

The “Three Left Card Trick” (and why it works)

I recently saw this card trick on the internet and the person showing the trick did not know how it worked. I’ll describe the trick and show you how it works.

- (1) Have a person pick 3 cards randomly out of a deck of 52 cards (no jokers). Have them write down the cards and temporarily hold the cards in his hands. They should not show you the cards or the paper that they wrote down the cards. We will call these cards “a”, “b” and “c”.
- (2) While he or she is doing that, form three piles in front of you, pile A has 14 cards, pile B has 15 cards and pile C has 15 cards. This leaves you with 5 cards that you hold in your hand.
- (3) Now ask the person who has the three cards to place one of them on top of pile A. We will assume that he or she put “a” on top of pile A.
- (4) Now ask them to cut pile B anywhere and put the top part that they have cut off on top of pile A.
- (5) Now ask them to put another of their cards on top of pile B. We will assume that he or she put “b” on top of pile B.
- (6) Now ask them to cut pile C anywhere and put the top part that they have cut off on top of pile B.
- (7) Now ask them to put their last card on top of pile C. We will assume that he or she put “c” on top of pile C.
- (8) You put the five cards from your hand on top of that card on pile C.
- (9) Now pick up pile C and put it on pile B. Then pick up the combined pile B-C and put it on top of pile A. You now have one pile of 52 cards. At this time, you will find that the chosen cards “a”, “b”, and “c” are situated 6 cards, 22 cards and 38 cards down from the top. I will now refer to the cards as how far they are from the top of this original pile, as card 1, card 2,.. to card 52.

Now start making two piles, where one pile is face up (always start with this pile) and the other pile cards face down. Ask the viewers if they can see any of their 3 chosen cards in the face up pile.

(They should not see any). Look at the picture on the right to see how the pile unfolds as you take the cards and sort them into the face-up and face-down piles. All the odd numbers appear face-up and all of the even numbers appear face-down. Since our three “chosen” cards are all even numbers from the top they all appear in the face-down pile. I have put them in **red** in the diagrams. Notice, each number in the face-down column are two apart. I have put the word “TOP” at the bottom, because the top of the face-down pile now has card 52 on top, and it will be the next card to be touched in step 10.

(10) Get rid of the pile that is face up, and do this face up – face down two piles with the 26 cards that you have left. Ask the viewers if they can see any of their 3 chosen cards in the face up pile. (They should not see any).

(11) Get rid of the pile that is face up, and do this face up – face down two piles with the 13 cards that you have left. Ask the viewers if they can see any of their 3 chosen cards in the face up pile. (They should not see any).

(12) Get rid of the pile that is face up, and do this face up – face down two piles with the 6 cards that you have left. Ask the viewers if they can see any of their 3 chosen cards in the face up pile. (They should not see any).

(13) Finally, get rid of the face up cards, and you will be left with 3 face down cards. With a roll of drums, flip over these 3 cards, and they will be the 3 “chosen” cards.

Up	Down
1	2
3	4
5	6 “c”
7	8
9	10
11	12
13	14
15	16
17	18
19	20
21	22 “b”
23	24
25	26
27	28
29	30
31	32
33	34
35	36
37	38 “a”
39	40
41	42
43	44
45	46
47	48
49	50
51	52
	TOP

Now in the next page, you will see a diagram with the whole trick played out.

The second column has card 52 face up since you always start with the face-up pile, and then card 50 face down, and so on. By the time you finish column 2, you will have card 4 on the top of you face-up pile and card 2 on the top of the face-down pile. You have just played out 26 cards, now you got rid of the face-up pile and you are left with 13 cards. Note, the cards in the face-down pile are 4 apart.

The third column shows how these 13 cards are played out. You will start by putting card 2 face-up since you always start with the face-up pile, and then card 6 "c" is the first of the cards in the face-down pile. When you get rid of the face-up pile, you are left with the 6 cards in the face-down pile. Note, the cards in the face-down pile are 8 apart.

In the fourth column, you start by putting card number 46 on the face-up pile and 38 "a" will be the first card in the face-down pile. Getting

rid of the face-down pile leaves you with only 3 cards in the face-down pile, these are: **6 "c" on top, 22 "b" next, and 38 "a" on the bottom.** Note, the cards in the face-down pile are 16 apart. That is why 15 cards were put in piles B and C in the beginning, so that the "chosen" cards end up 16 apart. If you take 52 cards and subtract 14, the continually subtract 16, you get $52 - 14 = 38$, and $38 - 16 = 22$ and $22 - 16 = 6$.

I hope this gives you an idea of how the game works and shows you the pattern of why it works. Only 38, 22 and 6 will be left in the face-down pile. I am amazed at who thought of this trick. I don't know a lot of card tricks, but maybe this is something that card sharks and card tricksters are always aware of. I don't know, but I was intrigued at the trick, and had fun working out why it worked!

Up	Down	Up	Down	Up	Down	Up	Down
1	2	52	50	2	6 "c"	46	38 "a"
3	4	48	46	10	14	30	22 "b"
5	6 "c"	44	42	18	22 "b"	14	6 "c"
7	8	40	38 "a"	26	30	TOP	
9	10	36	34	34	38 "a"		
11	12	32	30	42	46	TOP	
13	14	28	26	50			
15	16	24	22 "b"	TOP		TOP	
17	18	20	18				
19	20	16	14	TOP			
21	22 "b"	12	10				
23	24	8	6 "c"	TOP			
25	26	4	2				
27	28	TOP		TOP			
29	30	TOP					
31	32	TOP		TOP			
33	34	TOP					
35	36	TOP		TOP			
37	38 "a"	TOP					
39	40	TOP		TOP			
41	42	TOP					
43	44	TOP		TOP			
45	46	TOP					
47	48	TOP		TOP			
49	50	TOP					
51	52	TOP		TOP			
TOP		TOP					