

**MANIDHANA EYAM FREE IAS ACADEMY – TNPSC GROUP – I MAINS EXAM
PAPER – II – UNIT – III – GENERAL APTITUDE & MENTAL ABILITY
PROBABILITY**

$$P(E) = \frac{\text{no of outcomes favourable to occurrence of } E}{\text{no of all possible outcomes}}$$

$$P(E) = \frac{n(E)}{n(S)}$$

$$1. P(S) = \frac{n(S)}{n(S)} = 1$$

The probability of sure event is 1.

$$2. P(\emptyset) = \frac{n(\emptyset)}{n(S)} = \frac{0}{n(S)} = 0$$

The probability of impossible event is 0.

$$1. \text{ And } = (\times)$$

$$\text{or } = (+)$$

$$2. \text{ Pick 2 balls out of 3/3 } {}^3C_2 = \frac{3 \times 2}{1 \times 2} = 3$$

COINS

Coin = H, T

$$1. \text{ One coin } = 2 = n(s) = \{ H, T \}$$

$$2. \text{ Two coins } = n(s) = 4 = \{ HH, HT, TH, TT \}$$

$$3. \text{ Three coins } = n(s) = 8 = \{ HHH, HTH, HTT, THH, HHT, TTH, THT, TTT \}$$

$$4. \text{ Four coins } = n(s) = 16$$

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DICE

1. Dice = (1,2,3,4,5,6) = 6

2. Dice = {(1,1) (1,2) (1,3) (1,4) (1,5) (1,6)

(2,1) (2,2) (2,3) (2,4) (2,5) (2,6)

(3,1) (3,2) (3,3) (3,4) (3,5) (3,6)

(4,1) (4,2) (4,3) (4,4) (4,5) (4,6)

(5,1) (5,2) (5,3) (5,4) (5,5) (5,6)

(6,1) (6,2) (6,3) (6,4) (6,5) (6,6)}

$n(s) = 36$

3. Dice = $n(s) = 216$

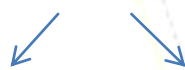
CARDS

1. Pack = 52 cards

Red (26)

black (26)

4 - king



4 - queen

Diamond heart

spade

club

4 - jack

(13)

(13)

(13)

(13)

4 - ace

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1. A basket contains 5 red, 3 green, 2 blue and 4 yellow balls. If 3 balls are picked at random what is the probability that all are red?

- (a) $1/91$ (b) $1/364$ (c) $5/182$ (d) $10/182$

Ans: (c) $5/182$

Solution:-

$$\frac{{}^5C_3}{{}^{14}C_3} = \frac{\frac{5 \times 4 \times 3}{1 \times 2 \times 3}}{\frac{14 \times 13 \times 12}{1 \times 2 \times 3}} \quad [14 = \text{total balls}]$$

$$= \frac{10}{364} = \frac{5}{182}$$

2. A basket contains 5 apple, 3 oranges, 2 bananas and 4 strawberries. If 3 fruits are picked at random what is the probability that 1 is orange and 2 are strawberry?

- (a) $3/14$ (b) $2/91$ (c) $9/182$ (d) $7/545$

Ans :- (c) $9/182$

Solution :-

Orange = 3 strawberry = 4 Total = 14

$$P = \frac{{}^3C_1 \times {}^4C_2}{{}^{14}C_3} \quad [\text{And} = (\times) \quad \text{Or} = (+)]$$

$$= \frac{3 \times \frac{4 \times 3}{2 \times 1}}{\frac{14 \times 13 \times 12}{3 \times 2 \times 1}} = \frac{18}{364} = \frac{9}{182}$$

