

A meaningful measure of center when the data are qualitative is

A) the mean

B) the median

C) the mean, median, and mode

D) the mode

E) none of these

Qualitative data are presented graphically by

A) Bar charts and histograms

B) Pie charts and histograms

C) Only by Histograms

D) Pie or bar charts

E) Only by Pie charts

The time it takes a medical team to finish a particular surgery is normally distributed with mean 1.5 hours and standard deviation 10 minutes. The probability that the next similar surgery will last more than 105 minutes is:

- A) 0.0000
- B) 0.9332
- C) 1.0000
- D) 0.0668
- E) 0.8413

If Z is a standard normal random variable and $P(-c < Z < c) = 0.8714$, then c equals to

- A) -1.52
- B) between -1.52 and 1.52
- C) larger than 1.52
- D) 1.52
- E) smaller than -1.52

The weight of tomato paste can is normally distributed with mean 240 grams and standard deviation 8 grams. Based on this information, the 70th percentile of cans weights is:

- A) 235.84
- B) Between 235.84 and 244.16
- C) Larger than 244.16
- D) 244.16
- E) Smaller than 235.84

Given the data set 11, 13, 17, 8, 10, 8, 42, 15 then the percentage of data values below the mean is:

- A) 12.5%
- B) 37.5%
- C) 62.5%
- D) 75%
- E) 25%

A sample of 600 values produced the following summary statistics:

$Q_1 = 34.6$, $Q_2 = 43.2$, and $Q_3 = 61.4$. Based on this information, this data is

- A) mound shaped (symmetric)
- B) skewed left
- C) Bimodal
- D) skewed right
- E) not enough information

The number of 5-letter words starting with a vowel (A or E) that can be formed from the letters A, B, C, D, E **not allowing repetition** is

A) 12

B) 120

C) 24

D) 48

E) 26

The probability distribution of the number of daily accidents in a city is given by

x	0	1	2	3	4	5
p(x)	0.25	0.15	0.20	0.15	0.20	0.05

Based on this distribution, the standard deviation of the number of accidents per day is approximately

- A) 2.4
- B) 2.55
- C) 1.56
- D) 1.6
- E) 1.87

In a random experiment events A and B are independent such that $P(A \cup B) = 0.7$ and $P(A^c) = 0.4$, then $P(B^c) =$

A) $1/4$

B) $1/3$

C) $1/2$

D) $3/4$

E) $2/3$

A data set of 5 values has mean 4, where these values are 1, 2, 3, 5, x , then the standard deviation equals

- A) 2.0
- B) 10
- C) 1.58
- D) 3.16
- E) 1.87

An example of a discrete random variable is

- A) cost per credit taken by a graduate student
- B) the time it takes to assemble a car, or write a test
- C) height
- D) number of injuries in a car accident
- E) profit per dollar of a sale

Suppose that 30% of all Jordanian adults are smokers. Let X be the number of smokers in a randomly selected sample of 10 Jordanian adults. Then, $P(X < 3)$ equals

- a) 0.850
- b) 0.149
- c) 0.650
- d) 0.383
- e) 0.617

If the number of daily vacant beds in a clinic of 20 beds is distributed Binomial with mean 6, then the standard deviation of the number of vacant beds is

- A) 4.000
- B) 4.200
- C) 1.789
- D) 2.049
- E) 3.200

For the data set 4, 4, 5, 23, 12, 33, 17, 19, 14, then

- A) only 4 is an outlier
- B) only 33 is an outlier
- C) 4 and 33 are outliers
- D) there are no outliers
- E) 4, 5, and 33 are outliers

Suppose that a certain disease is present in 15% of a population of men (of age 50 or more) and that there is a screening test designed to detect this disease. If the probability of test *false positive* is 0.01 and that of test *false negative* is 0.03, then the probability of positive screening result for a man from this population is

- A) 0.1455
- B) 0.0085
- C) 0.9448
- D) 0.154
- E) 0.0552

If the number of missed calls to an office is distributed Binomial with $n=15$ calls and mean $\mu=3$, then $P(X=5)$ equals to

A) 0.134

B) 0.162

C) 0.398

D) 0.103

E) 0.939

Suppose that 20% of a population are diabetic, 15% have high blood pressure, and 25% have either one of these two diseases. An individual is selected at random from this population, the probability that he/she has **both** of the diseases is

- A) 0.75
- B) 0.35
- C) 0.50
- D) 0.10
- E) 0.15

A student prepares for an exam by studying a list of 10 questions. She can solve 6 of them. For the exam, the instructor selects 8 questions at random from this list. The probability that the student can solve exactly 5 questions on this exam is

- A) 0.6
- B) 0.8
- C) 0.625
- D) 0.533
- E) 0.467

The mean and standard deviation of a set of data are 80 and 12, respectively. Applying Chebyshev's rule, the interval that contains at least $(9/25)$ of the data within k standard deviations of its mean is

A) $[72.8, 87.2]$

B) $[70.4, 89.6]$

C) $[75.68, 84.32]$

D) $[65, 95]$

E) $[70, 90]$

The answer for each of the above questions is D.