Exercise: Polling

(4/4 points)

We saw that if we want to have a probability of at least 95% that the poll results are within 1 percentage point of the truth, Chebyshev's inequality recommends a sample size of $n = 50,000$. This is very large compared to what is done in practice. Newspaper polls use smaller sample sizes for various reasons. For each of the following, decide whether it is a valid reason.

In the real world,

a) the accuracy requirements are looser.

Yes ✔ **Answer:** Yes

b) the Chebyshev bound is too conservative.

Yes ✔ **Answer:** Yes

c) the people sampled are all different, so their answers are not identically distributed.

No ✔ **Answer:** No

d) the people sampled do not have independent opinions.

No ✔ **Answer:** No

Answer:
a) Requiring the accuracy to be within one percentage point is too strict for most real world situations.

b) The Chebyshev bound is conservative as stated in the video.

c,d) No matter how opinions get formed, as long as we choose who to ask at random, independently and uniformly, the opinions reported will be i.i.d. random variables, so that the last two considerations do not apply.

You have used 1 of 1 submissions