused by cell phone use are more likely to respond to the poll
→ say "YES".

4.1 day 2 homework

- 12.a)
- Number the complexes from 01 to 33.
 - Pick a starting point on a random # table
 - Record 2 digit numbers skipping any that aren't between 01 & 33, or repeated #s, until you have 3 unique numbers.
 - Use the 3 complexes corresponding to these numbers

b) line 117: 38 16 79 85 32 62 18

16 - Select Fairington
32 - Waterford Court
18 - Fowler

14a) calculator: Number gravestones from 1-55,914
Use command randInt lower=1
upper=55,914
n=395

b) gravestone: 52,761
50,788
8,202

- 22.a) Because satisfaction with the property is likely to vary depending on the location of the room, we should stratify by floor & view. This would help the manager get opinions of each type of room & have more precise estimate of customer satisfaction.
- b) You could use floors as clusters. This is more simple because the manager would only need to survey guests on 3 floors rather than the whole hotel.

$$N = 1200 \quad n = 120$$

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26. a) Cluster sampling

b) To save time & money. In an SRS, the company would have to inspect trees over the entire forest instead of only 20 locations.