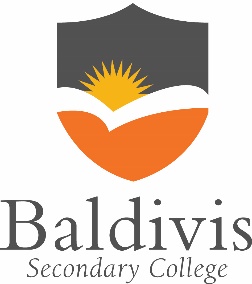
**Mathematics Methods Unit 3 & 4**

# Investigation

**The Mathematics of Gambling**



**Weigthing 10% Due Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**BACKGROUND INFORMATION:**

“While it may seem obvious what gambling is, emerging technology has blurred the lines to expand the range of ways people gamble. Traditionally gambling is an activity where someone risks money or belongings, there is an element of randomness or chance involved and the purpose is to win.” (Gambling Help Online, 2018)

A misunderstanding or poor knowledge of probability and statistics often leads gamblers to think they can beat the system/casino/house/draw/cards/dice etc.

**TASK:**

Part A

Investigate some of these misunderstandings, such as the Gambler’s Fallacy and write a short report on your findings.

Part B

Design your own original game for the local fair which is raising money for charity. You will need to show all relevant calculations as to whether your game is expected to make a profit or a loss, and give examples of how some of the above misunderstandings may apply to your game (perhaps to your advantage).

Your report should include the following:

• an outline of the problem, context and question you are investigating

• the method or strategy required to investigate the problem,

• the application of the mathematical methods, models or strategies, including

– relevant data, information and considerations

– mathematical calculations and results, using appropriate representations

– the analysis and interpretation of results, including consideration of any assumptions and the reasonableness and limitations of the results

• the results and conclusions in the context of the problem.

A bibliography and appendices, as appropriate, may be used**.**

Gambling Help Online, (2018), retrieved 17/07/2020 from <https://www.gamblinghelponline.org.au/understanding-gambling/what-is-gambling>

Investigation adapted from Manea Senior College.