

Representative Samples Exercises

For Exercises 1-4, tell whether the sample is representative of the population (yes or no) and why.

1. You want to know what type of music students at Centennial like best. You ask a group of your friends which music they like best.
2. You want to know which type of food students at Centennial like best. You ask every 20th student in the school yearbook.
3. You want to know how many hours students at Centennial spend on the computer each day. You ask students from different grades as they leave school.
4. You want to know how many hours students at Centennial exercise each week. You ask members of the soccer team how often they exercise each week.

For Exercise 5, answer the following question.

5. Suppose you are taking a poll of students in your grade to see whom they are going to select in the election for class president. Describe one way you could find a sample that is representative of the population.

Finding The Mean: _____

Finding The Median: _____

Find the mean and median of the following numbers:

Example: Find the mean and median of the following numbers:

4, 5, 10, 3, 14, 6

1) 6, 10, 18, 18, 7, 18, 10, 18, 12

Mean ____ Median ____

2) 12, 10, 7, 12, 6, 8, 15

Mean ____ Median ____

3) 14, 13, 11, 7, 10

Mean ____ Median ____

4) 8, 20, 13, 7, 19, 5

Mean ____ Median ____

5) 9, 14, 6, 14, 17, 13, 19, 20

Mean ____ Median ____

6) 15, 13, 18, 10, 9

Mean ____ Median ____

7) 17, 19, 5, 5, 8, 15, 8, 13, 18

Mean ____ Median ____

8) 7, 10, 10, 11, 9, 11, 12

Mean ____ Median ____

Representative Samples Exercises

For Exercises 1-4, tell whether the sample is representative of the population (yes or no) and why.

1. You want to know what type of music students at Dillard like best. You ask a group of your friends which music they like best.

No; your friends are not representative of the population.

2. You want to know which type of food students at Dillard like best. You ask every 20th student in the school yearbook.

Yes; every 20th student is representative of the population.

3. You want to know how many hours students at Dillard spend on the computer each day. You ask students from different grades as they leave school.

Yes; students at different grades are representative of the population.

4. You want to know how many hours students at Dillard exercise each week. You ask members of the soccer team how often they exercise each week.

No; the soccer team is not representative of the population.

For Exercises 5-6, answer the following questions.

5. Suppose you are taking a poll of students in your grade to see whom they are going to select in the election for class president. Describe one way you could find a sample that is representative of the population.

Sample: Randomly select names by choosing every 5th name from a list of names of students in your class.

6. A student is trying to determine the average length of a song in her large music library. She randomly selects 20 songs and finds that the mean length is 4 minutes and 9 seconds. Then, she randomly selected another 20 songs and finds that the mean (average) length is 3 minutes and 52 seconds. What would you expect the mean length of a third set of 20 songs would be? Why?

About 4 minutes; Since the songs are randomly selected, each sample should yield close to the same results. A song length of about 4 minutes is between the means of the first two samples.