KING FAHD UNIVERSITY OF PETROLEUM & MINERALS
DEPARTMENT OF MATHEMATICS AND STATISTICS
Term 152

STAT 211 BUSINESS STATISTICS I

Wednesday Feb 17, 2016

Please circle your instructor name:

W. Al- Sabah M. Saleh

Name: _____ ID #:_____

Important Note:

- Show all your work including formulas, intermediate steps and final answer

Question No	Full Marks	Marks Obtained
1	12	
2	2	
3	3	
4	3	
5	13	
6	7	
Total	40	

Q1: Suppose the following information is obtained from a person on his application for a home loan from a bank:

1. Place of residence: Dammam
2. Date of birth: 14 August 1970
3. Marital status: Married
4. Number of children: 3
5. Monthly income: SR 7500
6. Occupation: Systems Engineer
7. Employer: Telecom company
8. Number of years at job: 10 years
9. Other income: SR 2500
10. Loan requested: SR 100000
11. Other loan: Car
12. Amount of the other loan: SR 50000

Classify each response by type of data, if numerical, continuous or discrete, and the level of measurement *(12pts)*

Qualitative (categorical)		Nominal
Qualitative (categorical)		Nominal
Quantitative (Numerical)	continuous	Ratio
Qualitative (categorical)		Nominal
Quantitative (Numerical)	continuous	Ratio
Qualitative (categorical)		Nominal

Q2: Suppose that a club was planning to survey 2000 of its members primarily to determine the percentage of its membership that currently own more than one car. Describe both the population and the sample of interest to the club. (*2pts*)

Q3: A company's call center has both Arabic-speaking and English-speaking service representatives. A random sample of 11 calls to Arabic-speaking service representatives and a random sample of 14 calls to English-speaking service representatives was taken and the time to complete the call was measured. The results in seconds are as follows

	Arabic-speaking	English-speaking
The mean	111.37	150.86
The standard deviation	22.43	26.84

Which group has the greater relative variability in the time to complete calls? Explain. $(3pts)$

Q4: A random sample of local supermarkets produced the following results. The price for gallon of milk has a bell shaped distribution, with a mean of SR4.15 a gallon and standard deviation of SR25 halalah. What is the percentage of supermarkets sell the gallon less than SR3.90? $(3pts)$

Q5: The marketing director of an insurance company has been worried about the insurance age of company's policyholder base. He wants to determine whether a new advertising campaign has had the desired effect of attracting younger customers. He has taken a sample of 25 new policies and has found the following ages

21	23	24	25	25	26	27	28	28	28	29	30	31
32	33	33	34	34	36	40	40	41	44	50	59	

a. Compute the mean, the median, the mode, and the standard deviation. Comment on the shape using these numbers. (*5pts*)

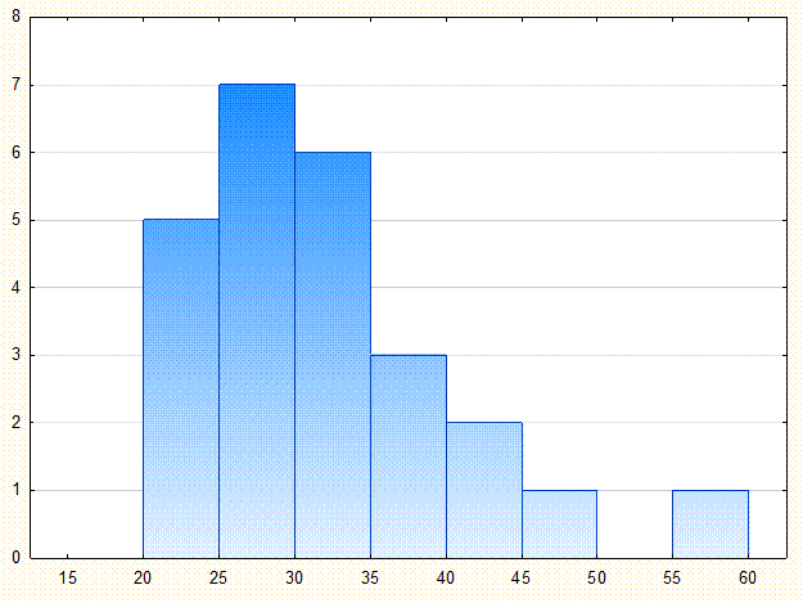
b. Is 59 an outlier? Explain (*2pts*)

c. Draw a box plot and comment on it. (*6pts*)

Q6: Given below the frequency histogram for the data in question 5 above,

a. Approximate the mean. (*3pts*)

b. Approximate the standard deviation. (*4pts*)



5	22.5	112.5	506.25	2531.25
6	32.5	195	1056.25	6337.5
2	42.5	85	1806.25	3612.5
0	52.5	0	2756.25	0
25		802.5		27556.25