

Identifying Populations and Samples

1. In the United States, a survey of 1152 adults ages 18 and over found that 403 of them pretend to use their smartphones to avoid talking to someone.
 - a) What is the population?
Adults in the U.S. ages 18 and overs
 - b) What is the sample?
The 1152 adults that were sampled
2. In a school district, a survey of 1300 high school students found that 1001 of them like the new, healthy cafeteria food choices.
 - a) What is the population?
All high school students in that school district
 - b) What is the sample?
The 1300 students that were sampled

Determine whether the data are collected from a population or a sample. Explain your reasoning.

3. The number of high school students in the United States
Population - all high school students in the U.S.
4. The color of every third car that passes your house
Sample - every 3rd car

Determine whether the numerical value is a parameter or a statistic.

5. The average annual salary of some physical therapists in a state is \$76,210.
Statistic - "some physical therapists in a state" suggests it's just a sample
6. In a recent year, 53% of the senators in the United States Senate were Democrats.
Parameter - 53% out of all senators suggests we have information for everyone in our population

See if you can answer this challenging question!

7. On July 8th, 2004, the U.S. Census Bureau reported on their "population clock" that the population of the United States was 293,683,456 people. The National Endowment of the Arts conducted a survey – titled "Reading at Risk" – on the

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reading habits of approximately 17,000 adults. Of those surveyed, only 57% read a book in 2002.

a) What is the population under investigation?

All 293,683,456 people

b) What is the parameter of interest?

The parameter of interest is p , the proportion of 293,683,456 people who read a book in 2002

c) What is the sample?

The sample is a random selection of 17000 adults

d) What is the sample statistic?

The statistic is the proportion \hat{p} of the sample of 17000 adults who read a book in 2002. The value of the sample proportion is 0.57