

Answer on Question #81034 – Math – Statistics and Probability

Question

Find the probability that a person an ace or a spade from a deck of 52 cards in a single draw.

Solution

There are 52 cards in a deck.

It is divided into 4 suits namely clubs, diamonds, hearts and spades, divided equally among all that is 13 each.

Ace consists of one each diamond, spade, club and hearts.

Number of spade cards = 13

Number of ace cards = 4

But, since one of those aces is also a spade, we need to subtract that out so we're not counting it twice.

Therefore, the probability that a single card is either a spade or an Ace or both

$$P = \frac{4}{52} + \frac{13}{52} - \frac{1}{52} = \frac{16}{52} = \frac{4}{13}$$