The Game

The game is simple, you start at the bottom of a staircase, your goal is to reach step 60. The rules are simple:

You roll one die and move either up or down depending on the number rolled.

1 or 2: Up one step

3, 4, 5: Down one step

6: Roll again and do as follows:

1, 3, 5: Up one step

2, 4, 6: Down on step

There is a 0.01% chance that you fall during your move. If you fall, you fall the way to the bottom.

What are the odds that you’ll win this game if given 100 rolls of the die?