

MATH 1342: Extra Credit for Homework 3

Reminders:

- Extra Credit questions are difficult and involve more work than a standard homework question.
- You will receive up to 10% additional points (not to exceed full credit) on the related Homework Assignment only. Keep in mind for an assignment graded out of 10 to 20 points, this is only 1 or 2 additional points.
- Unlike assigned homework questions, extra credit questions should not be brought to your instructor or to tutoring services for assistance.
- Correct Answers with valid explanation of your process will receive credit only.
- These are due the Sunday following their related Homework assignment by 11:59 pm. Submit
- Answers to <https://forms.gle/yw89xJe8PBrqvF5J7> (Late Answers will not be accepted.)

In a board game, you are required to roll a multi-sided (non-standard sides) die each turn in order to proceed. The probability of rolling successfully on each turn is not affected by previous turns, and the game has a set number of turns to be played before ending. Your probability of a successful roll on every turn of play is 0.00004484033 while your probability of rolling unsuccessfully on every turn of play is 0.484262162. What is your probability of being within one standard deviation of the expected number of successful rolls of the die? Present your answer rounded to four decimal places.