3. In a simultaneous throw of 2 dice, what is the probability of getting a total of '8'?

- (a) $1/6$ (b) $5/36$ (c) $5/6$ (d) $36/5$

Ans :- (b) $5/36$

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Solution:-

$$= \{ (1,1) (1,2) (1,3) (1,4) (1,5) (1,6) \\ (2,1) (2,2) (2,3) (2,4) (2,5) (2,6) \\ (3,1) (3,2) (3,3) (3,4) (3,5) (3,6) \\ (4,1) (4,2) (4,3) (4,4) (4,5) (4,6) \\ (5,1) (5,2) (5,3) (5,4) (5,5) (5,6) \\ (6,1) (6,2) (6,3) (6,4) (6,5) (6,6) \}$$

$$\text{Total no of trials} = 6^2 = 36 = 5/36$$

4. In a simultaneous throw of two dice, what is the probability of getting a doublet?

- (a) $1/6$ (b) $1/4$ (c) $2/3$ (d) $3/7$

Ans:- (a) $1/6$

Solution:-

$$\text{Doublet} = (1,1) (2,2) (3,3) (4,4) (5,5) (6,6)$$

$$P = 6/36 = 1/6$$

5. In a simultaneous throw of two dice, what is the probability of getting a total of 7 or 11?

- (a) $7/12$ (b) $2/9$ (c) $5/36$ (d) $1/4$

Ans:- (b) $2/9$

Solution:

[And = (×) or = (+)]

$$7 \Rightarrow (1,6) (2,5) (3,4) (4,3) (5,2) (6,1)$$

$$11 \Rightarrow (5,6) (6,5)$$

$$\Rightarrow 6/36 + 2/36 = 8/36 = 2/9$$

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6. Prem throw two dices simultaneously. What is the probability of getting first dice that shows multiplication of 2 and second dice that shows even number?

- (a) $18/36$ (b) $1/6$ (c) $9/6$ (d) $1/4$

Ans: (d) $1/4$

Solution:

$$= (2,2) (2,4) (2,6) (4,2) (4,4) (4,6)$$

$$(6,2) (6,4) (6,6)$$

$$= 9/36$$

$$= 1/4$$

7. A card is drawn from a pack of 52 cards. The probability of getting a queen of diamond or king of club?

- (a) $1/13$ (b) $1/26$ (c) $1/52$ (d) $2/13$

Ans :- (b) $1/26$

Solution:-

$$P = \frac{1+1}{52} = \frac{2}{52} \quad [\text{And} = (\times)]$$

$$= 1/26 \quad \text{Or} = (+)]$$

8. From a pack of 52 cards, two cards are drawn together at random. What is the probability of both the cards are not being kings?

- (a) $1/221$ (b) $220/221$ (c) $25/57$ (d) $1/15$

Ans:- (b) $220/221$

Solution :-

52 cards /

↗	A = 4
→	K = 4
↘	Q = 4
↙	J = 4

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$$P = \frac{{}^4C_2}{{}^{52}C_2} = \frac{4 \times 3}{52 \times 51} = 1/221$$

$$P(E) = 1/221 = P(\overline{E}) = 1 - 1/221 \\ = 220/221$$

9. Two cards are drawn together from a pack of 52 cards. What is the probability that one is club and one is diamond?

- (a) 47/100 (b) 13/102 (c) 69/102 (d) 3/20

Ans :- (b) 13/102

Solution :-

$$\begin{aligned} \text{Club cards} &= 13 & \text{Diamond cards} &= 13 \\ &= \frac{13 \times {}^13C_1 \times {}^13C_1}{{}^{52}C_2} &= \frac{13 \times 13}{\frac{52 \times 51}{2}} &= \frac{13}{102} \end{aligned}$$

10. The probability that a card drawn from a pack of 52 cards will be spade or joker is?

- (a) 1/13 (b) 2/13 (c) 4/13 (d) 14/13

Ans :- (c) 4/13

Solution:-

Spade cards = 13 ; Joker = 4 (spade already taken 3)

$$P = \frac{13 \times {}^13C_1 \times {}^3C_1}{{}^{52}C_2} = \frac{16}{52} = \frac{4}{13}$$

11. From a pack of 52 cards, one card is drawn at random. What is the probability that the card is drawn be a five or heart?

