Sarasota Lester's
Panhandle Fooler

This is the explanation of how to perform the famous card trick played on many of his friends by that master of legerdemain, Lester Raad of Sarasota, Florida. Following the explanation is a discussion of how the trick works. By receiving this letter you are entrusted to maintain the secrecy of this trick for all time so that those less scrupulous than you, who would actually relieve their friends of their hard earned cash by performing this trick, will be prevented from doing so, thereby ruining their friendships.

The first action is to prepare several piles of cards from a regular deck of 52 cards. This is accomplished by observing the rank of the first card (1 for Ace, 2 for Deuce, etc., through 13 for King) and then forming the pile by counting additional cards, as necessary, starting from the observed rank, through 13. Thus, if a 6 is the first rank, then an additional seven cards will be counted, leaving eight cards in the pile, which is turned face down (with the top card the original observed card.) The dealer creates as many such piles as possible with the entire deck, keeping any remaining cards in his hand.

Next, the dealer asks his friend to select randomly three of the piles. The dealer adds cards in the remaining piles to those already in his hand.

Last, the dealer asks his friend to turn over the top card in two of the piles. When all present have seen the two cards, the dealer announces the rank of the top card in the third pile, correctly, to the amazement of the witnesses.

The success of the Panhandle Fooler depends on the invertible relationship between the rank of the top card in a pile, and the number of cards there. In the example given, with a 6 as the top card, knowing that this card is a 6 tells the dealer that there are eight cards in the pile. Inversely, knowing that there are eight cards in the pile tells the dealer that the top card is a 6. The sum of these two numbers is 14, a relationship which holds regardless of the rank of the top card. Thus, if the top card is a Jack (rank 11) then there are three cards in the pile.

As the top cards in the three piles are not known until they are revealed, let them be known symbolically by their ranks, $r_{1,}$ r_2, and r_3. Only the three piles selected by the friend are relevant to the resolution of the trick. These other piles simply serve to add to his confusion, should he think their contents somehow affect the outcome. They do not.

The numbers of cards in the piles, respectively, are $14 - r_{1,}$ $14 - r_2$, and $14 - r_3$. The total number of cards in the three piles, therefore, is $42 - (r_1 + r2 + r3)$. Insofar as the entire deck contains 52 cards, the remaining cards in the dealer's hand must number $52 - [42 - (r_1 + r2 + r3)] = 10 + (r_1 + r_2 + r_3)$. Call this count of cards N.

Finally, knowing any two of $r_{1,}$ r_2, and r_3, allows the dealer, by counting the cards in his hand, to determine the third rank, that is, the value of the top card in the remaining pile. Thus, if r_1 and r_2 are the ranks revealed, then $r_3 = N - [10 + (r_1 + r_2)]$. So, the dealer simply counts from his hand 10 cards, then an additional $(r_1 + r_2)$. The count of those cards remaining in his hand is $r_{3.}$

An interesting fact is that the number of piles can be any between one and four. The trick proceeds the same way, by having the friend reveal all but one of the top cards. The dealer uses the same formula, replacing the number '10' in the formula above by the respective values 38, 24, 10, and – 4 in the cases of one, two, three, or four piles. These values are 52 – 14, 52 – 28, 52 – 42, and 52 – 56, reflecting the sum of the ranks of the top cards and the numbers of cards in the piles for one, two, three, and four piles.

Additionally, with appropriate modifications, the trick could be performed with an artificial deck containing an arbitrary number of suits, each containing an arbitrary number of cards.