Exam 2 Review Questions

COUNTING

1. You are dealt a hand of 5 cards. How many ways can you be dealt at least 3 hearts?

2. Three families are going to a basketball game together. The Smith family has 3 members, the Jones family has 4 members and the Farmer family has 6 members. How many ways can these 13 people be seated in a row if members of the same family sit together?

3. A mantel is being decorated for Spring. There are 9 decorations: 1 large bunny, 4 identical baby bunnies, a pair of identical candlesticks and 2 different plants. How many distinguishable ways can these decorations be arranged?

4. A bag has 5 pennies, 4 dimes and 6 quarters. Four coins are chosen at random from the bag
   a. How many ways can the chosen coins be all quarters?

   b. At least one penny

   c. How many ways can the chosen coins have exactly 3 pennies or exactly 1 dime?

5. How many ways can a class of 18 students be put into 3 groups of 6 students?

BASIC PROBABILITY

1. A cup has one gold, one silver and one bronze coin in it. A single coin is chosen at random from the cup. How many events for this experiment contain a gold or silver coin?

2. A letter is chosen at random from the word WOOD. How many outcomes are in the uniform sample space for this experiment

3. Two fair six-sided dice are rolled. What is the probability that the sum is greater then 10 or at least one 5 is showing?

4. A class has 150 students and the maximum grade possible in this class is 100. Eleven students had a grade of 90 or more. Forty-one students had grades of 80 or more. Fifty-seven students had a grade that was greater than or equal to 60 but less than 70. Ten students had grades less than 60. Organize this information in a probability distribution table.

4. A coffee shop finds that 44% of its customers do not order coffee, 16% order only coffee, and 6% order only a muffin. What is the probability that a randomly selected customer will order coffee or a muffin?