- (a) 1/4 (b) 4/13 (c) 1/13 (d) 1/26

Ans: (b) 4/13

Solution:

Heart card = 13 [‘5’ card is taken so 12]

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$$P = \frac{4c_1 \times 12c_1}{52c_1} = \frac{16}{52} = \frac{4}{13}$$

12. One card is drawn from a pack of 52 cards. What is the probability that the card drawn is either a red card or king?

- (a) $\frac{1}{2}$ (b) $\frac{6}{13}$ (c) $\frac{7}{13}$ (d) $\frac{27}{52}$

Ans :- (c) $\frac{7}{13}$

Solution: - Red card = $13 + 13 = 26$

$$\text{King} = 4 - 2 = 2$$

$$P = \frac{26c_1 \times 2c_1}{52c_1} = \frac{28}{52} \\ = \frac{7}{13}$$

13. A bag contains 5 red, 3 green, 2 blue and 4 yellow colour ribbons. If 2 ribbons are picked at random, what is the probability that either both are red or both are green?

- (a) $\frac{5}{7}$ (b) $\frac{5}{14}$ (c) $\frac{1}{7}$ (d) $\frac{1}{14}$

Ans :- (c) $\frac{1}{7}$

Solution :-

$$P = \frac{5c_2 \times 3c_2}{14c_2} = \frac{\frac{5 \times 4}{2 \times 1} + \frac{3 \times 2}{2 \times 1}}{\frac{14 \times 13}{2 \times 1}} \\ = \frac{10 + 3}{7 \times 13} = \frac{13}{7 \times 13} = \frac{1}{7}$$

14. What is the probability of selecting 2 green pens from a pouch containing 5 green pens and 4 black pens?

- (a) $\frac{5}{18}$ (b) $\frac{7}{18}$ (c) $\frac{13}{18}$ (d) $\frac{5}{36}$

Ans: (a) $\frac{5}{18}$

Solution:-

$$P = \frac{5c_2}{9c_2}$$

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$$= \frac{\frac{5 \times 4}{2 \times 1}}{\frac{9 \times 8}{2 \times 1}} = \frac{5}{18}$$

15. The probability of Rekha and Janu winning a competition is $\frac{1}{3}$ and $\frac{2}{3}$ respectively. Find the probability that atleast one of them wins the competition?

- (a) $\frac{2}{9}$ (b) $\frac{9}{7}$ (c) $\frac{1}{12}$ (d) $\frac{7}{9}$

Ans: (d) $\frac{7}{9}$

Solution :-

Win

fail

P(rekha) = $\frac{1}{3}$

$\frac{2}{3}$

P(Janu) = $\frac{2}{3}$

$\frac{1}{3}$

P(atleast one) = $1 - P(\text{none})$

$$P = 1 - \left(\frac{2}{3} \times \frac{1}{3} \right)$$

$$= 1 - \frac{2}{9} = \frac{7}{9}$$

16. In a simultaneous toss of 2 coins find the possibility of 2 tails?

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

Ans :- (c) $\frac{1}{4}$

Solution :

2 coins = { HH, HT, TH, TT } = 4

2 tails = TT = 1

$$P = \frac{1}{4}$$

17. In a simultaneous toss of two coins, find the possibility of no head.

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

Ans :- a) $\frac{1}{4}$

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Solution:-

$$2 \text{ coins} = \{HH, HT, TH, TT\} = 4$$

$$\text{No head} = TT$$

$$P = 1/4$$

18.3 coins are tossed. Find the probability of atleast two heads?

(a) $1/3$ (b) $7/8$ (c) $1/8$ (d) $1/2$

Ans :- (d) $1/2$

Solution:

$$N = \{HHH, HHT, TTH, TTT, HTH, THT, THH, HTT\}$$

$$= 8$$

$$\text{Atleast 2 heads} = \{ HHH, HHT, HTH, THH \}$$

$$= 4/8 = 1/2$$

19.3 coins are tossed. Find the probability of no tails?

(a) $7/8$ (b) $1/8$ (c) $3/8$ (d) $1/2$

Ans :- (b) $1/8$

Solution:-

$$HHH = P = 1/8$$

20.3 coins are tossed. Find the probability of atleast one heads and one tails?

