Review Exercises for Supplementary Examination
Subject: Business and Economics Statistics
Semester 1, Academic year 2013-2014
Lecturer: Mr. MONG Mara
July 18, 2014

Part A: Choose the correct answer

1) The value that occurs most often in a set of data is called
   a. mean
   b. median
   c. mode
   d. geometric mean

2) The sum of the deviations from the mean is
   a. equal to the mean
   b. equal to zero
   c. always positive
   d. equal to the median

3) Which of the following statements regarding probability is always correct?
   a. A probability can range from 0 to 1.
   b. A probability close to 0 means the event is not likely to happen.
   c. A probability close to 1 means the event is likely to happen.
   d. All of the above are correct.

4) The mean of a discrete probability distribution is also called
   a. variance
   b. standard deviation
   c. expected value
   d. median

5) A discrete distribution is usually the result of
   a. a measurement
   b. a count
   c. a small sample
   d. a small probability

6) A person's age, income, height, and weight are all example of
   a. Population variable
   b. Qualitative variable
   c. Random variable
   d. Quantitative variable.

7) Which of the following statements are true of a frequency table?
   a. It is based on quantitative data
   b. The grouping must be mutually exclusive
   c. The variable is nonnumeric.
   d. All of the above are correct.

8) A set of data includes 75 observations. How many classes would you recommend?
   a. 2
   b. 7
   c. 9
   d. 8

Part 2

1) A study was conducted about the number of people running a red light at a particular intersection. The number of violators for a sample of seven days is:

   $$6 \quad 12 \quad 7 \quad 12 \quad 12 \quad 8 \quad 4 \quad 5$$

   a) Compute the sample mean

b) Compute the mean deviation
c) Compute the standard deviation
d) Find first and third quartiles.
c) Construct a box-plot.

2) There are four people being considered for the position of chief executive officer of Dalton Enterprises. Three of the applicants are over 60 years of age. Two are female, of which only one is over 60.
a) What is the probability that a candidate is over 60 and female?
b) Given that the person is over 60, what is the probability the person is female?

3) In a recent survey 35percent indicated that chocolate was their favorite flavor of ice cream. Suppose we select a sample of ten people and ask them to name their favorite flavor of ice cream.
a) What is the probability exactly four of those in the sample name chocolate?
b) What is the probability four or more name chocolate?

4) An auditor for Health Maintenance Services of Georgia reports 40 percent of policyholders 55 years or older submit a claim during the year. Fifteen policyholders are randomly selected for company records
a) How many of the policyholders would you expect to have filed a claim within last year?
b) What is the probability that 10 of the selected policyholders submitted a claim last year?

5) Each salesperson at Puchett, Sheets, and Hogan Insurance Agency is rated either below average, average, or above average with respect to sales ability. Each salesperson is also rated with respect to his or her potential for advancement: either fair, good, or excellent. These traits for the 500 salespeople were cross-classified into the following table.

Sales Ability	Potential for Advancement		
	Fair	Good	Excellent
Below Average	16	12	22
Average	45	60	45
Above average	93	72	135

a) What is this table called?
b) What is the probability a sales person selected at random will have above average sales ability and excellent potential for advancement?
c) Construct a tree diagram showing all the probabilities, conditional probabilities and joint probabilities.

6) The sales of Lexus automobiles in the Detroit area follow a Poisson distribution with a mean of 3 per day.
a) What is the probability that no Lexus is sold on a particular day?
b) What is the probability that for five consecutive days at least one Lexus is sold?

7) In a recent study 90 percent of the homes in the United States were found to have large-screen TVs. In a sample of nine homes, what is the probability that:
a) All nine have large-screen TVs?
b) Less than five have large-screen TVs?
c) More than five have large-screen TVs?
d) At least seven homes have large-screen TVs?