Course No: BUS 2201
Course Title: Applied Statistics
Date: 05/01/2012
No. of Questions: (4)
Time: 2 hours
Using Calculator (No)

University of Palestine

Final term Exam
FALL 2011/2012
Total Grade:

Instructor Name: Wael AbuShammal
Student No.: _____
Student Name: _____
College Name: _____
Dep. / Specialist: _____
Using Dictionary (No)

Question One:

(15 Points) Consider the experiment of flipping a coin three times and recording if the result is head or tail.

A. Find the sample space.

B. Find the probability of the event that at least 2 tails will occur.

C. If X is the random variable of the number of heads that occur, find all possible values for X.

D. Find the probability distribution of X.

E. Find the probability of X greater than or equal to 1.

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Question Two:

(15 Points) The probability distribution of a random variable X is given in the following table. Use the table to answer the following questions.

X	P(X= x)
-1	0.1
0	0.2
1	0.1
2	0.3
3	0.3

A. Find $P(X \geq 1)$.

B. Find E(X).

C. Find the standard deviation of X.

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Question Three:

(15 Points) A student takes a 10 questions multiple-choice quiz and guesses each answer. For each question, there are 4 possible answers, only one of which is correct. If we consider "success" to be getting a question right and consider the 10 questions as 10 independent trials, then the random variable *X* representing the number of correct answers will be binomially distributed with $n=10$, $p=\frac{1}{4}$, and $q=\frac{3}{4}$. Answer the following questions.

A. Find the probability that the student will get exactly 4 problems correct.

B. Find the probability that the student will get at least 8 problems correct.

C. Find E(X).

D. Find the standard deviation of X.

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Question Four:

(5 Points) The height *h* (in inches) of a randomly selected woman is approximately normally distributed with a mean of $\mu = 63.5$ and a standard deviation of $\sigma = 2.75$ inches. Find the probability that a woman selected at random is less than 63 inches tall. Given that

z	$P(Z \leq z)$
1.28	0.8997
-0.18	0.4280
-0.47	0.3192

End of Questions
Good Luck