

Answer on Question #73056 – Math – Statistics and Probability

Question

If you randomly drew a card from a standard deck of cards, you will get a card that is either red (R) or black (B). The card will also either be a number card (N) or a face card (F). Determine the $n(B \wedge N)$.

Solution

In a standard deck of 52 playing cards, there are four suits: clubs (\clubsuit), diamonds (\diamond), hearts (\heartsuit) and spades (\spadesuit). Each suit has one Jack, Queen, and King as the face cards.

So there are 10 number cards in each suit. Two suits are red and two suits are black.

Total number of black number cards is

$$n(B \wedge N) = n(B \text{ and } N) = n(B \cap N) = 2 \times 10 = 20$$

Answer: $n(B \wedge N) = 20$.