(a) $3/8$ (b) 1 (c) $3/4$ (d) $1/2$

Ans: (c) $(3/4)$

Solution:

$$= \{HHH, HHT, TTH, TTT, HTH, THT, THH, HTT\}$$

$$= 8$$

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Atleast one head and one tail = {HHT, TTH, HTH, THT, THH, HTT}

$$= 6/8 = 3/4.$$

21. A bag contains 6 green balls and 5 blue balls. Three balls are picked at random. What is the probability of atmost 2 are green?

- (a) 5/6 (b) 29/33 (c) 24/29 (d) 1/120

Ans :- (b) 29/33

Solution:-

= Maximum (2) or 1 green or none

$$= \frac{(6c_2 \times 5c_1) + (6c_1 \times 5c_2) + 5c_3}{10c_3}$$

$$= \frac{\left(\frac{6 \times 5}{1 \times 2} \times 5\right) + \left(\frac{6 \times 5 \times 4}{1 \times 2}\right) + \left(\frac{5 \times 4 \times 3}{1 \times 2 \times 3}\right)}{\frac{11 \times 10 \times 9}{1 \times 2 \times 3}}$$

$$= \frac{75 + 60 + 10}{165} = \frac{145}{165}$$

$$= 29/33$$

22. Janu started walking in the ground. The ground contains colourful bulb. A complete cycle of a bulb takes 140 secs. During each cycle a bulb is orange for 80 secs, Pink for 25 secs and blue for 50 secs. At randomly chosen time what is the probability that the light is not orange?

- (a) 12/11 (b) 11/12 (c) 12/13 (d) 13/12

Ans :- (b) 11/12

Solution:-

Total = 140 secs

Orange = 80 secs

Pink = 25 secs

Blue = 30 secs 55 secs

$$= 55/140 = 11/28$$

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23. A man has 75% chance of eating dosa and 60% chance of eating dosa and parotta. What is the probability that he is not eating parotta?

- (a) 30% (b) 40% (c) 20% (d) 25%

Ans: - (c) 20%

Solution:-

$$P(D) = 75\% \quad ; \quad P(D \cap P) = 60\%$$

$$= 0.75 \quad \quad \quad = 0.6$$

$$P(D \cap P) = P(D) \times P(P)$$

$$0.6 = 0.75 \times X$$

$$X = 0.8 \rightarrow \text{dosa}$$

So 0.2 parotta \rightarrow 20%

24. what is the probability that non leap year contains 53 Thursdays only.

- (a) 2/7 (b) 1/7 (c) 3/7 (d) 7

Ans: (b) 1/7

Solution:-

$$\text{Non leap year} = 365 \text{ days}$$

$$= 52 \text{ weeks} + 1 \text{ day}$$

$$1 \text{ day} \rightarrow \{S, M, T, W, T, F, S\}$$

$$\text{Probability} = 1/7$$

25. 15 birds are inside a closed container. What is the probability that at any given point of time all 15 birds will be staying in the same half of container.

- (a) 3/16 (b) 4/16 (c) 16/4 (d) 1/8

Ans :- (d) 1/8

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Solution:

= (0,15) (1,14) (2,13) (3,12) (4,11) (5,10) (6,9) (7,8) (8,7) (9,6) (10,5)
(11,4) (12,3) (13,2) (14,1) (15,0)

$$= 2/16 = 1/8$$

26. Reena is going to attend 3 functions. For first function she has 7 dresses, for second function she has 12 dresses, for third she has 9. What are the chances of selecting atleast one dress.

(a) 19/63 (b) 18/63 (c) 63/19 (d) 63/18

Ans:- (a) 19/63

Solution:-

1/7, 1/12, 1/9

= [1] – [probability of not selecting any dress]

$$= [1] - \left[\frac{6}{7} \times \frac{11}{12} \times \frac{8}{9} \right]$$

$$= 1 - \frac{44}{63} = \frac{63-44}{63}$$

$$= \frac{19}{63}$$

27. A basket contains yellow coloured ribbons. A child takes out a ribbon without looking into bag. What is the probability that she takes out yellow ribbon.

(a) 0 (b) not possible (c) 1 (d) infinity

Ans :- (c) 1

Solution:-

Because basket full of yellow ribbon.

