

MATH 264 STATISTICS for SOCIAL SCIENCES

1st Midterm Examination

October 22, 2005

10:00-12:00

Surname : _____

Name : _____

ID # : _____

Department : _____

Section : _____

Instructor : _____

- The exam consists of 5 questions of different weights.
- Please read the questions carefully and write your answers under the corresponding questions. Be neat.
- Show all your work. Correct answers without sufficient explanation might not get full credit.

GOOD LUCK!

Please do not write below this line.

Q1	Q2	Q3	Q4	Q5	TOTAL
4	6	3	6	6	25

Question 1. Using the following stem-and-leaf display of the homework grades of the statistics course,

- (a) construct the frequency distribution table with 5 classes, (3 points) and then
- (b) present your work with drawing the histogram. (1 point)

Stem	Leaf
2	7
3	2 7
4	3 5
5	0 0 0 0 5
6	7 9 9 9
7	5
8	2 5 9
9	7 7 8 8 8 8

Answer 1.

Question 2. The hours of sleep that a student has during each of the last 10 nights are 8, 5, 4, 6, 9, 12, 14, 6, 6, 10.

- (a) Find the sample mean. (1 point)
 - (b) Find the sample standard deviation. (3 points)
 - (c) Find the first and the third quartiles. (2 points)
-

Answer 2.

Question 3. An airline's records show that its flights between two cities arrive on the average 5.4 minutes late with a standard deviation of 1.4 minutes. At least what percentage of its flights between the two cities arrive anywhere between 2.6 minutes late and 8.2 minutes late.

Answer 3.

Question 4. Suppose the letters in a word STATISTICS are arranged in a random manner.

- (a) How many different arrangements are possible? (2 point)
- (b) In how many of the arrangements are A and C adjacent? (next to each other)
(2 points)
- (c) How many of the arrangements starts and ends with the same letter? (2 points)

Answer 4.

Question 5. In a group of scientists there are three mathematicians, four physicists, five biologists and six chemists. A committee of *four* scientists is to be formed. In how many different ways such a committee can be formed if it must consist of

- (a) exactly two mathematicians and one physicist, (2 points)
- (b) one scientist from each field, (1 point)
- (c) not all scientists from the same field.(3 points)

Answer 5.