

Department of Statistics and Operations Research
College of Science
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STAT 145

H. W. 2

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Student Name	
Student Number	
Section	
Attendance_Number	

1	2	3	4	5	6	7	8	9	10

11	12	13	14	15	16	17	18	19	20

21	22	23	24	25	26	27	28	29	30

31	32	33	34	35	36	37	38	39	40

Question No. 1

For the following data 21, 27, 19, 23, 27, 25, 28, 30. Then

1- The sample mean is

- (a) 25 (b) 26 (c) 27 (d) 28 (e) none of these

2- The mode is

- (a) 25 (b) 26 (c) 27 (d) 28 (e) none of these

3- The sample variance is

- (a) 25 (b) 3.74 (c) 14 (d) 19 (e) none of these

4- The median is

- (a) 25 (b) 26 (c) 27 (d) 28 (e) none of these

Question No. 2

5- Which of the following are continuous random variables

- (a) height (b) weight (c) pressure (d) all of them

6- Which one of the following is an example of statistic

- (a) The population mean (b) the histogram (c) the sample mode
(d) the population variance (e) none of these

Question No. 3

Suppose we measure the duration of labor (in hours) for 100 pregnant Saudi women in king Khaled hospital , the results is given in the following table

Row	Duration of labor	frequency	True classes	Mid interval	Relative frequency	Cumulative frequency	Cumulative relative frequency
1	1 - 3	10					
2	4 - 6	15					
3	7 - 9						
4		20					
5	13 - 15	10					
6	16 - 18	8					
7	19 - 21	7					
	Total						

Complete the table then answer to give the values of the items mentioned :

7-The population is

- (a) Pregnant women (b) Pregnant women in King Khaled hospital
(c) Saudi Pregnant women in King Khaled hospital (d) Labor duration

8-The 4th class is

- (a) 9-12 (b) 10-12 (c) 9-13 (d) 10-13 (e) none of these

- 9-The 3rd frequency is
 (a) 100 (b) 20 (c) 30 (d) 70 (d)none of these
- 10-The 6th true class is
 (a) 16.5-17.5 (b) 15.5-17.5 (c) 16.5-18.5 (d) 15.5-18.5 (d)none of these
- 11-The 2nd mid interval is
 (a) 4.5 (b) 5 (c) 5.5 (d) 6.5 (d)none of these
- 12-The 5th relative frequency is
 (a) 100 (b) 0.1 (c) 0.5 (d) 0.25 (d)none of these
- 13-The 4th cumulative frequency is
 (a) 75 (b) 55 (c) 30 (d) 25 (d)none of these
- 14-The 2nd cumulative relative frequency is
 (a) 0.15 (b) 0.20 (c) 0.25 (d) 0.30 (d) none of these

Question No. 4

Given below are the number of beds for which an obstetrician was responsible for a sample of Saudi hospitals taken in July 2001:

8 9 5 5 7 6 6 4 5 5 5 11 4 3 6 10 6
 11 5 12 8 4 11 6 6 8 10 10 7 11 14 6 5 7

Consider the following class intervals:

3 – 5 , 6 – 8 , 9 – 11 , 12 – 14

- (15) The sample size (n) is:
 (A) 4
 (B) 8
 (C) 27
 (D) 34
- (16) The variable of interest is:
 (A) Number of beds
 (B) Number of obstetricians
 (C) Number of hospitals
 (D) Number samples
- (17) The type of the variable of interest is:
 (A) Qualitative
 (B) Nominal
 (C) Quantitative
 (D) Qualitative and quantitative
- (18) The frequency of the first class interval 3-5 is:
 (A) 6
 (B) 11
 (C) 9
 (D) 13
- (19) The relative frequency of the first class interval 3-5 is:
 (A) 0.4824
 (B) 0.3235
 (C) 0.2765
 (D) 0.5647
- (20) The midpoint of the first class interval 3-5 is:
 (A) 3.5
 (B) 4.5
 (C) 4.0
 (D) 5.0

(21) The true class interval of the first class interval 3-5 is:

- (A) 2.5 – 5.5
- (B) 3.0 – 5.0
- (C) 2.9 – 5.1
- (D) 2.99 – 5.01

Question NO. 5:

The following sample represents the consultation times (in minutes) for doctor-patient meetings for a sample of 5 patients:

4.5 3.0 3.5 4.0 15.0

(22) The mean (\bar{X}) is:

- (A) 5.0
- (B) 4.5
- (C) 3.5
- (D) 6.0

(23) The median is:

- (A) 4.0
- (B) 3.5
- (C) 3.0
- (D) There is no median.

(24) The mode is:

- (A) 15.0
- (B) 3.0
- (C) 3.0 and 4.0
- (D) There is no mode.

(25) The variance (S^2) is:

- (A) 4.675
- (B) 10.876
- (C) 25.625
- (D) 0.944

(26) The standard deviation (S) is:

- (A) 3.7939
- (B) 5.0621
- (C) 0.8677
- (D) 9.0948

(27) The coefficient of variation (C.V.) is:

- (A) 55.78%
- (B) 15.90%
- (C) 84.37%
- (D) 62.24%

(28) The most appropriate measure of central tendency for this set of data is:

- (A) Mean
- (B) Median
- (C) Mode
- (D) Variance

(29) The range (R) is:

- (A) 15.0
- (B) 3.0
- (C) 12.0
- (D) 9.0

Question NO. 6:

The following sample represents the ages (in years) of 7 patients visiting the emergency unit in a certain hospital:

41 30 55 25 30 38 40

- (30) The mean (\bar{X}) is:
- (A) 35
 - (B) 37
 - (C) 36
 - (D) 34
- (31) The median is:
- (A) 38
 - (B) 32
 - (C) 25
 - (D) 37
- (32) The mode is:
- (A) 55
 - (B) 25
 - (C) 30
 - (D) There is no mode.
- (33) The range (R) is:
- (A) 1
 - (B) 30
 - (C) 11
 - (D) 20
- (34) The variance (S^2) is:
- (A) 6.88
 - (B) 24.78
 - (C) 75.72
 - (D) 98.67
- (35) The standard deviation (S) is:
- (A) 8.70
 - (B) 9.93
 - (C) 2.62
 - (D) 4.98
- (36) The coefficient of variation (C.V.) is:
- (A) 26.85%
 - (B) 11.82%
 - (C) 75.55%
 - (D) 5.69%
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Question No. 7

For the following data:

21, 27, 19, 23, 27, 25, 28, 30

- 37- The sample mean is
- (A) 25 (B) 26 (C) 27 (D) 28
- 38- The mode is
- (A) 25 (B) 26 (C) 27 (D) 28
- 39- The sample variance is
- (A) 25 (B) 3.74 (C) 14 (D) 19
- 40- The median is
- (A) 25 (B) 26 (C) 27 (D) 28