Prince Sultan University
STAT 101
First Examination
First Semester 2013/2014, Term 131
Tuesday, 8th October 2013
Dr. Bahha Eldin Abdalla & Dr. Jose Catapang

Time Allowed: 90 minutes

Maximum points: 50 points

Name: _____ _____ _____ ID Number # _____

(First) (Middle) (Last)

Important Instructions*:*

1. You may use CASIO scientific calculator that does not have programming or graphing capabilities.
2. You may NOT borrow a calculator from anyone.
3. You do NOT get special consideration if you forget your calculator.
4. Don't use notes or any notebook.
5. There should be NO talking during the examination.
6. Your exam will be taken immediately without any warning if your mobile is seen or heard.
7. You must show all your work beside the problem. Be organized.
8. You may use the back of the pages for extra space, but be sure to indicate that on the page with the problem.
9. This examination has ***10*** problems, some with several parts. Make sure that your paper has all these problems

Problem	Max points	Student's Points
1,2,3,4,5	14	
6,7	13	
8	14	
9,10	9	
Total	***50***	

Q1 (4 points) Classify each as nominal-level, ordinal-level, interval-level, or ratio-level measurement:

(a) Colors of baseball caps in a store.

(b) Weights of students in a classroom.

(c) Temperatures inside refrigerators.

(d) Number of candy bars sold on a fund drive.

Q2 (2 points) Use the best word to complete these statements:

(a) …...…… statistics consists of generalizing from samples to populations, performing estimation and hypothesis tests, determining relationships among variables, and making predictions.

(b) The four basic sampling methods are:
1. Random 2. Systematic 3. Cluster 4._____

Q3 (2 points)
(a) In which study the researcher manipulates one of the variables and tries to determine how the manipulation influences other variables?

(b) What do we call the variable that is being manipulated by the researcher?

Q4 (3 points) The mean of a distribution is 25 and the variance is 9. What can you say about the percentage of the values that will fall between 11.5 and 38.5?

Q5 (3 points) A nationally administered test has a mean of 500 and a standard deviation of 100. If your z-score on this test was -1.95, what was your test score?

Q6 (3 points) A set of data has a bell shaped distribution with mean 60 and standard deviation 3. Find the percentage of the values that will fall between 57 and 66.

Q7 (10 points) A survey of 36 selected recording companies showed these numbers of days that it took to receive a shipment from the day it was ordered.

Days	Frequency
1 – 3	6
4 – 6	8
7 – 9	10
10 – 12	7
13 – 15	0
16 – 18	5

Find each of these.

1. Mean

2. Variance

3. Draw a relative frequency histogram for the number of days?

Q8 (14 points) Given the following set of data:

3.9	3.7	3.6	3.7	3.1	2.9	3.1	0.2	3.2	3.9	3.8	3.3	3.4	3.9	3.7	3.9

1. Find the z-score of 0.2.

2. Identify the five-number summary

3. Construct a boxplot for the data

4. Comment on the shape of the distribution

5. Check the data set for outliers.

Q10 (6 points) A data set consists of 9 measurements. The following information is given.

$$\sum x_i = 143.2 \quad \text{and} \quad \sum x_i^2 = 2532.28$$

(a) Calculate the mean and the variance of the data.

(b) Within what limits would you expect at least 75% of the measurements to lie?

Q11 (3 points) The data show the total retail sales (in billions of dollars) of coffee for 6 years. Draw a time series graph. Over the years, are the sales increasing or decreasing?

Year	2001	2002	2003	2004	2005	2006
Sales	$8.3	$8.4	$9.0	$9.6	$11.1	$12.3