The Art of War

Rules: Each player is given 5 cards, one each of Ace, King, Queen, Jack, 10. They are flipped over one at a time. The higher of the two cards wins, and ties are allowed. No cards are actually traded (so it’s not like real war in that way).

The winner is the player who has more wins among their five flips. Ties are possible.

Mix up your five cards before playing. Does it make a difference if only one players mixes his cards, and one turns over Ace, King, Queen, Jack, 10 in order?

You should player at least 5 rounds and record what happens before trying to answer the questions. You can play more if you like.

Questions:

1) What are the chances of having 5 ties?

2) What are the chances of having exactly 4 ties?

3) What are the chances of having 0 ties?

4) What are your chances of having 5 wins?

5) What are the possible outcomes for one player? (For example, 5 wins, 4 wins, 1 loss, 3 wins, 2 losses and 1 tie, etc.)

6) What outcome do you expect to be most likely? For example, is a 3-2 split (3 wins and 2 losses + 2 wins and 3 losses), more likely than 2-2-1 (2 wins, 2 losses, and 1 tie)? (This is hard.)