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28. A vessel contains 6 white onion, 8 pink onion and 10 purple onion. If 5 onions are drawn, one by one with replacement, then what is the probability that all are white onion.

- (a) $1/256$ (b) $1/512$ (c) $1/1024$ (d) $1/1064$

Ans :- (d) $1/1024$

Solution:-

$$N(s) = 6+8+10 = 24$$

$$\text{White onion} = 6$$

$$\begin{aligned} \text{5 onions are taken out} &= \frac{6}{24} \times \frac{6}{24} \times \frac{6}{24} \times \frac{6}{24} \times \frac{6}{24} \\ &= \frac{1}{4} \times \frac{1}{4} \times \frac{1}{4} \times \frac{1}{4} \times \frac{1}{4} \\ &= 1/1024 \end{aligned}$$

29. A basket contains 6 red balls and 4 yellow balls and 3 pink balls. Four balls are picked at random. What is the probability that two are red, one is yellow and one is pink?

- (a) $36/715$ (b) $36/143$ (c) $1/715$ (d) $37/143$

Ans: (b) $36/143$

Solution:-

$$\begin{aligned} & \text{R} \quad \text{Y} \quad \text{P} \\ &= \frac{{}^6C_2 \times {}^4C_1 \times {}^3C_1}{{}^{13}C_4} \\ &= \frac{\frac{6 \times 5}{1 \times 2} \times 4 \times 3}{\frac{13 \times 12 \times 11 \times 10}{1 \times 2 \times 3 \times 4}} = \frac{15 \times 4 \times 3}{715} = \frac{180}{715} = \frac{36}{143} \end{aligned}$$

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30. A shop has 18 red colour, 31 yellow colour and 6 green colour shirts. Two shirts are picked at random. What is the probability

(i) Either both are red or both are green

(ii) Neither red nor green

(a) 8/33, 11/33 (b) 56/495, 31/99 (c) 31/99, 56/495 (d) 11/33, 8/33

Ans :- (b) 56/495, 31/99

Solution:

$$\begin{aligned} \text{(i)} \quad \frac{18c_2 + 6c_2}{55c_2} &= \frac{\frac{18 \times 17}{1 \times 2} + \frac{6 \times 5}{1 \times 2}}{\frac{55 \times 54}{1 \times 2}} \\ &= \frac{(9 \times 17) + (3 \times 5)}{55 \times 27} = \frac{153 + 15}{55 \times 27} = \frac{168}{1485} \\ &= 56/495 \end{aligned}$$

$$\text{(ii)} \quad \frac{31c_2}{55c_2} = \frac{\frac{31 \times 30}{1 \times 2}}{\frac{55 \times 54}{1 \times 2}} = 930/2970 = 31/99.$$

31. A bag contains 5 science books and 4 maths books and 6 tamil books. 3 books are picked at random. What is the probability of 2 are science books and 1 is maths book or 1 is maths book and 2 are tamil book?

(a) 11/456 (b) 21/91 (c) 20/91 (d) 4/91

Ans :- (c) 20/91

solution :-

(s) and (m) or (m) and (T)

$$= (5c_2 \times 4c_1) + (4c_1 \times 6c_2)$$

$$= \frac{(\frac{5 \times 4}{1 \times 2} \times 4) + (4 \times \frac{6 \times 5}{1 \times 2})}{\frac{15 \times 14 \times 13}{1 \times 2 \times 3}} = \frac{40 + 60}{455} = \frac{100}{455} = 20/91$$

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32. A and B are two applicants waiting to join in NEET. The probability of selecting A is 0.6 and probability of selecting A and B is 0.4. Then prove that probability of selecting B is 0.8.

- (a) 0.8 (b) not possible (c) 0 (d) ∞

Ans: (a) 0.8

Solution:-

$$P(A) = 0.6 \quad P(A \cap B) = 0.4$$

$$P(A \cup B) \leq 1$$

$$P(A) + P(B) - P(A \cap B) \leq 1$$

$$0.6 + P(B) - 0.4 \leq 1$$

$$P(B) \leq 1 - 0.2$$

$$P(B) \leq 0.8$$

33. In a clan of 50 students 26 likes to become lawyer, 32 students likes to become politician, 20 likes to become both lawyer and politician. One student is chosen out of them

(a) Likes to become lawyer not politician

(b) Likes to become any of the one.

