**Maths Exercise**

Please read through the Major Luck Brief and use the Remember, Remember maths excel sheet as a guide to assist in answering the questions. Please only focus on one RTP version, if you cannot display the stats and/or workings out then describe how you would verify or build the feature.

1. Propose a paytable for the base game with reel bands, calculations and/or describe how you would verify the payouts and stats.
2. Propose each of the 20 win lines with reasons why those lines were chosen.
3. If the game brief stated this to be an all-ways slot and not 20 win lines, how many ways would there be in the base game? Please show how you calculated this.
4. In the brief it states the target RTP for the 3 in-reel modifiers is 23% with an overall hit rate of 1 in 125 to trigger any modifer. Create a table showing a breakdown of the hit rate, chance and RTP allocation for each modifier.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Modifier** | **Weight** | **Chance** |  | Chance: |  |
| None |  |  |  | Hit rate (any mod): |  |
| Random Wild |  |  |  |  |  |
| Mega Symbols |  |  |  |  |  |
| Jackpot Wheel |  |  |  |  |  |
|  |  |  |  |  |  |

1. Propose the weightings for the bonus wheel when getting 3, 4 or 5 bonus symbols, please see example table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Bonus x3** | Avg Win | Weight | Chance | Value |
| Minefield |  |  |  |  |
| Freespins 1 |  |  |  |  |
| Freespins 2 |  |  |  |  |
| Jackpot Wheel |  |  |  |  |
|  |  |  |  |  |

1. Design the buy bonus functionality with buy in price and chances for both options. Below is a table to show the results for the Buy bonus chance.

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | **Buy Bonus Chance** | | | |  | |  |  |
|  | |  | |  | |  | |  |  |
|  | |  | | **Weight** | | **Chance** | | **Value** |  |
|  | | Minefield | |  | |  | |  |  |
|  | | Freespins 1 | |  | |  | |  |  |
|  | | Freespins 2 | |  | |  | |  |  |
|  | | Jackpot Wheel | |  | |  | |  |  |
|  | |  | |  | |  | |  |  |
|  | |  | |  | |  | |  |  |
|  | | Cost | | 35 | |  | |  |  |
|  | | RTP | | 95% | |  | |  |  |
|  | |  | |  | |  | |  |  |
|  | |  | |  | |  | |  |  |
| **Number of Sectors** | **Outcome** | | **Section size** | |  | |
|  | Minefield | |  | |  | |
|  | Freespins 1 | |  | |  | |
|  | Freespins 2 | |  | |  | |
|  | Jackpot Wheel | |  | |  | |
|  |  | |  | |  | |

1. Suggest quick solutions on how to produce 92% and 88% RTP variants from a 96% version.
2. Please design or describe how you would create the maths for one of the following features: Mod 1, Mod 2, FS1 or FS2.