

Grade 9 Math
Unit 9 Probability and Statistics

June Exam Review

1. A die with 6 faces is rolled 10 times. Each time, the die shows an even number.
Klaus predicts the next roll will be odd.
Joanna predicts the next roll will be even.
Nicholas predicts the next roll is equally likely to be even or odd.
How might each person have made his or her prediction?

2. Jenna thinks she is likely to score a goal in tonight's soccer game since she has scored a goal in 4 of her last 5 games.
 - a) What assumptions is Jenna making?
 - b) For each assumption, explain how the predicted outcome might be affected if the assumption changes.

3. Identify a potential problem with each data collection. Justify your answer.
 - a) Rachel asks: "What costume will you wear for Halloween this year?"
 - b) Jerome asks local dog kennels: "How often do you walk the dogs in your care?"
 - c) A dentist sends a questionnaire to her patients 6 months after their last check-up, asking them to rate the quality of care they received and reminding them to make an appointment for a new check-up.

4. Would you use a census or a sample to gather each set of data? Justify your choice.
 - a) To determine whether the strings of a guitar are in tune
 - b) To determine citizens' opinions about the new traffic laws
 - c) To test a new recipe for a cookbook

5. What sampling method is used in each situation? Will it give valid conclusions? Justify your answers.
 - a) A radio show invites city residents to call in their opinions about the city's crime rate.
 - b) To predict which movie will win a People's Choice Award, Carlos asks his friends which movies were their favourites.
 - c) For a week, every 10th customer leaving a restaurant is asked to rate the food and the service.

6. Ariadne mails a questionnaire asking, "Do you think there is a litter problem in our neighbourhood?" to every house on her street. What problems might Ariadne encounter as she collects data? Describe the effect each problem would have on her results.