- (a) $9/25, 3/25$ (b) $18/25, 6/25$ (c) $3/25, 9/25$ (d) $6/25, 12/25$

Ans: (c) $3/25, 9/25$

Solution:-

$$n(s) = 50 \quad n(L) = 26; \quad n(P) = 32 \quad n(L \cap P) = 20$$

$$P(L) = \frac{n(L)}{n(s)} = \frac{26}{50} \quad P(P) = \frac{n(P)}{n(s)} = \frac{32}{50}$$

$$P(L \cap P) = \frac{n(L \cap P)}{n(s)} = 20/50$$

(i) $P(L \cap \bar{P}) = P(L) - P(L \cap P)$

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$$= \frac{26}{50} - \frac{20}{50} = \frac{6}{50} = \frac{3}{25}$$

(ii) Anyone $P(L \cap P)$

$$\begin{aligned} &= P[(L \cap \bar{P}) \cup (\bar{L} \cap P)] \\ &= [P(L \cap \bar{P}) + P(\bar{L} \cap P)] \\ &= \frac{3}{25} + [P(P) - P(L \cap P)] \\ &= \frac{3}{25} + \left[\frac{32}{50} - \frac{20}{50} \right] \\ &= \frac{3}{25} + \frac{12}{50} = \frac{6}{50} + \frac{12}{50} \\ &= 9/25 \end{aligned}$$

34. Kala speaks lie in 40 % cases and mala speaks in 60 % cases. In what percentage of cases are they likely to contradict each other describing some incident.

(a) 48% (b) 50% (c) 42% (d) 52%

Ans :- (d) 52%

Solution:

$$P(K) = 40\% = \frac{40}{100} = \frac{2}{5}$$

$$P(M) = 60\% = \frac{60}{100} = \frac{3}{5}$$

$P(k) \cdot P(\bar{M}) + P(\bar{k}) \cdot P(M) = \text{contradict}$

$$= \left(\frac{2}{5} \times \frac{2}{5}\right) + \left(\frac{3}{5} \times \frac{3}{5}\right)$$

$$= \frac{4}{25} + \frac{9}{25} = \frac{13}{25}$$

$$= \frac{13}{25} \times 100 = 52\%$$

kala:- lie – 2/5; truth – 3/5

mala :- lie – 2/5; truth – 3/5

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35. In a game the dice contains no. starting from 1 to 12. Find the probability of getting

(i) Prime number

(ii) Composite number while throwing a dice

(a) $1/2, 5/12$ (b) $5/12, 1/2$ (c) $7/12, 2/3$ (d) $2/3, 7/12$

Ans:- (b) $5/12, 1/2$

Solution:-

$$n(s) = 12$$

$$(i) n(P) = 5 [2, 3, 5, 7, 11]$$

$$P(P) = \frac{n(P)}{n(s)} = \frac{5}{12}$$

$$(ii) n(c) = 6 [4, 6, 8, 9, 10, 12]$$

$$P(c) = \frac{n(c)}{n(s)} = \frac{6}{12} = \frac{1}{2}$$



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TNPSC Previous Year Question Paper

1. Two dice are thrown. What is the probability of getting “a factor of 4” on the face of the first die

- A) $\frac{1}{18}$ B) $\frac{1}{36}$ C) $\frac{1}{2}$ D) $\frac{1}{3}$

2. 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) 1.5 B) 1 C) 2 D) 3

3. Two dice are rolled and the products of the outcomes (numbers) are found. What is the Probability that the product so found is a prime number?

