

2.2 Worksheet Characteristics of Data – Worksheet

MDM4U

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1) Identify each of the following variables as quantitative or qualitative. For each quantitative variable, identify whether it is continuous or discrete.

- a) age
- b) favourite meal
- c) television viewing preferences
- d) speed of car
- e) colour of hair
- f) fabric texture
- g) pH of water samples
- h) seating capacity
- i) test mark
- j) paint colours

2) Identify the variables and their types, as well as the population for the following thesis questions. Also, would you collect a sample or conduct a census? Would each question require a cross-sectional study or a longitudinal study?

- a) Is there a relationship between weather conditions and absenteeism in Grade 9 at your school?
- b) Is there a relationship between the amount of television watched and the level of physical fitness among adult females?
- c) Are teenage drivers who have been issued speeding tickets more likely to be males?

3) Consider this thesis question: *In North America, do foreign cars depreciate in value faster than domestic cars?* Now answer the questions that follow:

- a) What is the population?
- b) What are the key variables that must be considered? Are these quantitative or qualitative? If quantitative, are they discrete or continuous?
- c) Should a census or a sample be used to collect data?
- d) Is a cross-sectional or a longitudinal study more appropriate for drawing conclusions?

4) Explain the differences between each pair of terms.

- a) population/sample
- b) cross-sectional study/longitudinal study
- quantitative variable/qualitative variable
- d) discrete data/continuous data