This assignment (Part 1 and Part 2) conforms to the rules on academic integrity of the University of Ottawa:
Typed name in place of Signature: Shahid Shiraz Jadavji

Assignment 1 Part 2 – Shahid Jadavji (6037549)

Answer to Question 1

Who was being measured? -The streams were being measured

What was being measured?- A number of biological, chemical, and physical variables; including the stream name, the substrate of the stream (limestone, shale, or mixed), the acidity of the water (pH), the temperature (degrees Celsius), and the BCI (a numerical measure of biological diversity).

When was this being measured? – This information is not given

Where was this being measured? – In a college in upstate New York

Why was this being measured?- For research in ecology class

How was this being measured?- This information is not given

Variables:

There are three known variables: biological, chemical, and physical:

- Stream name – Categorical
- Substrate of the stream - Categorical
- The acidity of the water - Quantitative
  - where units are measured by pH
- The temperature - Quantitative
  - where units are measured in degrees Celsius
- The BCI – Quantitative
  - where units measured is not provided

Answer to Question 2

1. a) The probability that a Liberal voter opposed the legalization of marijuana is 0.09.

b) The probability that someone who supported the legalization of marijuana was an NDP voter is 0.32.

$$0.18/0.56 = 0.32$$

3. c) The probability that none of the 5 Liberal voters supports the legalization of marijuana is 0.0035.

$$[1-(0.21/0.31)]^5 = 0.0035$$

d) Voting Conservative is not independent of opposing the legalization of marijuana, because the outcome of one event (A) does not influence the outcome of the other event (B).

$$\text{Since, } P(B \text{ and } A) / P(A) \neq P(B)$$

$$\text{Therefore, } P(\text{conservative and oppose}) / P(\text{oppose}) \neq P(\text{conservative})$$

$$\text{So, } (0.26/1)/(0.42/1) = 0.61 \neq 0.44$$

2. e) Voting Conservative and opposing the legalization of marijuana are both events that can occur simultaneously; thus, this implies that they are not mutually exclusive events.