**WIA/WIB 2003 – Probability and Statistics**

**TUTORIAL**

**INTRODUCTION TO STATISTICS**

1. Which of the following variables are categorical (nominal) and which are continuous?

(a) Gender (female or male)

(b) Age (years)

(c) Race (Asian, European, Indian, or other)

(d) Smoker (yes or no)

(e) Systolic blood pressure (millimeters of mercury)

(f) Level of calcium in the blood (micrograms per milliliter)

2. You are required to compare the “size” of several books. Describe some of the numerical variables that can be used to describe the “size” of a book. What units would you use?

3. Popular magazines often rank cities in terms of how desirable it is to live and work in each city. Describe five variables that you would measure for each city if you were designing such a study.

4. The following variables were measured on each fish:

*sex, initial weight(g), body temperature (C), weight gain(g).*

State the type of measurement scale for each of the variable above.

5. Which of the following statements are true?

I. All variables can be classified as quantitative or categorical variables.   
II. Categorical variables can be continuous variables.   
III. Quantitative variables can be discrete variables.

(A) I only   
(B) II only   
(C) III only   
(D) I and II   
(E) I and III

6. An auto analyst is conducting a satisfaction survey, sampling from a list of 10,000 new car buyers. The list includes 2,500 Ford buyers, 2,500 GM buyers, 2,500 Honda buyers, and 2,500 Toyota buyers. The analyst selects a sample of 400 car buyers, by randomly sampling 100 buyers of each brand.

Is this an example of a simple random sample?

1. Yes, because each buyer in the sample was randomly sampled.
2. Yes, because each buyer in the sample had an equal chance of being sampled.
3. Yes, because car buyers of every brand were equally represented in the sample.
4. No, because every possible 400-buyer sample did not have an equal chance of being chosen.
5. No, because the population consisted of purchasers of four different brands of car.