

First & second exam 023 Biostatistics

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Q1. What is the best measure for this number of students 3,3,4,5,6,7,25 ?

- a. Mean**
- b. Mode**
- c. Median and mean**
- d. Median**

Answer : D

Q2. One of the following is NOT a measure of variation

- a. Range**
- b. Standard deviation**
- c. Mode**
- d. Variance**

Answer : c

Q3. Use the following data to find the coefficient of variation

Median : 9.5

Standard deviation: 8.57

Q1= 4

Q3= 12

- a. 110.85**
- b. 90.21**

c. 93.35

d. 80

Answer: b

Q4. Use the following data to check which of following is considered an outlier

Median : 9.5

Standard deviation: 8.57

Q1= 4

Q3= 12

- a. 25
- b. 23 & 25
- c. 22
- d. None

Answer : A

Q5. If

A1= { husband has diabetes}

B1={ wife has diabetes}

A2= { husband has high blood pressure}

B2 = { wife has high blood pressures}

C = { husband has diabetes and does not have high blood pressure}

D= { wife has at least one disease}

What is the the correct statement?

a. $C = (A1 \cap \overline{A2})$

b. $D = (B1 \cup B2)$

c. A& b

d. None of the above

Q6. The prevalence of the disease is 5% and out of a 780 sample, 740 patients screened positive, and an independent sample of 1320 normal people 40 was positive. What is the specificity?

Hint : specificity $p(-/D')$ use tree diagram

- a. 0.9696
- b. 0.9212
- c. 0.9487
- d. 0.0303

Answer : A

Q7. A and B are independent if ...

- a. $(A/B) = (B)$
- b. $(A/B) = (A)$
- c. $(A \cap B) = (B)$
- d. $(A \cap B) = (A)$

Answer : B

Q8. if the mean and standard deviation equals 4 and 3 respectfully, what is the probability of X at least 3 ?

- a. 0.557
- b. 0.3694
- c. 0.6305
- d. 0.03

Q9. Cholesterol level is considered normal if $(62 < x < 120)$, mean = 92 , standard deviation =43 , what proportion of people will be considered normal ?

- a. 0.4998**
- b. 0.50016**
- c. 0.7425**
- d. 0.7573**

Answer : A

Q10. Cholesterol level is considered normal if $(62 < x < 120)$, mean = 92 , standard deviation =43 , what proportion of people will be considered abnormal ?

- a. 0.4998**
- b. 0.50016**
- c. 0.7425**
- d. 0.7573**

Answer: b

Q11. what is the 70th percentile of the following numbers ?

0,1,2,3,4,5,6,7?

- a. 7**

b. 4

c. 5

d. 2

Answer : c

Q12 .A medical research team wishes to assess the usefulness of a certain symptom(S) in diagnosing a particular disease (D).

In a random sample 780 persons with the disease, 760 had the symptom. In another independent random sample of 1380 persons without the disease, only 21 had the symptom. Given that the disease prevalence in the population is 0.001, compute.

- the symptom's false positive and false negative rates?
- the predictive value positive for this symptom?
- the specificity of the symptom?

Q13. The prevalence of the disease is 5% and out of a 780 sample, 750 patients screened positive, and an independent sample of 1320 normal people 40 was positive. What is the specificity?

a. 0.977

b. 0.970

c. 0.962

d. 0.955

Answer : B

Use the following information for Questions 14 and 15

X	Std	Q1	Q2	Q3
9.4	8.47	4	6	12

Q14. Find the CV?

- a. 90.00%**
- b. 89.89%**
- c. 90.11%**
- d. 90.21%**

Answer: C

Q15. Find the outliers ?

- a. 1**
- b. 1 and 25**
- c. 25**
- d. 23**

Answer : c

Q16. The probability of influenza 35% what is the probability at least 3 out of 7 has influenza?

- a. 0.07723**
- b.0.567**
- c. 0.4682**
- d.0.9227**

Answer : c

Q17. Mean= 4 and variance =3 , what is the probability of getting exactly 4 ? (Normal)

- a. 0.5**
- b. 0.44**
- c. 0.74**
- d. Zero**

Answer : d

Q18. the mean of birthweights for children in Jordan is 3.1 & the standard deviation is 0.81. Find the probability that the mean of birthweight for sample size 256 is Larger than 3.2?

- a. 0.02411**
- b. 0.97588**
- c. 0.033**
- d. 0.455**

Answer : a

Q19. If $p=0.015$

$N=13$

$X=522$

Calculate t test NOT continuity correction

- a. 0.997**
- b. 1.86**
- c. 0.66**
- d. 0.623**

Answer : b