# RK TUITION CENTRE - KUMBAKONAM

## 10TH MATHEMATICS
## PROBABILITY

**20 X 1 = 20**

1. The probability a red marble selected at random from a jar containing $p$ red, $q$ blue and $r$ green marbles is

   (a) $\frac{q}{p+q+r}$ (b) $\frac{p}{p+q+r}$ (c) $\frac{p+q}{p+q+r}$ (d) $\frac{p+r}{p+q+r}$

2. A page is selected at random from a book. The probability that the digit at units place of the page number chosen is less than 7 is

   (a) $\frac{3}{10}$ (b) $\frac{7}{10}$ (c) $\frac{3}{9}$ (d) $\frac{7}{9}$

3. The probability of getting a job for a person is $\frac{x}{3}$. If the probability of not getting the job is $\frac{2}{3}$ then the value of $x$ is

   (a) 2 (b) 1 (c) 3 (d) 1.5

4. Kamalam went to play a lucky draw contest. 135 tickets of the lucky draw were sold. If the probability of Kamalam winning is $\frac{1}{9}$, then the number of tickets bought by Kamalam is

   (a) 5 (b) 10 (c)15 (d) 20

5. If a letter is chosen at random from the English alphabets $\{a, b, \ldots z\}$,then the probability that the letter chosen preceds $x$

   (a) $\frac{12}{13}$ (b) $\frac{1}{13}$ (c) $\frac{23}{26}$ (d) $\frac{3}{26}$

6. A purse contains 10 notes of Rs.2000, 15 notes of Rs.500, and 25 notes of Rs.200. One note is drawn at random. What is the probability that the note is either a Rs.500 note or Rs.200 note?

   (a) $\frac{1}{5}$ (b) $\frac{3}{10}$ (c) $\frac{2}{3}$ (d) $\frac{4}{5}$



7. Two dice are through simultaneously the probability it getting a double is:

   (a) $\frac{5}{36}$ (b) $\frac{1}{12}$ (c) $\frac{1}{9}$ (d) $\frac{1}{6}$

8. A girl calculates the probability of her wining in a match is 0.08 what is probability of her losing the game

   (a) 91% (b) 8% (c) 92% (d) 80%

9. Which of the following is true?

   (a) $0 \leq p(\in) \leq 1$ (b) $p(\in) > 1$ (c) $p(\in) < 0$ (d) $-\frac{1}{2} \geq P(\in) \leq \frac{1}{2}$

10. When three coins are tossed, the probability of getting the same face on all the three coins is

    (a)$\frac{1}{8}$ (b) $\frac{1}{4}$ (c) $\frac{3}{8}$ (d) $\frac{1}{3}$

11. A box contains some milk chocolates and some coco chocolates and there are 60 chocolates in the box. If the probability of taking a milk chocolate is $\frac{2}{3}$ then the number of coco chocolates is:

    (a) 40 (b) 50 (c) 20 (d) 30

12. If a digit is chosen at random from the digits 1,2,3,4,5,6,7,8,9 then the probability that it is odd is

    (a) $\frac{4}{9}$ (b) $\frac{5}{9}$ (c) $\frac{1}{9}$ (d) $\frac{2}{3}$

13. In a single throw of die, the probability of getting a multiple of 3 is

    (a) $\frac{1}{2}$ (b)$\frac{1}{3}$ (c) $\frac{1}{6}$ (d) $\frac{2}{3}$

காந்திபார்க் பின்புறம், கும்பகோணம்
(டவுன் ஹைஸ்கூல் அருகில்)
Cell : 97914 50513 / 93452 17112

R. Karthi M.Sc.B.Ed

# RK TUITION CENTRE - KUMBAKONAM

14. The probability throwing a number greater than 2 with a fair dice is
    (a) $\frac{3}{5}$ (b) $\frac{2}{5}$ (c) $\frac{2}{3}$ (d) $\frac{1}{3}$
15. A card is dropped from a pack of 52 playing cards. The probability that it is an ace is
    (a) $\frac{1}{4}$ (b) $\frac{1}{13}$ (c) $\frac{1}{52}$ (d) $\frac{12}{13}$
16. Probability of getting 3 heads or 3 tails in tossing a coin 3 times is
    (a) $\frac{1}{8}$ (b) $\frac{1}{4}$ (c) $\frac{3}{8}$ (d) $\frac{1}{2}$
17. A fair die is thrown once. The probability of getting a prime (or) composite number is
    (a) 1 (b) 0 (c) $\frac{5}{6}$ (d) $\frac{1}{6}$
18. If $P(E) = 0.05$, then $P(not\ E) =$
    (a) $-0.05$ (b) 0.5 (c) 0.9 (d) 0.95
19. $A \cup \bar{A} =$_____
    (a) 0 (b) 1 (c) $\phi$ (d) $S$
20. $P(\overline{A \cup B}) =$_____
    (a) $P(\bar{A} \cup \bar{B})$ (b) $P(\bar{A} \cap \bar{B})$ (c) $P(A \cup B)$ (d) $P(A \cap B)$

