Quiz 3 Name: _____

Math 1040-1

June 15, 2012

Directions: Show all work for full credit. Clearly indicate all answers. Simplify all mathematical expressions completely. Unless otherwise directed, give each decimal approximation rounded to at least three decimal places.

1. Consider the experiment carried out by flipping a fair coin, then rolling a fair (six-sided) die.

   (a) Draw a tree diagram for this experiment. (9 points)

   (b) What is the probability that you get heads on the coin and roll an even number? (6 points)

2. The access code for a garage door consists of three digits. Each digit can be any number from 0 to 9, and each digit can be repeated.

   (a) What is the probability of randomly selecting the correct access code on the first try? (7 points)

   (b) What is the complement of the event in part 2a? What is the probability of this event? (8 points)

3. The table shows the results of a survey in which 146 families were asked if they own a computer and if they will be taking a summer vacation during the current year.

		Summer Vacation This Year		
		Yes	No	Total
Own a Computer	Yes	87	28	115
	No	14	17	31
	Total	101	45	146

(a) Find the probability that a randomly selected family is taking a summer vacation this year. (8 points)

(b) Find the probability that a randomly selected family is taking a summer vacation this year, given that they own a computer. (8 points)

(c) Are the events "owning a computer" and "taking a summer vacation this year" independent of dependent events? Explain. (6 points)

4. Two cards are selected from a standard deck without replacement. What is the probability that a spade is selected for the first card, then a heart? (8 points)