Prince Sultan University
STAT 101
First Examination
First Semester 2010/2011, Term 101
Sunday, 7th November 2010
Dr. Bahha Eldin Abdalla & Dr. Mohammed Al-Haj Ebrahem

Time Allowed: 90 minutes

Maximum points: 50 points

Name: _____ _____ _____
(First) (Middle) (Last)

ID Number: _____

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 **9** problems, some with several parts. Make sure that your paper has all these problems

Problem	Max points	Student's Points
1	4	
2	4	
3	4	
4	3	
5	3	
6	3	
7	3	
8	15	
9	11	
Total	50	

Q1 (4 points) Classify each variable as qualitative, quantitative discrete or quantitative continuous:

- ***a.*** Ages of people working in a large factory. ----------
- ***b.*** Colors of baseball caps in a store.----------

Q2 (4 points) Classify each as nominal-level, ordinal-level, interval-level, or ratio-level measurement:

- ***a.*** Marital status of patients in a physician's office. ----------
- ***b.*** Weights of students in a classroom.----------

Q3 (4 points) Classify each sample as random, systematic, stratified, or cluster.

- ***a.*** Every seventh customer entering a shopping mall is asked to select his or her favorite store.----------
- ***b.*** Mail carriers of a large city are divided into two groups according to whether they walk or ride on their routes. Then 10 are selected from each group and interviewed.----------

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Q4 (3 points) The mean of a distribution is 20 and the variance is 4. Use Chebyshev's theorem to find the percentage of the values that will fall between 10 and 30.

Q5 (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 69.

Q6 (3 points) Suppose that the grades of students had mean equal 10 and variance equal (s^2). If the Z-Score of the grade 6 is equal -2, then find the value of the standard deviation.

Q7 (3 points) A sample of size 150 students had 50 male students and 100 female students. In constructing a pie graph, calculate the degrees of the male students.

Q8 (15 points total) The following is the distribution of the heights (in inches) of 30 players basketball.

Height (Class Limits)	Number of players (f)
72 – 74	3
75 – 77	5
78 – 80	6
81 – 83	7
84 – 86	9

1. ***(2 points)*** Construct a frequency histogram.

2. ***(2 points)*** Construct a cumulative frequency distribution.

3. ***(2 points)*** Construct the ogive.

4. ***(1 point)*** Describe the shape of the distribution of the heights of the players.

5. ***(1 point)*** What proportion of the players had heights 81 or more?

6. ***(1 point)*** What proportion of the player had heights less than 78?

7. ***(2 points)*** Calculate the sample mean.

8. ***(3 points)*** Calculate the sample variance.

9. ***(1 point)*** Find the modal class.

Q9 (11 points total) The reported high temperatures (in degrees Fahrenheit) for selected cities are shown below.

62, 72, 86, 82, 60, 76, 82, 74, 85, 84

1. ***(2 points)*** Construct a stem and leaf plot.

2. ***(1 point)*** Calculate the midrange.

3. ***(2 points)*** Calculate the sample standard deviation.

4. ***(2 points)*** Calculate the coefficient of variation.

5. ***(1 point)*** Find the mode.

6. ***(1 point)*** Find the median.

7. ***(2 points)*** Calculate the value of 75th percentile.

Good Luck