ECON1005 2103-2014 Graded Assignment 1

This assignment is to be prepared as a WORD document. It covers subject matter in Units 3, 4 and 5. This assignment has an allocation of 10 marks. see marking guidelines below.

Note that your assignment should be entitled: Your First Name
Your Last Name ECON1005 Assignment #1. For example: Mary McDonaldECON1005
Assignment #1

QUESTION 1 [6 marks]

The number of items sold per month at Company ABC was recorded and inputted into
MINITAB for analysis. The following exhibits (Exhibits 1 and 2) were subsequently
generated.

Exhibit 1

Stem-and-Leaf Display: Sales

Stem-and-leaf of Sales N = ?

Leaf Unit = 10

|  |  |  |
| --- | --- | --- |
| 3 | 2 | 001 |
| 4 | 2 | 3 |
| 5 | 2 | 4 |
| 5 | 2 |  |
| 7 | 2 | 99 |
| 7 | 3 |  |
| 8 | 3 | 2 |
| 5) | 3 | 44555 |
| 11 | 3 | 67 |
| 9 | 3 | 89 |
| 7 | 4 | 0111 |
| 3 | 4 | 33 |
| 1 | 4 | 5 |

[All relevant working must be shown.]

continue overleaf.../

Exhibit 2

Descriptive Statistics: Sales

Variable N N\* Mean TrMean StDev Minimum Q1

Sales ? 0 343.3 344.9 76.2 202.0 292.3

Variable Median Q3 Maximum

Sales ?? 408.3 ???

1. Determine the missing values of "?"," ??" and "???" from the information in
Exhibits 1 and 2. [3 marks]
2. Is the distribution of the number of items sold symmetric? Give reasons for your
answer. [3 marks]

QUESTION 2 [44 marks]

(a) A researcher is interested in investigating the age distribution (18-24, 25-34, 35-44,
45-54, 55-64, 65+) of adult online social network users (for example: Facebook, Twitter,
LinkedIn, Pinterest, MySpace etc). He surveyed 100 randomly selected adult online
social network users to gather data on their age. The data gathered was summarized in the
table below.

|  |  |
| --- | --- |
| AgeInterval | Frequency |
| 18 - 24 | 18 |
| 25 - 34 | 26 |
| 35 - 44 | 27 |
| 45 - 54 | 20 |
| 55 - 64 | 7 |
| 65+ | 2 |
| TOTAL | 100 |

(i) For each of the following charts, state whether it could be suitable to represent the age
distribution of social network users summarized in the table above: a bar chart,
histogram, stem-and-leaf diagram, box-and-whisker diagram? Give reason for your
answer. [8 marks]

continue overleaf.../

* 1. Estimate the mean age of the sample. [All relevant working must be shown.]

[3 marks]

* 1. Estimate the standard deviation of the age of the sample. [All relevant working
	must be shown.] [3 marks]
	2. Determine the median age of the participants in the sample. Interpret your
	answer. [All relevant working must be shown.] [4 marks]
	3. Calculate the Inter-quartile range for the age distribution of the sample. Interpret
	you answer. [All relevant working must be shown.] [5 marks]

(b) The researcher gathered data from 50 males and 50 females. To further investigate
how the adults use social network, the participants were asked whether or not they use
Facebook. Fourteen males and 42 females indicated that they use Facebook.

(i) If a person is randomly selected from the sample, what is the probability that, the
person uses Facebook? [2 marks]

(ii) If a person is randomly selected from the sample, what is the probability that, the
person is Male and does not use Facebook? [2 marks]

* + 1. If a person is randomly selected from the sample, what is the probability that, the
		person is Male or does not use Facebook? [3 marks]
		2. If two (2) persons are randomly selected from the sample, what is the probability

that they both use Facebook? [Hint: persons are selected one after the other, without replacement]

[[4 marks]

* + 1. What is the probability that a Male from the sample does not use Facebook?

[3 marks]

* + 1. What is the probability that a Facebook users from the sample is male? [3 marks]
		2. Are the events, "Male" and "does not use Facebook' independent? [Support
		your answer.] [2 marks]
		3. Are the events, "Male" and "does not use Facebook' mutually exclusive?
		Support your answer. [2 marks]

Total 50 marks [Graded out of 10]

Rubric ECON1005 – Graded Assignment #1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Criteria |  |  |  |  | Score |
| Interpretationof Questions | The learnerhasdemonstrateda very goodunderstandingof what thequestions areasking andrequires ofthem. | The learnerhasdemonstrateda goodunderstandingof what thequestions areasking andrequires ofthem. | The learnerhasdemonstrateda fairunderstandingof what thequestions areasking andrequires ofthem. | The learnerhas little ornounderstanding of what thequestions areasking andrequires ofthem. | 20 |
| Clarity ofargument | Excellentexpressionand argumentin terms ofexplainingtheir answersand/or givingreasons fortheir answers. | Goodarticulationand argumentin terms ofexplainingtheir answersand/or givingreasons fortheir answers. | Fairarticulationand argumentin terms ofexplainingtheir answersand/or givingreasons fortheir answers. | Argument isunclear. | 5 |
| Technicalcorrectness ofanswer | The learnerhasdemonstratedacomprehensive grasp of theconcepts andexplicitlyprovides allrelevanttechnicalworking withaccuracy. | The learnerhas generallygrasped theconcepts butchallenged bytechnicalwriting skills. | The learnerhasdemonstrateda desire topursue theassignmentbut hasexhibitedsome areas ofignorance inpresentingtheircalculations. | The learninghasabsolutely noknowledgeand theanswersreflect thelearner’signorance ofthe concepts. | 25 |