## Probability Ex 13.1 Q37

**Answer :**

GIVEN: A number is selected from numbers 1 to 35

TO FIND: Probability of getting a number

(i) which is a prime number

(ii) multiple of 7

(iii) multiple of 3 or 5

Total number of cards is 35

(i) Numbers that are primes are 2, 3, 5, 7, 11, 13, 17, 19, 23, 29 and 31

Total prime numbers from 1 to 35 are11

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

Hence probability of getting a number which is a prime from 1 to 35 is equal to $= \boxed{\dfrac{11}{35}}$

(ii) Numbers that are multiple of 7 are 7,14,21,28,35

Total number that are multiple of 7 from 1 to 35 are5

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

Hence probability of getting number that is multiple of 7 from 1 to 35 is $\dfrac{5}{35} = \boxed{\dfrac{1}{7}}$

(iii) Numbers that are multiple of 3 and 5 are 3, 5, 6, 8, 10, 12, 15, 18, 20, 21, 24, 25, 27, 30, 33 and 35

Total numbers that are multiple of 3 or 5 from 1 to 35 is 16

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

Hence probability of getting number that is multiple of 3 or 5 from 1 to 35 is equal to $= \boxed{\dfrac{16}{35}}$

## Probability Ex 13.1 Q38

**Answer :**

Given: The Kings, Queens, Aces and Jacks of red color are removed from a deck of 52 playing cards and the remaining cards are shuffled and a card is drawn at random from the remaining cards

TO FIND: Probability of getting a card of

(i) A black queen

(ii) A red card

(iii) A black jack

(iv) A picture card

After removing the kings, queens, aces and the jacks of red color from the pack of 52 playing cards

Total number of cards left: $52-8=44$

(i) Cards which are black queen is 2

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

Hence probability of getting a black queen = $\dfrac{2}{44} = \boxed{\dfrac{1}{22}}$

(ii) Cards which are red are from 2 suits

Total number of red cards is $13\times 2=26$

From this the kings, queens, aces and jacks of red color are taken out.

Hence total number of red cards left is $26-8=18$

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

Hence probability of getting a red card is $\dfrac{18}{44} = \boxed{\dfrac{9}{22}}$

(iii) Cards which are black jack are from 2 suits

Total number of black jack is $2 \times 1 = 2$

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

Hence probability of getting a black jack card $\dfrac{2}{44} = \boxed{\dfrac{1}{22}}$

(iv) Cards which are picture cared are from 4 suits

Total number of picture cards is $4 \times 3 = 12$

From this the kings, queens, and jacks of red color are taken out.

Hence total number of picture card left is $12 - 6 = 6$

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

Hence probability of getting an picture card = $\dfrac{6}{44} = \boxed{\dfrac{3}{22}}$

Probability Ex 13.1 Q39

**Answer :**

GIVEN: A bag contains lemon flavored candies only. Malini takes out one candy without looking into the bag,

TO FIND: Probability that she takes out

(i) An orange flavored candy

(ii) A lemon flavored candy

(i) Probability of taking out orange flavored candy is $\boxed{0}$ as it is an impossible event, because the bag is filled only with lemon flavored candies

(ii) Probability of taking out lemon flavored candy is $\boxed{1}$ as it is a sure event, because the bag is filled only with lemon flavored candies.

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