Math 107 Section 3.2

Name: _____

Probability

This is a notes worksheet for 3.2. Please take notes from the book on all vocabulary, underlined concepts, and then work with your groups to answer the questions to the best of your ability. We will go through these thoroughly tomorrow.

Experiment:

Sample Space:

Event:

Probability:

Odds:

Example: Experiment = rolling a die

Sample Space =

Event = rolling a 3 or a 4

Probability = (num. of times event happens)/(total outcomes)

Odds = (num. of times event happens):(num. of times event does not happen)

1. Ariana's chain occasionally falls off of her bike during her 5-mile commute to work. If this happens, what is the probability that it does so during the last mile of her commute? Assume that the probability of the chain falling off during any given mile is equally likely.

2. A couple just got married and plans on having 3 children. Is it more likely that they have a) three children of the same gender, or b) a mix of boys and girls? Assume that there is an equal probability of having boys and girls.

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Relative Frequency:

Law of Large Numbers:

3. Using a standard deck of playing cards (no jokers), what is the probability that you draw the following. A deck of cards is on the projector. Use it to help count the total number of cards, and the probabilities below. Assume that for each of these below, you are pulling a single card from a well shuffled deck of cards. Each of these is a separate problem.

   a) The probability of pulling a red card.

   b) The probability of pulling a black card.

   c) The probability of pulling a spade.

   d) The probability of pulling a 4.

   e) The probability of a red 4 or a black Jack.

   f) The probability of pulling a 7 of hearts.

   g) The probability of a face card.

   h) The probability of an ace or a 10.

   i) The probability of a card higher than 7 (assume Aces are high)