**10 X 2 = 20**

21. Two coins are tossed together. What is the probability of getting different faces on the coins?
22. From a well shuffled pack of 52 cards, one card is drawn at random. Find the probability of getting (i) red card (ii) heart card (iii) red king (iv) face card (v) number card.
23. What is probability that a leap year selected at random will contain 53 Saturdays.
    (Hint:$366 = 52 \times 7 + 2$)
24. If $A$ is an event of a random experiment such that $P(A) : P(\bar{A}) = 17.15$ and $n(S) = 640$ then find (i) $P(\bar{A})$ (ii) $n(A)$.
25. A coin is tossed thrice. What is the probability of getting two consecutive tails?
26. If $P(A) = 037, P(B) = 0.42, P(A \cap B) = 009$ then find $P(A \cup B)$.
27. What is the probability of drawing either a king or a queen in a single draw from a well shuffled pack of 52 cards?
28. If $P(A) = \frac{2}{3}, P(B) = \frac{2}{5}, P(A \cup B) = \frac{1}{3}$ then find $P(A \cap B)$.
29. $A$ and $B$ are two events such that, $P(A) = 0.42, P(B) = 0.48, P(A \cap B) = 0.16$.
    find (i) $P(not\ A)$ (ii) $P(not\ B)$ (iii) $P(A\ or\ B)$.
30. If $A$ and $B$ are two mutually exclusive events of a random experiment and $P(not\ A) = 0.45$, $P(A \cup B) = 0.65$, then find $P(B)$.

**17 X 5 = 85**

31. A bag contains 5 blue balls and 4 green balls. A ball is drawn at random from the bag. Find the probability that the ball drawn is (i) blue (ii) not blue.
32. Two dice are rolled. Find the probability that the sum of outcomes is (i) equal to 4 (ii) greater than 10 (iii) less than 13.
33. A die is rolled and a coin is tossed simultaneously. Find the probability that the die shows an odd number and the coin shows head.
34. A bag contains 6 green balls, some black and red balls. Number of black balls is as twice as the number of red balls. Probability of getting a green ball is thrice the probability of getting a red ball. Find (i) number of black balls (ii) total number of balls.



காந்திபார்க் பின்புறம், கும்பகோணம்
(டவுன் ஹைஸ்கூல் அருகில்)
Cell : 97914 50513 / 93452 17112

R. Karthi M.Sc.B.Ed

# RK TUITION CENTRE - KUMBAKONAM

35. A bag contains 12 blue balls and $x$red balls. If one ball is drawn at random (i) what is the probability of that it will be a red ball? (ii) If 8 more red balls are put in the bag, and if the probability of drawing a red ball will be twice that of the probability in (i) then find $x$.
36. Two unbiased dice are rolled once. Find the probability of getting
    (a) A doublet (equal numbers on both dice)
    (b) The product as a prime number
    (c) The sum as a prime number
    (d) The sum as 1
37. Three fair coins are tossed together. Find the probability of getting
    (i) All heads
    (ii) At least one tail
    (iii) At most one head
    (iv) At most two tails
38. A bag contains 6 red balls, 6 white balls, 7 green balls, 8 black balls. One ball is drawn at random from the bag. Find the probability that the ball drawn is
    (i) White
    (ii) Black or Red
    (iii) Not white
    (iv) Neither white nor black
39. The king and queen of diamonds, queen and jack of hearts, jack and king of spades are removed from a deck of 52 playing cards and then well shuffled. Now one card is drawn at random from the remaining cards. Determine the probability that the card is
    (i) A clavor
    (ii) A queen of red card
    (iii) A king of black card
40. Two dice are rolled together. Find the probability of getting a doublet or sum of faces as 4.
41. If $A$ and $B$ are two events such $P(A) = \frac{1}{4}, P(B) = \frac{1}{2}$ and $P(A \text{ and } B) = \frac{1}{8}$, find (i) $P(A \text{ or } B)$
    (ii) $P(\text{not } A \text{ and not } B)$
42. From a well – shuffled pack of 52 cards, a card is drawn at random. Find the probability of it being either a red king or a black queen.
43. Three unbiased coins are tossed once. Find the probability of getting atmost 2 tails or atleast 2 heads.
44. If $A, B, C$ are any three events such that probability of $B$ is twice as that of probability of $A$ and probability of $C$ is thrice as that of probability of $A$ and if $P(A \cap B) = \frac{1}{6}, P(B \cap C) = \frac{1}{4}, P(A \cap C) = \frac{1}{8}$, $P(A\ P(A \cup B \cup C) = \frac{9}{10}, P(A \cap B \cap C) = \frac{1}{15}$ ,then find $P(A), P(B)$ and $P(C)$?
45. If two dice are rolled, then find the probability of getting the product of face value 6 or the difference of face values 5.
46. In a two children family, find the probability that there is at least one girl in a family.
47. The king, queen and jack of the suit spade are removed from a deck of 52 cards.
    One card is selected from the remaining cards. Find the probability of getting
    (i) A diamond
    (ii) A queen
    (iii) A spade
    (iv) A heard card bearing the number 5.

**********



காந்திபார்க் பின்புறம், கும்பகோணம்
(டவுன் ஹைஸ்கூல் அருகில்)
Cell : 97914 50513 / 93452 17112

R. Karthi M.Sc.B.Ed