Question 1: (0.2 point)
The best point estimate of the population mean is
A. The sample mean
B. The sample median
C. The sample mode
D. The sample midrange
Question 2: (0.2 point)
What is the number of permutations of 6 different
objects taken all together?
A. 0
C. 36
B. 1
D. 720
Question 3: (0.2 point)
What are the boundaries for 7.6–7.8?
A. 7–8
B. 7.5–7.9
C. 7.55–7.85
D. 7.65–7.75
Question 4: (0.2 point)
A statistic that tells the number of standard deviations a data value is above or below the mean is
called
A. A quartile
B. A percentile
C. A coefficient of variation
D. A z score
Question 5: (0.2 point)
How many outcomes are there in a binomial
experiment?
A. 2
B. 0
C. 1
D. It varies.
Question 6: (0.2 point)
There are 5 girls and 7 boys in a certain group of students. A sample of 3 students is chosen at
random in that group. Let X be the random variable equal to the number of boys in that sample.
Find the probability of having at least one boy in the sample.
A. 0.045
B. 0.450
C. 0.095
D. 0.955
Question 7: (0.2 point)
The number of absences per year that a student has is an example of what type of data?
A. Continuous
B. Discrete
C. Qualitative
D. Nominal
Question 8: (0.2 point)
Roll a die 3 times. What is the probability that you get different numbers?
A. 0.4444
B. 0.4445
C. 0.5556

D. 0.5555

Question 9: (0.2 point)

When one is using the standard normal distribution,

$P(z < 0) =$

A. 0

B. 1

C. can not determine

D. 0.5

Question 10: (0.2 points)

Blood plasma nicotine levels in smokers can be assumed to have the normal distribution with mean 315 ng/ml (nanograms per millilitre) and standard deviation 131 ng/ml. Calculate the probability of a randomly selected smoker with the nicotine level below 375.

A. 32.28%

B. 67.72%

C. 66.28%

D. 33.72%

Question 11: (2 points)

A television news director wishes to use 3 news stories on an evening show. One story will be the lead story, one will be the second story, and the last will be a closing story. If the director has a total of 7 stories to choose from, how many possible ways can the program be set up?

Question 12: (2 points)

In a clinical experiment two different types of analgesics A and B have been given to 100 patients. At the end of the treatment, 65 patients preferred A, and 35 preferred B.

Calculate the confidence interval of the proportion of preferences of analgesic A with a confidence level equal to 0.99.

Question 13: (2 points)

Each month, a Vietnamese household generates an average of 15 pounds of newspaper for garbage or recycling. Assume the standard deviation is $\sigma=1$ pound. If a household is elected at random, find the probability of its generating between 14 and 17 pounds per month.

Question 14: (2 points)

A medical researcher suspects that a new medication will have the undesirable side effect of increasing the pulse rate. In a sample of 81 patients, he observed that the average pulse rate is 86 bpm (beats per minute). Assume that the sample is taken from a population with the average pulse rate of 84 bpm and standard deviation $\sigma = 9$. At $\alpha = 0.05$, test this hypothesis using the traditional method.

----------- THE END -----------