



Prince Sultan University
STAT 101
First Major Examination
First Semester 2014/2015, Term 141
Thursday, 26th October 2014

First Name: _____

Last Name: _____

ID Number: _____

Time Allowed: 90 minutes

Question	Max points	Student's Points
1	6	
2	3	
3	6	
4	7	
5	8	
Total	30	

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. Mobile phones, notes and notebooks are not allowed.
4. You must fully explain all of your answers.
5. You may use the back of the pages for extra space, but be sure to indicate which question you are answering.
6. This examination consists of 5 questions and 5 pages including this one.

Q1. 6 pts) For the following data set: 7, 2, -9, 4, 6, -1, 2

1) Find:

- a. **1 pt)** The mean
- b. **0.5 pt)** The Mode
- c. **1pt)** The median
- d. **0.5pt)** The midrange

2. **2 pts)** Find the standard deviation

3. **1 pt)** Using the range rule of thumb find an approximation of the standard deviation

Q2. 3 pts) In a certain factory, the average age of the workers is 29 years, with a standard deviation of 8 years; the average salary of the workers is \$28,000, with a standard deviation of \$5000. Compare the variations of age and salary.

Q3. 6 pts)

a. **3 pts)** The mean of a distribution is 20 and the standard deviation is 4.
Use Chebyshev's theorem. At least what percentage of the values will fall between 10 and 30.

b. **3 pts)** The mean of a distribution is 30 and the standard deviation is 6
If we assume a bell-shaped distribution, what percentage of the values will be greater than 36.

Q4- 7 pts) For the given group data.

Class Boundaries	Frequency
5.5 – 10.5	11
10.5 – 15.5	20
15.5 – 20.5	22
20.5 – 25.5	30
25.5 – 30.5	10

- a. **2pts)** Calculate the mean
- b. **3pts)** Calculate the standard deviation
- c. **2pts)** Draw a Histogram

