# MSJ Math Club
## Cards!
24 September 2015

## 1  Trick-Taking Games

Most of the card games we will be dealing with involve trick-taking. A **trick** is basically one hand of play. You guys all know that a deck of cards has 52 cards, with 4 suits and 13 values in each suit. In trick-taking games, when someone plays a specific suit, say spades, then everybody else *must* follow suit. That means that if I start with spades and you have a spade, you *must* play a spade. The highest value played in the starting suit will win the trick and lead the next hand.

If you are *void* of spades, and someone starts with spades, then you are allowed to play any other suit you like. However, the only way you win a trick is if you play the highest value of the starting suit, so if you are *void* of the starting suit and you play off-suit, there is no way you can win that trick.

**Trumps** In some games, there is a **trump** suit. This suit is higher than all other suits. For example, if diamonds are trump, then you can think of there being two levels: the lower level of spades, clubs, and hearts, and the higher level of the diamond trump suit. When someone *flushes* trump, it means they are playing a trump card, forcing you to play a trump card, which effectively *flushes* you out of trump (making you void).

Let's say for example that hearts are now trump. If someone leads with a club, and I am void of clubs but I have hearts, I am allowed to play a heart to *trump*. Since hearts are trump (the highest suit), even though I played off-suit, I still win the hand, provided that no one trumps higher than me.

## 2  Napoleon

Napoleon is a **5-player game**. In this game, face cards (J, Q, K, A) are points, so there are a total of 16 points. There are 52 cards and 5 people, so each person is dealt 10 cards in the beginning. Then they bid for how many face cards they think they can take. The highest bidder (Napoleon) will be able to call a trump suit, take the 2 cards in the middle, and switch out 2 cards. After that, the Napoleon calls a Secretary card, so whoever has this Sec card becomes his Secretary. Only the Secretary knows who he/she is. The Napoleon wins if Nap/Sec take at least what the Napoleon called in the beginning, and lose otherwise.

Gameplay starts with Napoleon's first move, and the game progresses like a regular trick-taking game with the trump that the Napoleon called. The important thing to note is that *the Sec card can be played at any time and beats all other cards and cannot be flushed out.* In particular, if the Sec card is the Ace of clubs, and the only club you have is an Ace, and the Napoleon plays a club, you are technically *void* of clubs, so you can play any other suit you want.

## 3  Hearts

Hearts is a four player game in which every heart is worth 1 point and the queen of spades is worth 13 points. There is no trump in this game. The point of the game is to get as few points as possible. However, if you manage to get all the points (called **shooting**), you get 0 points and your opponents all get 26 points.

In the beginning of the game, you have the opportunity to pass three cards to the person on the left of you. Then whoever has the 2 of clubs starts the game, and the game carries on like any trick-taking game. (In the second round, you pass right. In the third, you pass across, and in the fourth, you don't pass. Then this keeps iterating until someone gets at least 100 points, at which point the person with the lowest cumulative points wins).

There is one point to be clear of: you cannot lead hearts until hearts has been **broken**, which is when a heart is played off-suit. (Or unless you only have hearts) For example, if you played clubs and I'm void of clubs, I am allowed to play hearts and give you a point. At this point, hearts are said to be broken, and it is allowed to lead hearts.

# 4 Spades

Spades is a four player game in which there are two teams that sit across from one another. Spades is always the trump suit. This is typically a cumulative game with multiple rounds, but some versions of it can be played one round at a time.

In the beginning of a round, players "call" or guess how many tricks they can take within the round. The game plays like a typical trick-taking game after that. Note that in this game, spades must be broken before you can lead with spades. (Unless you only have spades left).

Points are determined by the number of tricks that your *team* took. If the sum of the calls of your team is 6, and you took 8 tricks, then your score is $6 \times 10 + (8 - 6) = 62$ points. Those 2 extra cards that you just took are called "bags". Once you accumulate 10 bags, 100 points are deducted from your score. However, if you don't make at least what you called, you get $-10 \times$ (your call), so it is smarter to call lower than higher. (In our example here, if you only took 5 tricks instead of 8, your team loses 60 points.)

Players can also call "nil" or zero tricks. If the player that calls a nil manages to not take any tricks, the team receives 100 points! But if the player takes even one trick, then the team loses 100 points. Only the player that called the nil needs to not take any tricks, the other player must fulfil the number of tricks he/she called alone. (If you fail to not get any tricks during a nil, the tricks you take will be counted towards your partner's call.)

# 5 Tips and Tricks

- In Napoleon, you should bid if you have a lot of one suit, usually containing at least one of Ace, King, or Queen, and it is usually smart for the Napoleon to flush trump to void others of trump.

- In Napoleon, it is usually smart to feed others points, especially if you are not the Secretary.

- In Napoleon, the typical bid is somewhere around 11 or 12. If the highest bid in your group is 8, you should consider calling higher.

- In all games, it is usually smart to make yourself void of a suit, so you can dump other cards or trump if needed.

- In Spades, you should consider the sum of all the calls as part of your playing strategy.

- A rough formula for determining the number of tricks in Spades is (number of aces) + (number of kings, queens, or aces of spades) + (number of spades more than 3 not including ace, king, or queen)