

TOPIC

Engineering Probability and Statistics – Section II – Question 12

QUESTION

Two cards are randomly selected from a deck of 52 playing cards (excluding the two jokers). The probability that the both selected cards are diamonds most nearly is

- (A) 1/52
- (B) 1/26
- (C) 1/17
- (D) 1/13

HINT

Given M diamonds out of N cards, randomly select $n(\leq M)$ cards from the N cards. Let X be the number of diamonds of the $n(\leq M)$ selected cards. Then X has the hypergeometric distribution.

$$P(X = x) = \frac{\binom{M}{x} \binom{N-M}{n-x}}{\binom{N}{n}}, x = 0, 1, 2, \dots, n.$$

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