Name:_____ **6/19/2017**

Math 173 Introduction to Probability and Statistics **Quiz 2**

1. A sample space consists of 6 events with the following probabilities.

$$P(E_1) = .05, \quad P(E_2) = .1, \quad P(E_3) = .1, \quad P(E_4) = .15,$$

$$P(E_5) = 4P(E_6)$$

   (a) Find the probabilities of simple events E_5 and E_6.

   (b) Find the probabilities of the following events.

$$A = \{E_1, E_2, E_4\}, \quad B = \{E_4, E_5, E_6\}$$

2. A bowl contains two red and two blue balls. Two balls are randomly selected and their colors recorded. Use a tree diagram to list the 12 simple events in the experiment, keeping in mind the order in which the balls are drawn.

3. In how many ways can a committee of 9 people select a president, vice president, and treasurer?

4. In how many ways can a committee of 9 people select a sub-committee of three people? (All positions on the sub-committee are the same.)

5. An experiment consist of randomly choosing 3 marbles from an urn that contains 4 red and 5 blue marbles.
   (a) How many simple events are there in the sample space?

   (b) How many simple events result in choosing 3 blue marbles?

   (c) What is the probability of randomly choosing 3 blue marbles?