

# Sample Mathematics Test Question

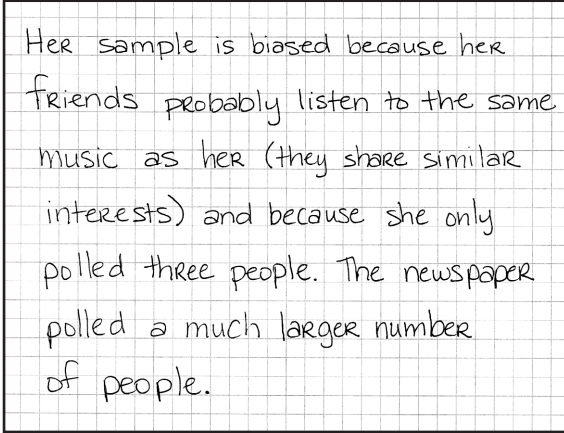
## Sample OGT Mathematics Short-Answer Question

Aligned to Data Analysis and Probability Standard

Below is a sample short-answer question from the March 2007 Ohio Graduation Test in mathematics. Following this test question are two responses by Ohio students, as well as an explanation of why the students received full credit (two points) for their answers.

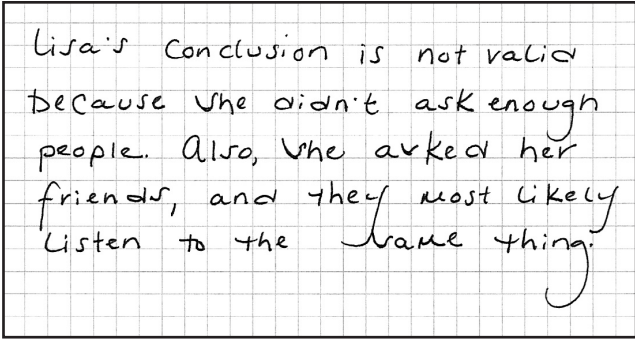
The local newspaper published a list of the five most popular radio stations. Lisa's favorite station is not on the list. At school, she asks two of her friends what their favorite station is and they both choose Lisa's favorite station. Based on this, Lisa decides her favorite station should have been on the list.

Explain why Lisa's conclusion is not valid by giving two reasons why her sample is biased.



Her sample is biased because her friends probably listen to the same music as her (they share similar interests) and because she only polled three people. The newspaper polled a much larger number of people.

This response gives a reason why Lisa's friends may be a biased sample (they share similar interests) and identifies that she had too small a sample (only polled three people ... newspaper polled a much larger number).



Lisa's conclusion is not valid because she didn't ask enough people. Also, she asked her friends, and they most likely listen to the same thing.

This response specifies that Lisa did not survey enough people and provides a specific reason why her friends may represent a biased sample (most likely listen to the same thing).