

## **IM3 Probability ASSESSMENT – Casino Games**

You are to design a “game of chance” that will be used on our CASINO DAY during the week of May 24 – May 28. The game should be the type of game that you would play at a carnival, amusement park or casino. It cannot be a game that already exists, your group must create a unique game. You must be able to explain the probabilities in your game, so don’t make it too complicated! Likewise, the game should be designed such that it offers the player an opportunity to win, to lose and to break even, but more importantly to have fun and enjoy this gaming activity!!

### **Final Products:**

1. **Game** – Include all game boards, playing pieces, cards, balls, etc. that are required for your game.
2. **Instructions** - You must create a poster to clearly explain your game. They must be easy to follow so that anyone can read them, understand them and begin playing your game.
3. **Write-Up** – See below.
4. **TV Commercial** - Each group will create a 30 second video commercial for their game. Be creative!

### **The Write-Up**

1. Introduction - Provide an overview of your game. **(1 Per Group)**
  - ✓ What type of game is it?
  - ✓ Where would you play this type of game?
  - ✓ How much does it cost to play?
  - ✓ What are the prizes if you win?
2. Instructions - Step-by-Step instructions for how to play the game (Poster). **(1 Per Group)**
3. Game Description – What do you need to play the game? **(1 Per Group)**
  - ✓ List all materials needed to play (dice, spinner, darts, ball, etc.)
  - ✓ Draw picture of your game board, if necessary
  - ✓ The rules should be fairly easy to follow and understand
  - ✓ The rules and “pay-offs” should be presented on a large poster that is set up at your casino table
4. Probability Analysis **(1 Per Group)**
  - ✓ Your “team” must know each possible outcome in your game.
  - ✓ Your “team” must know the probability of each outcome that is possible in your game.
  - ✓ Your “team” must know the “expected value/return” of the game.
  - ✓ Is the game fair? Show the mathematical calculations for the expected value of winning the game.
  - ✓ If the game is not fair, how could you change the game to make it fair?
5. Reflection – Each student must write a 1-page reflection **(1 Per Person)**
  - ✓ What were your overall feelings about this project?
  - ✓ Did this project help you understand the topic of probability any better?
  - ✓ How did your group work together?
  - ✓ Were there any group members that didn’t pull their weight? Any group members who tried to boss the group around?
  - ✓ Relevance: What have you learned about “Fair Games”? What is your opinion about Las Vegas and the gaming industry? Do you think it’s fair to have establishments designed for people to lose money? What is your opinion on the lottery? Would you advise your grandmother to play? What do you think about Indian gaming casinos?