HAIGAZIAN UNIVERSITY
FACULTY OF BUSINESS ADMINISTRATION AND ECONOMICS
ECO 231 – ECONOMIC STATISTICS I
QUIZ 1 – FALL 2009-2010

NAME: **ID:**

INSTRUCTOR: ☐ **Ms. Najoie Nasr**
☐ **Ms. Joumana Tannous** **TIME: 1 HOUR**

INSTRUCTIONS: PLEASE WRITE YOUR NAME AND ID NUMBER AND TICK THE SECTION TO WHICH YOU BELONG.
ANYONE CAUGHT **CHEATING** WILL AUTOMATICALLY GET HIS COPY REMOVED AND WILL GET **ZERO**.
This exam consists of 9 pages, including 3 parts: 10 True or False questions, 4 multiple choice questions and 1 problem. Check that none are missing. Answer the questions in the space provided for each problem; if more space is needed, you may use the back pages. Rough work can be done on the back pages. To receive full credits, you have to justify your answers.
GOOD LUCK!

QUESTION			GRADE
PART I: T/F:	**1. – 10.**	**20 %**	
PART II: MCQ:	**1. – 5.**	**15%**	
PART III:		**65%**	
TOTAL		**100%**	

PART I: T/F. State whether the following 10 statements are True or False. CORRECT whenever it's false.

1. _____ The range, as a measure of dispersion, has the disadvantage of being affected by extremes, unlike the mean, as a measure of central tendency.

2. _____ One of the reasons for sampling a population is that at times testing may destroy the sampled item

3. _____ A grouped continuous quantitative data can be displayed by using a histogram or a bar chart.

4. _____ In 2003 there were 57.0 million pager subscribers. By 2009 the number of subscribers increased to 94.0 million. The average annual percent increase for the period is 64.91%.

5. _____ According to the empirical rule, the percent of observations that lie between minus 1 standard deviation of the mean and plus 2 standard deviations of the mean is 13.5%

6. _____ For a set of observations we have the following information: mean = 100, median = 100, mode = 100, and s = 4. The range is about 16

7. _____ A cumulative frequency polygon is used when we want to determine how many observations lie above or below certain values

8. _____ The value of variance of the grades of all students at Haigazian University is greater than the value of the variance of the grades of all students at the Faculty of Business Administration at Haigazian University.

9. _____ In a stem and leaf display, the leaf for the value 98 is 9.

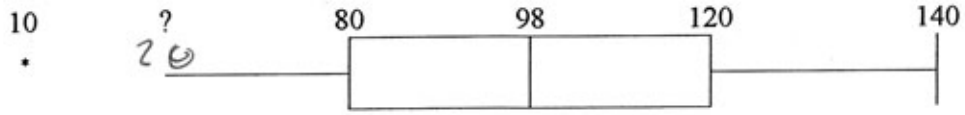
10. _____ There are only 4 quartiles.

PART II: Please circle the best answer for the following 5 Multiple Choice Questions.

1. According to Chebyshev's Theorem, what percent of the observations lie within plus and minus 1.25 standard deviations of the mean?

- 95%
- 92.5%
- Cannot compute it depends on the shape of the distribution
- None of the above. Specify the answer 99.84 %.
- 64%
- 100%

2. The following box plot is not scaled. Find the missing number marked by a question mark.



- 60
- 20
- 45
- Cannot be computed, need more information
- None of the above. Specify the answer 70

Use the following information to answer the following 3 questions:

The table lists the 1989 profits (in millions of dollars) for a sample of six airlines.

Airline	Profit/Loss
Continental	3
Eastern	-852
Northwest	334
Pan Am	-414
TWA	-298
United	358

3. Calculate the range of the data set.

- 1,210 millions of $
- 494 millions of $
- 855 millions of $
- - 848 millions of $
- None of the above

4. Calculate the 3rd quartile.

- 334 millions of $
- 343.25 millions of $
- 340 millions of $
- 355.75 millions of $
- None of the above

5. Calculate the 63rd percentile.

- 165.5 millions of $
- 165.91millions of $
- 138.71millions of $
- 4.41 millions of $
- None of the above

PART III: Solve the following problems in the space provided for it.

1. Three students X, Y and Z, at Haigazian University, were asked to study the average number of minutes students spend doing their homework and preparing for their classes per week. They randomly selected a sample of 40 students and collected the following data:

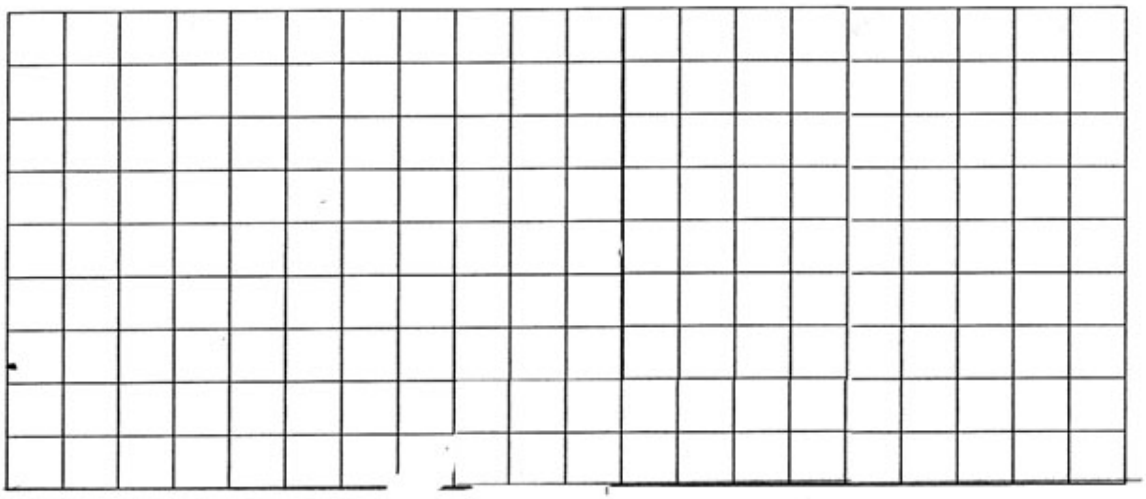
0	45	83	35	45	50	50	60	65	70
75	80	30	90	90	93	101	102	103	110
115	122	125	125	125	125	130	140	145	160
160	160	165	210	215	222	250	261	270	371

Student X wanted to give as much details as possible and used **the raw data**. (Parts **a.** & **b.** are related to Student X only)

a. To develop a stem-and- leaf chart

b. To draw a **box-plot** showing the detailed numbers of the plot.

Title:



Student Y wanted to **group the data** and work on grouped data. So, he …(Parts **c., d.** & **e.** are related to Student Y only)

c. Constructed a Frequency Distribution Table.

# of minutes	**# of students**	**Cumulative Frequency**	**Relative Frequency**

d. Found the following statistical measures for the grouped data:

Mean

Standard deviation

Mode

The 5th decile

The 85th percentile

e. Represented the data graphically by drawing an Ogive (Cumulative Frequency Polygon) and a pie-chart. He **commented on the graphs.**

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Title:

Student Z, Constructed the following Frequency Distribution.

Number of minutes	Frequency
Less than 30	1
30 up to 60	6
60 up to 120	13
120 up to 150	8
150 up to 270	10
270 up to 330	1
330 up to 420	1

Student Z wanted to graphically represent the data of the number of minutes students study using a histogram, but he got lost as the frequency distribution he had was of unequal intervals, and he lost the raw data. Help Student Z draw the histogram by showing him how to convert the unequal intervals to equal intervals.

Title: