Math 1031, Self-Evaluation Exercise 4
December 4, 2009

Name: _____

Discussion Section: _____

Discussion TA: _____

This exercise is for your practise. There are six open-ended problems. Give yourself 20 minutes to complete the exercise, and see how you do.

1. Dan, Yun, and Ben walk into McDonalds. Each picks one of these five options: hamburger, cheeseburger, chicken nuggets, grilled chicken sandwich, or a happy meal. What is the probability that at least one of them chooses a happy meal?

2. Out of 100 undergraduates, 15% are majoring in math, 10% are majoring in music, and 5% are double majoring in math and music.

   (a) What is the probability that a person from this group is majoring in math or music?

   (b) What is the probability that a person from this group is majoring in math, given that he or she is majoring in music?

   (c) Are the two events (majoring in music and majoring in math) dependent or independent?

3. When you go home for break, your little brother challenges you to the following game. You are to draw a card at random from a deck. If you draw an ace he will pay you $15, if you draw a face card (K,Q, or J), he will pay you $10, but if you draw any other card, you will have to pay him $5. Is this a fair game?

4. Each barista at Espresso Royale picks his or her favorite drink from these seven options: espresso, almond latte, hazelnut latte, hot chocolate, hot tea, smoothie, iced chai. What is the probability that Hannah picks one of the hot drinks, Rachel picks one of the lattes, and Genevieve picks an almond latte?

5. Seventy percent of patients report that a certain medical treatment is beneficial. If Fairview gave this treatment to 10 patients this year, what is the probability that exactly seven of those patients found the treatment beneficial?