TOPIC
Engineering Probability and Statistics – Section II – Question 1

QUESTION
A card is randomly selected from a deck of 52 playing cards (that is, the two jokers are excluded). The probability that the selected card is a heart or a jack most nearly is

    (A) 1/4
    (B) 3/10
    (C) 2/5
    (D) 4/13

HINT
The probability of an event E, P(E), is equal to the number of outcomes, N(E), contained in the event divided by the total number of outcomes, N. Here it is assumed that each outcome is equally likely to occur.

SOLUTION
Let event E = {all cards that are either hearts or jacks}. There are a total of 16 cards that are either hearts or jacks. That is, N(E) = 16. There are a total of N = 52 cards. Therefore,

    P(A randomly selected card is either a heart or a jack)
    = P(A randomly selected card belongs to the event E)
    = P(E)
    = N(E)/N
    = 16/52
    = 4/13

ANSWER
(D)

CONTRIBUTOR
Michael Weng