



The Carnival Project!



Group Members: _____

Game : _____

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

<p>COMPARE: Theoretical v. Experimental probability</p> <ul style="list-style-type: none"> • 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. 	<p>10 points total</p> <p>Due on 9-21</p>	
<p>COMPARE: Expected Value v. Actual Profit</p> <ul style="list-style-type: none"> • Take your expected value and multiply it by the number of trials that actually occurred on carnival day • To determine your actual profit take the money your earned on carnival day and subtract the money spent on prizes (show your math) • 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. 	<p>10 points total</p> <p>Due on 9-21</p>	
<p>Report/Reflection (2 parts)</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"> • What went well for you in this project? What didn't go so well? • If you were to do this project again, what would you change? • What would you recommend to next semester's seniors before starting this project • What did you learn from doing this project? 	<p>15 points total</p> <p>Due on 9-21</p>	