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Class X | Assignment | Probability

1. The probability that it will rain tomorrow is 0.85. Find the probability that it will not rain tomorrow.
2. In a lottery there are 10 prizes and 25 blanks. Find the probability of getting a prize.
3. Three coins are tossed. Find the probability of getting:
   (1) Exactly one head (2) At least one head and one tail.
4. A bag contains 4 red, 5 black and 6 white balls. A ball is drawn from the bag at random. Find the probability that the ball drawn is
   (1) White (2) Red (3) Not Black (4) Red or White
5. A bag contains 3 red, 5 black and 7 white balls. A ball is drawn from the bag at random. Find the probability that the ball drawn is
   (2) White (2) Red (3) Not Black (4) Red or White
6. 15 cards numbered $1, 2, 3 \ldots 15$ are put in a box and mixed thoroughly. A card is drawn at random from the box. Find the probability that a card bears
   (1) An even no. (2) A no. divisible by 2 *or* 3
7. Out of 400 bulbs, 15 bulbs are defective. One bulb is taken out at a random from the box. Find the probability that bulb is not defective.
8. Find the probability of getting 53 Fridays in a leap year.
9. A bag contains 8 red, 4 black and 6 white balls. A ball is drawn from the bag at random. Find the probability that the ball drawn is
   (1) Red or White (2) Not Black (3) Neither White nor black
10. From a pack of 52 playing cards, jacks, queens, kings and aces of red colours are removed. From the remaining cards, a card is drawn at random. Find the probability that a card drawn is
    (1) A black queen.
    (2) A red card
    (3) A black jack
    (4) A picture card (jacks, queens and kings are picture cards)
11. All the three face cards of spades are removed from a well shuffled pack of 52 cards. A card is then drawn at random from the remaining pack of cards. Find the probability of getting
    (1) A black face card. (2) A Queen (3) A black card.
12. A coin is tossed. If it results head a coin is tossed, otherwise a die is thrown. Describe the following events.
    (a) A = getting at least one head
    (b) B = getting an even number.
    (c) C = getting a tail.

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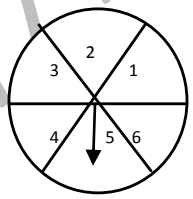
(d) D = getting a tail and a odd number.

13. In a single throw of to dice, find the probability of:
    (a) Getting a total of 10.
    (b) Getting a total of 9 *or* 11.
    (c) Getting a sum greater than 9.
    (d) Getting a doublet of even numbers.
    (e) Not getting the same no. on two dice.
14. Savita and Hamita are two friends. What is the probability that both will have the
    (i) The same birthday. (ii) Different birthdays. (Ignoring leap yr.)
15. On the disc shown, a player spins the arrow twice. The fraction $\frac{a}{b}$ is formed,



Where a is the no. of the sector where the arrow stops after the first spin and b is the no. of sector where the arrow stops after second spin. On every spin each of the numbered sector has an equal probability of being the sector on which the arrow stops. What is the probability that fraction $\frac{a}{b}$ is greater than 1?

Answers:

(1) 0.15 **(2)** $\frac{2}{3}$ **(3)** (i) $\frac{3}{8}$ (ii) $\frac{3}{4}$

(4) (i) $\frac{2}{5}$ (ii) $\frac{4}{15}$ (iii) $\frac{2}{3}$ (iv) $\frac{2}{3}$

(5) (i) $\frac{7}{15}$ (ii) $\frac{1}{5}$ (iii) $\frac{2}{3}$ (iv) $\frac{2}{3}$

(6) (i) $\frac{7}{5}$ (ii) $\frac{2}{13}$

(7) $\frac{77}{80}$ **(8)** $\frac{2}{7}$

(9) (i) $\frac{7}{9}$ (ii) $\frac{7}{9}$ (iii) $\frac{4}{9}$

(10) (i) $\frac{1}{22}$ (ii) $\frac{9}{22}$ (iii) $\frac{1}{22}$ (iv) $\frac{3}{22}$

(11) (i) $\frac{3}{49}$ (ii) $\frac{3}{49}$ (iii) $\frac{3}{49}$

(12) (i) A={HH, HT} (ii) B= {T2, T4, T6}
(iii) C={T1, T2, T3, T4, T5, T6, HT} (iv) D= (T1, T3, T5}

(13) (i) $\frac{1}{12}$ (ii) $\frac{1}{6}$ (iii) $\frac{1}{6}$ (iv) $\frac{1}{12}$ (v) $\frac{5}{6}$

(14) (i) $\frac{1}{365}$ (ii) $\frac{364}{365}$

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(15) $\frac{5}{12}$