



# The Carnival Project!



Group Members: \_\_\_\_\_

Game : \_\_\_\_\_

<p><b>Proposal:</b> Group turns in a proposal that includes but is not limited to the following. The proposal should be written in complete sentences.</p> <ul style="list-style-type: none"> <li>• What is the game and how is it played?</li> <li>• How do you win? What can you win?</li> <li>• How much are you planning on charging?</li> <li>• Include a diagram of what it will look like</li> <li>• What supplies will you need to make the game?</li> <li>• Why do you think your game will make the biggest profit?</li> </ul>	<p>15 points total</p> <p>Due on 9-5</p>	
<p><b>Theoretical Probability:</b></p> <ul style="list-style-type: none"> <li>• List all possible outcomes for your game (including not winning at all) and determine the theoretical probability of each outcome</li> <li>• Include math/justifications for how you determined each probability</li> </ul>	<p>10 points total</p> <p>Due on 9-18</p>	
<p><b>Expected Value:</b></p> <ul style="list-style-type: none"> <li>• Using cost of each prize, determine the expected value of playing your game <b>once</b>. Remember that not winning at all is an outcome and needs to be included in your expected value.</li> <li>• Include math/justifications for how you determined this</li> </ul>	<p>10 points total</p> <p>Due on 9-18</p>	
<p><b>Carnival Day!</b></p> <ul style="list-style-type: none"> <li>• You are set up ON TIME</li> <li>• Someone is running your game at all times</li> <li>• Your game is well constructed</li> <li>• Your game is organized</li> <li>• You kept accurate records of each play of your game</li> <li>• It is clear how to play, how to win and what the prizes are</li> <li>• You have a minimum of 30 trials</li> </ul>	<p>20 points total</p> <p>Due on 9-20</p>	
<p><b>Experimental Probability:</b></p> <ul style="list-style-type: none"> <li>• Determine the experimental probability of each event from carnival day</li> <li>• Include math/justifications for how you determined this</li> </ul>	<p>10 points total</p> <p>Due on 9-21</p>	

<p><b>COMPARE: Theoretical v. Experimental probability</b></p> <ul style="list-style-type: none"> <li>• Compare what you thought would occur (theoretical) with what actually occurred (experimental). Did the probabilities increase? Decrease? Or stay the same? Give reasons for why this may have occurred.</li> </ul>	<p>10 points total</p> <p>Due on 9-21</p>	
<p><b>COMPARE: Expected Value v. Actual Profit</b></p> <ul style="list-style-type: none"> <li>• Take your expected value and multiply it by the number of trials that <b>actually occurred</b> on carnival day</li> <li>• To determine your actual profit take the money your earned on carnival day and subtract the money spent on prizes (show your math)</li> <li>• Compare that expected number to your actual profit. Was your profit higher or lower than your expected value? Give reasons why this may have occurred.</li> </ul>	<p>10 points total</p> <p>Due on 9-21</p>	
<p><b>Report/Reflection (2 parts)</b></p> <p>Part 1: Report (10 points)</p> <p>You are trying to sell your game to an executive at Six-Flags for them to use in all of their theme parks. Type a letter to the president of sales describing why he/she should purchase your game. Be convincing by using data and expected value/profit to back up your point.</p> <p>Part 2: Reflection (5 points)</p> <ul style="list-style-type: none"> <li>• What went well for you in this project? What didn't go so well?</li> <li>• If you were to do this project again, what would you change?</li> <li>• What would you recommend to next semester's seniors before starting this project</li> <li>• What did you learn from doing this project?</li> </ul>	<p>15 points total</p> <p>Due on 9-21</p>	