

The Final Exam of the First Semester 2020/2021

The First Question: - (20 degree)

1) The table shows the weight loss (kg) of a sample of 40 healthy adults who fasted in Ramadan. Find:

- The value of the missing value K and C ?
- Relative frequency and relative cumulative frequency
- The histogram and polygon.

Class interval	Frequency	Cumulative Frequency
1.20 - 1.29	2	2
1.30 - 1.39	6	8
1.40 - 1.49	10	K
1.50 - 1.59	C	34
1.60 - 1.69	6	40

2) A company has two sections with 40 and 65 employees respectively. Their average weekly wages are \$450 and \$350. The standard deviation are 7 and 9. Which section has larger variability in wages?

The Second Question: - (20 degree)

The following table classified 500 persons according to Thrombosis and smoking habit. Find

	Smoking Group	
	Smoking(S)	Non-smoking(S^c)
Thrombosis (T)	5	4
Non thrombosis (T^c)	145	346

- The probability that a patient selected randomly has a thrombosis and is smoker?
- The probability that the patient has a thrombosis
- The probability that the patient has a thrombosis given that he does not smoke.
- Find the probability that a patient selected randomly has a thrombosis or is smoker?

The Third Question: (20 degree)

The average length of stay in a hospital is useful for planning purposes. Suppose that the following is the probability

Length of stay (days)	3	4	5	6
Probability	0.4	0.2	0.1	k

distribution of the length of stay (X) in a hospital after a minor operation. Find

- The value k .
- $P(X < 0)$
- $P(0 < X < 5)$
- The average length of stay in a hospital and the variance.

Ended questions ... With my best wishes
Dr. Khaled Mahfouz