Technology Project 4

Randomness and Probability

Group Members: 1. _____

2. _____

3. _____

Follow the Minitab instructions under the technology exercises link on the website for information about how to do the simulations.

1. Create a contingency table for the race and sex of the respondents to the 2000 General Social Survey. Use the table to answer these questions.
   a. Create a joint probability distribution.
   b. Make a conditional probability for race.
   c. Make a conditional probability for sex.
   d. What is the probability that a randomly selected person will be of another race besides white or black?
   e. What is the probability that a randomly selected person will be a white female?
   f. What is the probability that a randomly selected person will be a white or a female?
   g. What is the probability that a randomly selected male will be black?
   h. What is the probability that a randomly selected black will be male?
2. Demonstrate the Law of Large numbers by generating 1000 values with a probability of _____. Do this four times and place all four graphs on the same graph. Describe what the Law of Large numbers says and how this graph demonstrates that.
3. In Technology Project 3, we learned that Jalen Rose of the Chicago Bulls averages 19 field goal attempts per game and makes 40.6% of his attempts.
   a. Explain why the binomial distribution is appropriate for the number of shots made.
   b. Create a probability distribution for the number of shots made during an average game.
   c. Graph the probability distribution.