Philadelphia University
Faculty of Science
Department of Basic Sciences & Mathematics
Second Semester [2017 – 2018]

Probability and Statistics (250231)
First Exam
Monday, 26 March 2018
Time: 50 minutes.

الاسم : ....   الرقم : ....   الشّعبة : ......   المدرّس : ....
....

Question One: (*2.0 points each*). Write the correct answer for each of the following in the table provided. Only the answers in the table will be graded.

1	2	3	4	5	6

1. The **TRUE** statement in the following is
   A. The variance cannot be negative.
   B. The population is a subset from the sample.
   C. The mode of the data 2, 5, 5, 3, 2, 3 is 2, 3 and 5.
   D. The sum of the relative frequencies in any frequency distributions is not 1.

2. Which one of the following is a **qualitative** data?
   A. Hair color لون الشعر
   B. Ages الأعمار
   C. Weights الأوزان
   D. Blood pressure ضغط الدم

3. If the mean of the following data is $\bar{x} = 44$, then the value of **b** is
   A. 7
   B. 3
   C. 2
   D. 6

stem	leaf
3	7
4	1 b 5 5 8
5	0

   Key: 4|5=45

4. The mean of 12 numbers is 6, and the mean of 8 other numbers is 16, then the mean of the 20 numbers together is
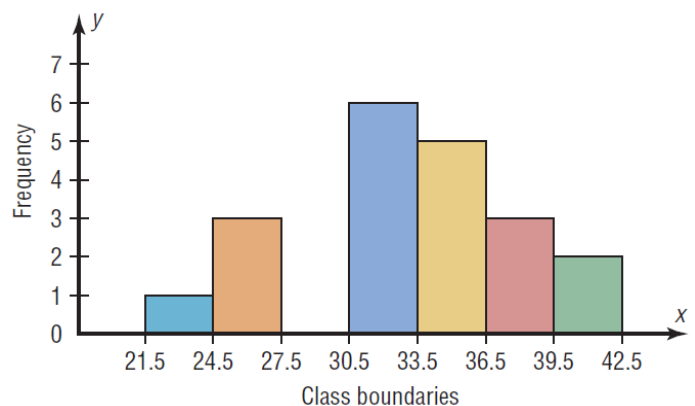   A. 9
   B. 10
   C. 11
   D. 8

5. The **median** for the following frequency distribution is
   A. 4.5
   B. 3.5
   C. 5.5
   D. 6.5

Class (Values)	2	3	4	5
Frequency	2	2	2	6

6. Given the histogram shown below, the sample size is
   A. 6
   B. 18
   C. 7
   D. 20

Question Two: (1+1+2+1+1 points)
Consider the following set of **continuous** data.

1	2	3	4	5	5
5	6	6	7	7	7
7	7	8	8	8	8
8	9	9	9	10	10

1. Find the **range** of the data.

2. If there are **4 classes** in the frequency distribution of the data, find the **class width**.

3. Construct (أنشئ) a frequency distribution for the data using **4 classes**.

Class	Frequency

4. Find the relative frequency of the second class.

5. Find the cumulative frequency of the third class.

Question Three: (4 points)
For a set of $n=9$ numbers, $\sum(x-\bar{x})^2 = 48$ and $\sum(x^2) = 489$. Find the mean of the numbers.

A | 2