- A) $\frac{7}{36}$ B) $\frac{4}{36}$ C) $\frac{5}{36}$ D) $\frac{6}{36}$

4. In a T-20 Cricket match, Raju hit a “six” 10 times out of 50 balls he played. If a ball was selected at random. Find the Probability that he would not have hit a “six”

- A) $\frac{1}{5}$ B) $\frac{4}{5}$ C) $\frac{6}{5}$ D) $\frac{3}{5}$

5. What is the probability of getting more than 3 when a dice is thrown?

- A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{2}{3}$ D) $\frac{1}{6}$

6. Fine the probability of throwing a sum 9 with two dice

- A) $\frac{1}{36}$ B) $\frac{1}{12}$ C) $\frac{1}{13}$ D) $\frac{1}{9}$

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

- A) $\frac{1}{2}$ B) $\frac{1}{3}$ C) $\frac{1}{6}$ D) $\frac{2}{3}$

8. In a well shuffled pack of 52 cards, a card is drawn at random, find the probability of diamond or king card

- A) $\frac{4}{13}$ B) $\frac{5}{13}$ C) $\frac{6}{13}$ D) $\frac{9}{13}$

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9. In a simultaneous throw of two dice, what is the probability of getting a total of 10 or 11?

- A) $\frac{1}{4}$ B) $\frac{1}{6}$ C) $\frac{7}{12}$ D) $\frac{5}{36}$

10. In a simultaneous throw of two dice, what is the probability of getting a total of 7?

- A) $\frac{1}{6}$ B) $\frac{1}{4}$ C) $\frac{2}{3}$ D) $\frac{3}{4}$

11. When two dice are thrown what is the probability of getting a doublet (same number on both dice)?

- A) $\frac{1}{36}$ B) $\frac{1}{13}$ C) $\frac{1}{12}$ D) $\frac{1}{6}$

12. Two dice are thrown simultaneously then number of chances of getting sum 8 is

- A) 5 B) 6 C) 3 D) 8

13. A fair die is rolled. Find the Probability of getting a prime factor of 6

- A) $\frac{2}{3}$ B) $\frac{1}{3}$ C) $\frac{5}{6}$ D) $\frac{1}{2}$

14. I have a box which has 3 green, 9 blue, 4 yellow, 8 orange coloured cubes in it

(a) What is the ratio of orange to yellow cubes?

(b) What is the ratio of green to blue cubes?

(c) How many different ratios can be formed, when you compare each colour to any one of the other colours?

- | | | | |
|-----|-----|-----|-----------|
| (a) | (b) | (c) | |
| A) | 3:1 | 1:2 | 10 ratios |
| B) | 1:3 | 2:1 | 4 ratios |
| C) | 1:2 | 3:1 | 12 ratios |
| D) | 2:1 | 1:3 | 12 ratios |

15. What is the Probability that a leap year selected at random will contain 53 Sundays?

- A) $\frac{2}{7}$ B) $\frac{3}{7}$ C) $\frac{4}{7}$ D) $\frac{5}{7}$

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16. Two dices are thrown. What is the Probability of getting a total of face number 12

- A) $\frac{1}{36}$ B) $\frac{1}{18}$ C) $\frac{1}{12}$ D) $\frac{1}{6}$

17. What is Probability of getting more than 5 when a dice is thrown?

- A) $\frac{5}{6}$ B) $\frac{1}{5}$ C) $\frac{1}{6}$ D) $\frac{2}{6}$

18. What is the Probability of more than 4 when a dice is thrown?

- A) $\frac{2}{3}$ B) $\frac{1}{3}$ C) $\frac{1}{6}$ D) $\frac{1}{4}$

19. Three dice are thrown simultaneously find the probability of getting Triplet in all three

- A) $\frac{1}{16}$ B) $\frac{1}{36}$ C) $\frac{1}{216}$ D) $\frac{1}{24}$

20. In a simultaneous throw of two dice, what is the Probability of getting a total of 7

- A) $\frac{1}{6}$ B) $\frac{7}{12}$ C) $\frac{7}{36}$ D) $\frac{1}{4}$

21. The Probability that a leap year will have 53 Fridays or 53 Saturdays is

- A) $\frac{1}{7}$ B) $\frac{2}{7}$ C) $\frac{3}{7}$ D) $\frac{4}{7}$

22. From the group of 5 men and 5 women, two persons are chosen at random. The Probability that one of them is man and the other woman is

- A) $\frac{2}{5}$ B) $\frac{3}{5}$ C) $\frac{5}{9}$ D) $\frac{4}{9}$