



Mathematics Department - Fall 2018 - STAT 2311 First Exam

St. Name (in Arabic):..... Kaya ..... St. Number:..... Sec:.....

**Question # 1. Fill in the blank and multiple choice questions:**

- The variable "Price in dollars" is
  - Quantitative
  - Qualitative
- The measurement Scale for the variable "Price in Dollars" is
  - Interval
  - Nominal
  - Ratio
  - Ordinal
- A Population is a collection of elements with common characteristics.
- Cross-sectional data is collected in one point of time.
- To summarize data about Tuitions أقساط at BZ University we use:
  - Cross Tabulation
  - Scatter Plot
  - Bar Graph (Bar Chart)
  - Histogram
- To study the relationship between "Price" and "Brand name", the appropriate method is:
  - Cross Tabulation
  - Cross-Sectional data
  - Scatter Plot
  - Pie Chart

**Question #2:** If the ages of 35 students are distributed in the following table:

Age	Frequency
0—9	10
10—19	12
20--29	8
30—39	3
40--49	2
<b>Total</b>	<b>35</b>

- What is the variable Name :..... Age .....
- What is the class width?:..... 10 .....
- How many classes are there?:..... 5 .....

4. What is the sample size ? ...  $35$  .....
5. What is the **relative frequency** of class « 20 -29 » : ...  $\frac{8}{35} = 0.229$  .....
6. What percentage of students aged 29 years or less is: ...  $\frac{30}{35} \times 100\% = 85.7\%$  .....
7. What is the **shape** of the Distribution ?
- a. Left Skewed      b. Symmetric      c.  Right Skewed

**Question # 3**

Data on Education level and monthly salary of workers in Jawwal company follow:

Education Level	Monthly Salary in NIS			Total
	1000--2999	3000--4999	5000--7999	
Tawjihi	20	15	1	36
College	30	40	20	90
University	25	35	54	114
<b>Total</b>	<b>75</b>	<b>90</b>	<b>75</b>	<b>240</b>

1. What is the **population** : ... Workers in Jawwal Company .....
2. How many **elements** are there in the population ? : ... 240 .....
3. How many **variables** are there in this table ? : ... 2 .....
4. What **percentage** of workers completed a **College degree** only : ...  $\frac{90}{240} \times 100\%$  .....
- ..... =  $37.5\%$  .....
5. OF those workers who have a **Tawjihi degree**, What **percentage** earns 3000-4999 NIS
- .....  $\frac{15}{36} \times 100\% = 41.7\%$  .....
6. **Based on the data in the cross-tabulation we conclude that:** (Circle the best answer).
- a) There is a negative relationship between Education level and monthly salary
- b) There is a positive relationship between Education level and monthly salary
- c) There is no relationship between Education level and monthly salary