Optional Challenge Problems

Problem 1 Suppose you roll 2 dices at the same time.

1. List the number of possible outcomes for a sum of 7.
2. Calculate the probability of rolling a 7.
3. Similarly, calculate the probability for all numbers from 2 to 12.
4. Based on these calculation, do you have a better strategy for playing the Remove-One game that we played in the beginning of the class?

Problem 2 Suppose you draw 2 cards at the same time from a deck of 52 cards, (without replacement).

1. What’s the probability of 2 cards being both hearts.
2. What’s the probability of 2 cards being the same number (including J, Q, K).
3. What’s the probability of 2 cards being in different suits and different numbers at the same time?