Probability Project – AFM

In groups up to four, you are to design one carnival midway game based on the concepts of probability that we discuss in class. For example, you may design a card game, game using dice or spinners, the use of a random draw, etc similar to those discussed in class (note: no games where an object is thrown/shot will be allowed for the purposes of this project).

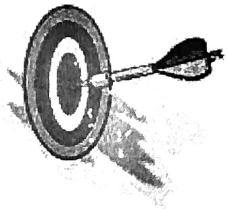
A description of each game is required. Include rules for playing the game, what constitutes winning or possible outcomes (if there is more than one way to win or lose). Include a list of the materials needed to create the game *and* a visual of the game. Tell me how much it costs to play your game and the value of the prizes that you are giving away. Note: This will help you with expected value!

You should calculate the theoretical probability and the empirical probability (supported with empirical data, using a minimum of 50 trials, accompanied by a table of results). If there are multiple winning/losing conditions, you need to find the probability for each of these, not just the probability of 'a win'. Find the expected value of your game, using your game's cost and the theoretical probabilities that you have calculated.

Your group is expected to create a flyer for their game to *describe* the game and promote carnival attendance. The flyer should have writing large enough to be seen far away – and it should be colorful and creative.

This will count as a TEST GRADE!!!!

Project Submission & Presentation Date:
Monday, February 18th



The grading RUBRIC must be turned in with the project!

Probability Project Rubric

With your group, you are to design one carnival midway game based on the concept of probability that we discussed in class. For example, you may design a spinner game, dice game, or a card game similar to those discussed in class.

You must have **EACH of the items** listed below for your **game**!! ☺

Items	Possible Points	Points Earned	Name of person responsible for completing
Title Page (Typed) (names, date, title, etc…)	5		
Introduction (Typed) (overall summary of game, maybe why you chose that particular type of game, etc)	10		
Game Descriptions (Typed) Materials List Rules of the games (detailed) How/What do you win? Cost of game, Value of Prizes	10		
Calculations: Theoretical Probability Empirical Probability Empirical data Expected Value	20		
Flyer (separate page) Colorful & Creative	5		
Visuals (game board, dart board, cards, spinner, etc…)	15		
Oral Presentation Description of the game, what you used, how it works, etc.	30		
Level of Difficulty Thought, time, EFFORT, creativity, etc	5		