WS 4

Name_____

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

Provide an appropriate response.

1) State whether the variable is discrete or continuous. 1) _____
The height of a player on a basketball team
A) continuous B) discrete

2) State whether the variable is discrete or continuous. 2) _____
The number of cups of coffee sold in a cafeteria during lunch
A) continuous B) discrete

3) The random variable x represents the number of cars per household in a town of 1000 households. 3) _____
Find the probability of randomly selecting a household that has between one and three cars, inclusive.

Cars	Households
0	125
1	428
2	256
3	108
4	83

A) 0.256 B) 0.125 C) 0.792 D) 0.208

4) Determine the probability distribution's missing value. 4) _____
The probability that a tutor will see 0, 1, 2, 3, or 4 students

x	0	1	2	3	4
P(x)	0.01	0.04	0.37	0.34	?

A) -0.29 B) 0.24 C) 0.95 D) 0.76

SHORT ANSWER. Write the word or phrase that best completes each statement or answers the question.

5) Determine whether the distribution represents a probability distribution. If not, identify any requirements that are not satisfied. 5) _____

x	P(x)
3	-0.3
6	0.5
9	0.1
12	0.3
15	0.4

6) Determine whether the distribution represents a probability distribution. If not, identify any requirements that are not satisfied. Also, the sum of the probabilities does not equal one. 6) _____

x	P(x)
1	1.2
2	1.2
3	1.4
4	1.1
5	1.1

MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.

7) The random variable x represents the number of credit cards that adults have along with the corresponding probabilities. Find the mean and standard deviation. 7) _____

x	P(x)
0	0.07
1	0.68
2	0.21
3	0.03
4	0.01

A) mean: 1.23; standard deviation: 0.44
B) mean: 1.23; standard deviation: 0.66
C) mean: 1.30; standard deviation: 0.32
D) mean: 1.30; standard deviation: 0.44

8) In a recent survey, 80% of the community favored building a police substation in their neighborhood. If 15 citizens are chosen, what is the mean number favoring the substation? 8) _____
A) 10 B) 12 C) 8 D) 15

9) The probability that an individual is left-handed is 0.15. In a class of 70 students, what is the mean and standard deviation of the number of left-handers in the class? 9) _____
A) mean: 10.5; standard deviation: 3.24
B) mean: 10.5; standard deviation: 2.99
C) mean: 70; standard deviation: 3.24
D) mean: 70; standard deviation: 2.99

10) A test consists of 10 true or false questions. To pass the test a student must answer at least eight questions correctly. If the student guesses on each question, what is the probability that the student will pass the test? 10) _____
A) 0.8 B) 0.08 C) 0.20 D) 0.055

11) A test consists of 10 multiple choice questions, each with five possible answers, one of which is correct. To pass the test a student must get 60% or better on the test. If a student randomly guesses, what is the probability that the student will pass the test? 11) _____
A) 0.006 B) 0.060 C) 0.205 D) 0.377

12) The probability that a tennis set will go to a tie-breaker is 20%. What is the probability that two of three sets will go to tie-breakers? 12) _____
A) 0.2 B) 0.04 C) 0.096 D) 0.384

1) A
2) B
3) C
4) B
5) Not a probability distribution. A probability value cannot be negative.
6) Not a probability distribution. A probability value cannot be greater than one.
7) B
8) B
9) B
10) D
11) A
12) C