

1. In the 2018-2019 NBA season, the Golden State Warriors won 57 out of 82 games, which is a 70% likelihood of winning. Using this information, the Golden State Warriors plays the five games of the 2019-2020 season. Assuming that the outcomes of the games are independent from each other. Let X denote the number of games that the Golden State Warriors wins in the first five games of the 2019-2020 season.
 - (a) (3 points) Write the distribution of X .
 - (b) (3 points) Find the probability that the Golden State Warriors wins 4 out of the 5 first games in the 2019-2020 season.
 - (c) (3 points) Find the $E(X)$.
 - (d) (3 points) Find the $Var(X)$.
2. In the 2018-2019 NHL season, the Colorado Avalanche won 38 out of 82 games, which is a 46% likelihood of winning. Using this information, the Colorado Avalanche plays the first three games of the 2019-2020 season. Assuming that the outcomes of the games are independent from each other. Let X denote the number of games that the Colorado Avalanche wins in the first three games in the 2019-2020 season.
 - (a) (3 points) Write the distribution of X .
 - (b) (3 points) Find the probability that the Colorado Avalanche wins 2 out of the 3 first games in the 2019-2020 season.
 - (c) (3 points) Find the $E(X)$.
 - (d) (3 points) Find the $SD(X)$.