Math 206 - Quiz 4

Name _____

September 29, 2010

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (2 points) A jar contains 4 quarters, 7 dimes, and 1 nickel. Two coins are selected at random without replacement.

   (a) What is the expected value?

   (b) What are the odds in favor of selecting more than 30 cents?

2. (1 point) Design a game at which you could win \$100, \$10, or \$1, each with a different probability. If your game is to be fair, how much should it cost to play?

3. (2 points) Design a simulation that could be used to estimate the solution of the following problem.

> Collectors estimate that the probability of getting a rare Cyclops Bean in a single package of Mighty Beanz is 0.10. If a collector buys 7 packages, what is the probability that the collector gets two or more Cyclops Beans?

Perform ten trials of your simulation and use your results to estimate the probability.