

Warm-Up
May 26

Answer Questions 1-8

1. The last three days Alexa had a test and ate an energy bar on her way to school that morning, she did well on the test. Today she had a test, so she ate an energy bar on her way to school.
Was her decision based on theoretical probability, experimental probability, or subjective judgment?
a. A combination of theoretical probability and subjective judgment
b. Theoretical probability
c. Subjective judgment
d. Experimental probability
2. Haley will not go on a cruise because the boat may sink even though cruise ships are very rarely involved in accidents.
Is her decision based on theoretical probability, experimental probability, or subjective judgment?
A a. Subjective judgment
b. Experimental probability
c. A combination of theoretical and experimental probability
d. Theoretical probability
3. The chance of winning a prize in a lottery was 15%.
Claudia was having a lucky day, so she bought a ticket.
Was her decision based on theoretical probability, experimental probability, or subjective judgment?
A a. Subjective judgment
b. Experimental probability
c. Theoretical probability
d. A combination of experimental probability and subjective judgment
4. In an anonymous survey, students were asked:
"Do you agree that everyone should become a vegetarian?"
In this survey, which of the following might be a problem?
i) Cultural sensitivity
ii) Ethics
iii) Privacy
iv) Use of Language
a. iv b. i c. ii d. iii

Which of the following questions are biased? Explain.

i) Is it appropriate to use a tanning bed before taking a trip to a tropical destination to avoid getting a bad sunburn?

Bias

ii) Should tanning beds be banned because they can cause skin cancer?

Bias

iii) Should the government regulate the use of tanning beds?

Not Biased

Only 40% of teenage boys and 20% of teenage girls consume enough dairy products to maintain good health.

A school principal reads a study with this information. The principal decides to provide students with a free glass of milk each day and to add chocolate milk, cheese, and yogurt to the cafeteria menu.

a) What assumptions has the principal made?

- 1) The surveyed teenagers are representative of ones in his school
- 2) Assuming they even like milk
- 3) Students will drink it b/c it is free.

b) Why might there be no change in students' consumption of dairy products

- 1) Don't like milk
- 2) Students may not go to cafeteria
- 3) high # may lactose intolerant

**Any Homework
Questions???**

Check the back of the book

- 3.** Name a problem with each data collection.
- a) After the first week of school, your principal asks you and your friends how you are enjoying school.
 - b) An online magazine asks readers either to agree or disagree with the statement: “If you find a \$20-bill, you turn it in.”
 - c) Brenda asks her classmates if they think girls should not be allowed to cover their heads in school.
 - d) To discover the most popular kind of movie at his school, Carlos plans to ask each student what her or his favourite kind of movie is.

4. For each scenario in question 3:
- Describe the effect each problem would have on the data collection.
 - How could each problem be overcome?
5. Parinder wanted to find out how often the computers in her school were being used. She asked students the question: "How much time do you spend on the computer each week?"
- How do you think her schoolmates will interpret this question?
 - How could the question be rewritten so it would more accurately reflect what Parinder wants to know?
 - Who might be interested in her findings? Why?
6. Andrew went to each class in his school and asked for a show of hands to find out how many students had ever been bullied at school. Only 2 students raised their hands.
- Andrew concluded that bullying was not a major problem at his school.
- Is this a reasonable conclusion? Explain.
 - Describe a better method for conducting Andrew's survey.
7. Trinity wants to find out how football fans feel about building a new indoor football stadium for a Canadian Football League team. She goes to the stadium to survey fans after a winning game on a warm August evening.
- Describe how the timing of her question may influence the responses.
 - In what setting might the responses be different than those Trinity received?

8. a) Describe how each question reveals a bias of the questioner.

i) Do you think ~~it is a good idea to use~~ DNA tests to convict a ~~violent~~ criminal?

ii) Do you think ~~gas-guzzling~~ SUVs should be banned?

iii) Do you think students should be allowed to use spell check ~~because it automatically improves spelling?~~

b) Rewrite each question to eliminate the bias. Explain how your question is an improvement.

Section 9.3

Using Sampling and Populations to collect data

Population: the set of all the things or people being considered

Census: a data collection using each member of the population

Sample: a portion of a population.

Valid conclusions: results of data collection that represent what is typical of the population

A school wants to survey its grade 9 students to determine which elective courses they would like to take in grade 10. They are considering whether to survey all the grade 9 students or just a sample.

Which would you suggest?

Census [BHS]

Would your answer change if I told you it was Fredericton High.

sample

Example 2**Reasoning Why and When Samples Should Be Used**

The student leadership team is planning a school dance. To attract grade 9 students to the dance, the team decided to collect data about the preferred music of the grade 9 students. The team set up in the hallway to collect the data. By the end of the day it had surveyed 73% of the grade 9 students.

- a) Why do you think the data were collected from a sample instead of the entire population?
- b) Will the opinions of the sample likely reflect those of the population? Explain.

You work at a chocolate factory. Your job is to test the quality of the chocolate do you use a sample or population, explain.



What flavor of ice cream do students at Blackville prefer?



Would we do a census?

Would we pick a sample?

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