

Application exercise 5.1: Inference for a single proportion

Submit your responses on [Sakai](#), under the appropriate assignment. Only one submission per team is required. One team will be randomly selected and their responses will be discussed.

How many digits of π do Americans have memorized?

A Survey Monkey Audience poll asked 941 respondents to type the digits of π from memory. The distribution of results is as follows:

LEVEL OF PRECISION	PERCENTAGE OF RESPONDENTS
3.1	73
3.14	64
3.141	33
3.1415	26
3.14159	19
3.141592	12
3.1415926	10
3.14159265	7
3.141592653	5

Survey Monkey says that their Audience surveys are benchmarked to ensure the polling pool is representative of the U.S. population.

Source: <http://fivethirtyeight.com/datalab/how-many-digits-of-pi-you-have-to-have-memorized-to-be-special/>

Don't forget to check the conditions when completing the following tasks.

1. You are asked to write a newspaper article about the percentage of people who have memorized digits of π beyond the second decimal (third decimal or more). You, obviously, shouldn't just report the point estimate from the survey, but instead also provide a margin of error around it. Report the findings in one sentence at the 95% confidence level.
2. Evaluate whether these data provide convincing evidence that less than 50% of people have memorized digits of π beyond the second decimal.