



Probability Ex 13.1 Q40

Answer :

Given: Probability that 2 students should not have the same birthday $P(E) = 0.992$

TO FIND: Probability that 2 students should have the same birthday $P(\bar{E})$

CALCULATION: We know that sum of probability of occurrence of an event and probability of non occurrence of an event is 1.

$$P(E) + P(\bar{E}) = 1$$

$$0.992 + P(\bar{E}) = 1$$

$$P(\bar{E}) = 1 - 0.992$$

$$P(\bar{E}) = 0.008$$

Hence the probability that should have the same birthday is $P(\bar{E}) = 0.008$

Probability Ex 13.1 Q41

Answer :

GIVEN: A bag contains 3 red and 5 black balls and a ball is drawn at random from the bag

TO FIND: Probability of getting a

(i) red ball

(ii) not red ball

Total number of balls $3 + 5 = 8$

(i) Total number red balls are 3

We know that PROBABILITY = $\frac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence probability of getting red ball is $= \frac{3}{8}$

(ii) Probability of getting red ball $P(E) = \frac{3}{8}$

We know that sum of probability of occurrence of an event and probability of non occurrence of an event is 1.

$$P(E) + P(\bar{E}) = 1$$

$$\frac{3}{8} + P(\bar{E}) = 1$$

$$P(\bar{E}) = 1 - \frac{3}{8}$$

$$P(\bar{E}) = \frac{8-3}{8} = \frac{5}{8}$$

Hence the probability of getting not red ball $P(\bar{E}) = \frac{5}{8}$

Probability Ex 13.1 Q42

Answer :

GIVEN: A box contains 5 red, 4 green and 8 white marbles and a marble is drawn at random

TO FIND: Probability of getting a marble

(i) red

(ii) white

(iii) not green

Total number of marble: $5 + 4 + 8 = 17$

(i) Total number red marble are 5

We know that PROBABILITY = $\frac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence probability of getting red marble = $\frac{5}{17}$

(ii) Total number of white marbles are 8

We know that PROBABILITY = $\frac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence probability of getting white marble is $\frac{8}{17}$

(iii) Total number of green marbles is 4

We know that PROBABILITY = $\frac{\text{Number of favourable event}}{\text{Total number of event}}$

Hence probability of getting green marbles $P(E) = \frac{4}{17}$

We know that sum of probability of occurrence of an event and probability of non occurrence of an event is 1.

$$P(E) + P(\bar{E}) = 1$$

$$\frac{4}{17} + P(\bar{E}) = 1$$

$$P(\bar{E}) = 1 - \frac{4}{17}$$

$$P(\bar{E}) = \frac{17-4}{17} = \frac{13}{17}$$

Hence the probability of getting green marbles is $P(\bar{E}) = \frac{13}{17}$

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