

7-SP Mr. Briggs's Class Likes Math

Alignments to Content Standards: 7.SP.A.1

Task

In a poll of Mr. Briggs's math class, 67% of the students say that math is their favorite academic subject. The editor of the school paper is in the class, and he wants to write an article for the paper saying that math is the most popular subject at the school. Explain why this is not a valid conclusion and suggest a way to gather better data to determine what subject is most popular.

IM Commentary

A correct response should provide at least one example of a way in which Mr. Briggs's class may not be a representative sample, but all the examples in the model solution are not required. It may require emphasizing that the statement itself might not be wrong, i.e., that math may indeed be the most popular subject at the school, but the point of this task is to discuss how it is not possible to draw that conclusion solely from the data provided.

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Solution

It is unlikely that Mr. Briggs's math class is a representative of all students at the school. For example, Mr. Briggs may be a particularly good (or entertaining) teacher, or he may pass out candy every day, or this class might be an advanced elective. Perhaps the

students responded positively in hopes of pleasing their teacher. A better way to gather data would be to take a random sample of 25 students from all students at the school, so that it would be more representative of the population of interest. Among other options, this could be done by assigning a random number to every student from 1 to N , where N is the number of students at the school. Then a random digits table or a calculator could be used to select 25 random numbers between 1 to N for the sample.



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