Homework-6

Consider the gambling problem we discussed in the class. We have noted that absorption into state 0 or 4, i.e., loss and win, is guaranteed. With your current knowledge of Markov chain, try to obtain probability of loss and win if the starting state is 2. Also, determine the expected length of the game (i.e., the number of rounds the game lasts). *Hint: Proceed along the way in which guaranteed absorption was established in this chain from $X_0 = 2$.*