# GMCalc Grammar

<EQUATION> → <EXPR>

<EXPR> → <DICE\_MULTIPLIER><DIE><MODIFIER> |

<DICE\_MULTIPLIER><DIE> |

<DIE><MODIFIER> |

<DIE> |

<SUB\_EXPR><OPERATOR><SUB\_EXPR> |

<SUB\_EXPR>

<VALUE>

<SUB\_EXPR> → “(“ <EXPR> ”)” |

<EXPR>

<DICE\_MULTIPLIER> → <SUB\_EXPR> |

<VALUE>

<DIE> → (“d” | “D”)<SUB\_EXPR> |

(“d” | “D”)<VALUE>

<MODIFIER> → <OPERATOR><SUB\_EXPR> |

<OPERATOR><VALUE>

<OPERATOR> → “+” |

“-“ |

“\*” |

“/” |

“%”

<VALUE> → <VALUE\_REFERENCE> |

[1-9]<DIGIT>\*

<VALUE\_REFERENCE> → [aZ]<CHAR>\*

<DIGIT> → [0-9]

3d10+2 => <DICE\_MULTIPLIER>

- <VALUE>

- “3”

<DIE>

- “d”

- <VALUE>

- “1”

- <DIGIT>

- “0”

<MODIFIER>

- <OPERATOR>

- “+”

- <VALUE>

- “2”

1d20+Dex+Buff+Penalty =>

- <DICE\_MULTIPLIER> -> <VALUE> -> “1”

- <DIE>

- “d”

- <VALUE>

- “2”

- <DIGIT>

- “0”

- <MODIFIER>

- <OPERATOR>

- “+”

- <SUB\_EXPR>

- <EXPR>

- <SUB\_EXPR>

- <EXPR>

- <VALUE>

- <VALUE\_REFERENCE>

- “Dex”

- <OPERATOR>

- “+”

- <SUB\_EXPR>

- <EXPR>

- <SUB\_EXPR>

- <EXPR>

- <VALUE>

- <VALUE\_REFERENCE>

- “Buff”

- <OPERATOR>

- “+”

- <EXPR>

- <VALUE>

- <VALUE\_REFERENCE>

- “Penalty”