

For each scenario below, identify the *population*, *sample* and *parameter of interest*.

1. The local school board wants to get parents to evaluate teachers. They select 100 parents and find that 89% approve of their child's teacher.
 - a. Population:

 - b. Sample:

 - c. Parameter of Interest:

2. Jarret wants to know the average height of the students in his school. There are 753 students in his high school; he finds the heights of 52 of them.
 - a. Population:

 - b. Sample:

 - c. Parameter of Interest:

3. A government official is interested in the percent of people at JFK airport that are searched by security. He watches 300 people go through security and observes 42 that are searched.
 - a. Population:

 - b. Sample:

 - c. Parameter of Interest:

For each scenario, identify what type of sampling was used to obtain the sample. Explain whether or not you think the sample will be representative of the population it was sampled from. Describe one way to make the sample more representative.

4. Elvira surveys the first 60 students in the lunch line to determine if students at the school are satisfied with school lunch.
 - a. Type of sample:

 - b. Representative? Explain.

 - c. How would you make it more representative?

5. Elvira selects every 5th student in the lunch line to determine if students at the school are satisfied with school lunch.
 - a. Type of sample:
 - b. Representative? Explain.
 - c. How would you make it more representative?

6. Elvira randomly selects 7 different tables in the lunchroom and surveys every student on the table to determine if students at the school are satisfied with school lunch.
 - a. Type of sample:
 - b. Representative? Explain.
 - c. How would you make it more representative?

7. Elvira assigns every student in the school a number and randomly selects 60 students to survey to determine if students at the school are satisfied with school lunch.
 - a. Type of sample:
 - b. Representative? Explain.
 - c. How would you make it more representative?

8. Elvira wants to determine if students are satisfied with school lunch. She leaves surveys on a table for students to answer as they walk by.
 - a. Type of sample:
 - b. Representative? Explain.
 - c. How would you make it more representative?

9. Elvira wants to determine if students are satisfied with school lunch. She wants to include input from each grade level at the high school. She randomly surveys 25 freshman, 25 sophomores, 25 juniors, and 25 seniors.
- Type of sample:
 - Representative? Explain.
 - How would you make it more representative?

For the following scenarios, identify each situation as a *survey*, *observational study*, or an *experiment*. Also identify the *population*, *sample* and *parameter of interest*.

10. To determine if a new pain medication is effective, researchers randomly assign two groups of people to use the pain medication in group 1 and a placebo in group 2. Both groups are asked to rate their pain and the results are compared.

Type of study: _____ Population: _____

Sample: _____ Parameter of Interest: _____

11. Officials want to determine if raising the speed limit from 75 mph to 80 mph will have an impact on safety. To determine this, they watch a stretch of the highway when the speed limit is 75 and see how many accidents there are. Then they observe the number of accidents over a period of time on the same stretch of highway for a speed limit of 80 mph. They then compare the difference.

Type of study: _____ Population: _____

Sample: _____ Parameter of Interest: _____

12. To determine if a new sandwich on the menu is preferred more than the original, the manager of the restaurant takes a random sample of customers that have tried both sandwiches and asks them which sandwich they like best.

Type of study: _____ Population: _____

Sample: _____ Parameter of Interest: _____

13. A newspaper wants to know what its customer satisfaction is. It randomly selects 500 customers and asks them.

Type of study: _____ Population: _____

Sample: _____ Parameter of Interest: _____

