

Name _____

Investigation 9: Survey Says?

Worksheet 9.1 Scenario

Scenario

The administration at Rufus King High School, a United States urban high school of students in grades 9 to 12, was in the process of evaluating the school's academic and extracurricular programs. The high-school administration considered distributing and analyzing a survey addressing the school's programs that would be similar to the process businesses use to evaluate their products and services. They asked the students enrolled in an 11th grade mathematics class if they would help with the design, distribution, and analysis of a survey project.

Statistical studies about a school's services might result in decisions that alter a school's daily schedule, curriculum, course offerings, extracurricular opportunities, etc. Rufus King students wanted to be part of a study that might alter their school's academic and extracurricular programs. Students designed a survey they thought would address several important statistical questions related to the school's academic and extracurricular programs. A few of the survey questions are listed below.

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|--------------------|---|
| Question 1: | Indicate your gender:
<input type="checkbox"/> Female (F) <input type="checkbox"/> Male (M) <input type="checkbox"/> Prefer not want to respond |
| Question 2: | Indicate your grade level in high school:
<input type="checkbox"/> 9 th grade <input type="checkbox"/> 10 th grade <input type="checkbox"/> 11 th grade <input type="checkbox"/> 12 th grade |
| Question 3: | Do you consider yourself a dog person, a cat person, or neither?
<input type="checkbox"/> A. I consider myself a dog person.
<input type="checkbox"/> B. I consider myself a cat person.
<input type="checkbox"/> C. I do not consider myself a dog or cat person. |
| Question 4: | What is your main goal after you completing high school?
<input type="checkbox"/> A. To attend a college, university, or technical school.
<input type="checkbox"/> B. To get a job.
<input type="checkbox"/> C. To enlist in the military.
<input type="checkbox"/> D. Other |
| Question 5: | Do you participate in one or more of the athletic programs at your school (basketball, football, soccer, hockey, tennis, volleyball, etc.)
<input type="checkbox"/> Yes (Y) <input type="checkbox"/> No (N) |
| Question 6: | Do you exercise daily?
<input type="checkbox"/> Yes (Y) <input type="checkbox"/> No (N) |
| Question 7: | Do you spend at least 1 hour a week involved in an outdoor activity (walking, running, playing a game etc.)?
<input type="checkbox"/> Yes (Y) <input type="checkbox"/> No (N) |
| Question 8: | Are you involved in any community service activity?
<input type="checkbox"/> Yes (Y) <input type="checkbox"/> No (N) |

Statistical Question: _____

Ways to Collect Appropriate Data

For each of the following four options, answer the two questions:

- Do you think this option will provide an accurate summary of the responses from students in the school?
- If this option is used, are there any groups of students who may not be represented? Explain your answer.

Option 1:

Consider placing computers at various locations around school (e.g., the cafeteria, library, computer lab) that are monitored by students from the mathematics class involved with this project. Students in the vicinity of the computers would be asked to complete the survey provided on the computer. After a student completed the survey, the students monitoring the computer would save the results and load a new survey for the next student to complete. At the end of the day, the responses from the completed surveys would represent the representative sample for analyzing the questions.

Option 2:

There are 35 students in the mathematics class involved with this project. Each member of the class would be encouraged to anonymously complete the survey. The completed surveys would comprise the representative sample for analyzing the questions.

Option 3:

Students in the mathematics class involved with this project would post the survey online using a service provided by a private company. Each member of the class would encourage friends to complete the survey, both through word of mouth and also through their social media accounts. The online service would provide completed surveys that comprise the representative sample for analyzing the questions.

Option 4:

Students enrolled in the mathematics class would distribute surveys both before or after school at various locations in the school building. At the end of the day, the completed surveys would comprise the representative sample for analyzing the questions.