L14 : Probability

1-Tut : Probability Of Head

Send Feedback

Three coins are tossed, find the probability that two heads are obtained.

Options

This problem has only one correct answer

1/4
3/8
1/2
5/8

Correct Answer : B

Solution Description

Total outcomes (S) = 2^3 = 8
Favorable outcomes (E) = 3C2 = 3 (HHT, HTH, THH)

P (E) = E/S= 3/8

Hence, option (b) is correct.

2-Tut : Probability Of Tail

Send Feedback

Three unbiased coins are tossed. What is the probability of getting at most two tails?

Options

This problem has only one correct answer

5/8
3/4
7/8
None Of These

Correct Answer : C

Solution Description

Here S = {TTT, TTH, THT, HTT, THH, HTH, HHT, HHH}
Let E = event of getting at most two tails.
Then E = {HHH, TTH, THT, HTT, THH, HTH, HHT}.

Required probability = 7/8

3-Tut : Die And Prime Number

Send Feedback

A die is rolled, find the probability that a prime number is obtained

Options

This problem has only one correct answer

1/2
1/3
1/4
2/3

Correct Answer : A

Solution Description

S = {1, 2, 3, 4, 5, 6} E = {2, 3, 5}
P (E) = 1/2

Hence, option (a) is correct.

4-Tut : Probability Of Sum

Send Feedback

Two dice are rolled, find the probability that the sum is 4

Options

This problem has only one correct answer

1/6
1/9
1/12
1/18

Correct Answer : C

Solution Description

S = 6 × 6 = 36
E = [{(1,3), (2,2), (3,1)}
P (E) = 3/36 = 1/12

Hence, option (c) is correct.

5-Tut : Probability Of Even

Send Feedback

Two dice are thrown simultaneously. What is the probability of getting two numbers whose product is even?

Options

This problem has only one correct answer

5/8
3/4
7/8
None Of These

Correct Answer : B

Solution Description

In a simultaneous throw of two dice, we have n(S) = (6 x 6) = 36.
Then, E = {(1, 2), (1, 4), (1, 6), (2, 1), (2, 2), (2, 3), (2, 4), (2, 5), (2, 6), (3, 2), (3, 4),(3, 6), (4, 1), (4, 2), (4, 3), (4, 4), (4, 5), (4, 6), (5, 2), (5, 4), (5, 6), (6, 1), (6, 2), (6, 3), (6, 4), (6, 5), (6, 6)}
n(E) = 27
Required probability = 27/36 = ¾

Hence, option (b) is correct.

6-Tut : Probability Of King

Send Feedback

A card is drawn at random from a deck of cards. Find the probability of getting a king or a spade.

Options

This problem has only one correct answer

1/13
17/52
3/13
4/13

Correct Answer : D

Solution Description

Number of kings = 4
Number of spades = 13
There is 1 card of king in spade. So, required number of possibilities = 13+4-1 = 16
Probability = 16/52 = 4/13

Hence, option (d) is correct.

7-Tut : Probability Of Cards

Send Feedback

Three cards are drawn from a deck of cards. Find the probability such that one of them is a spade, one is a diamond and one is a heart.

Options

This problem has only one correct answer

3/13
1/(13^3)
(13^3*(3!)/(52*51*50))
10/(13^3)

Correct Answer : C

8-Tut : Probability Of Bags

Send Feedback

A bag contains 3 white, 4 red and 5 blue balls. Two balls are drawn at random from the bag. The probability that both of them are blue is_____

Options

This problem has only one correct answer

6/21
4/21
1/7
5/33

Correct Answer : D

Solution Description

Let S be the sample space.
Then, n(S) = number of ways of drawing 2 balls out of 12
= 12C2 = 66
Let E = event of getting both the balls blue.
n(E) = 5C2 = 10

Probability = 10/66 = 5/33. Hence, option (d) is correct.

9-Tut : Probability Of Balls

Send Feedback

A bag contains 5 black and 6 white balls. James takes a ball out and places it in the bag again. He again takes out a ball. What is the probability that both the balls are white?

Options

This problem has only one correct answer

25/121
36/121
3/11
49/121

Correct Answer : B

Solution Description

Required probability = (6/11) x (6/11) = 36/121

Hence, option (b) is correct.

10-Tut : Probability Of Even

Send Feedback

A bag contains 21 toys numbered 1 to 21. A toy is drawn and then another toy is drawn without replacement. Find the probability that both toys will show even numbers

Options

This problem has only one correct answer

3/14
3/7
4/7
5/14

Correct Answer : A

Solution Description

The probability that first toy shows the even number = 10/21
Since, the toy is not replaced there are now 9 even numbered toys and total 20 toys left.
Hence, probability that second toy shows the even number = 9/20
Required probability = (10/21) × (9/20) = 3/14

Hence, option (a) is correct.

11-Tut : Probability Of Events

Send Feedback

The odds against an event are 3:4 and the odds in favour of another independent event are 3:5. Find the probability that at least one of the two events will occur.

Options

This problem has only one correct answer

5/7
11/14
6/7
41/56

Correct Answer : D

12-Tut : Probability Of Ticket

Send Feedback

In a charity show tickets numbered consecutively from 101 through 350 are placed in a box. What is the probability that a ticket selected at random (blindly) will have a number with a hundredth digit of 2?

Options

This problem has only one correct answer

0.30
0.35
0.40
0.45

Correct Answer : C

Solution Description

250 numbers between 101 and 350 i.e. n(S)=250
n(E)=100th digits of 2 =299−199=100
P(E) = 100/250 = 0.4

Hence, option (c) is correct.

13-Tut : Probability Of Students

Send Feedback

The probability of success of three students A, B and C in the one examination are 1/3, 1/2 and 1/4 respectively. Find the probability of all three students failing in the examination.

Options

This problem has only one correct answer

0.25
0.35
0.45
0.55

Correct Answer : A

Solution Description

Required probability = [1 – 1/3] × [1 – 1/2] × [1 – 1/4] = (2/3) * (1/2)*(3/4) = 1/4 = 0.25. Hence, option (a) is correct.

14-Ass : Probability Of Selected Person

Send Feedback

Out of 13 applicants for a job, there are 5 women and 8 men. It is desired to select 2 persons for the job. The probability that at least one of the selected persons will be a woman is:

Options

This problem has only one correct answer

25/39
14/39
5/13
10/13

Correct Answer : A

15-Ass : Probability Of Good

Send Feedback

A box contains 10 mangoes out of which 4 are rotten. Two mangoes are taken together. If one of them is found to be good, the probability that the other is rotten is

Options

This problem has only one correct answer

5/13
8/15
5/18
None Of These

Correct Answer : B

16-Ass : Probability Of Stand

Send Feedback

Four boys and three girls stand in queue for an interview. The probability that they will stand in alternate position is:

Options

This problem has only one correct answer

1/34
1/35
1/17
1/68

Correct Answer : B

17-Ass : Probability Of Win In Single Trial

Send Feedback

A and B play a game where each is asked to select a number from 1 to 5. If two numbers match, both of them win a prize. The probability that they will not win a prize in a single trail is

Options

This problem has only one correct answer

1/25
24/25
3/25
None Of These

Correct Answer : D

18-Ass : Probability Of Rich Girl

Send Feedback

A class consists of 100 students; 25 of them are girls and 75 boys; 20 are rich, and the remaining poor; 40 of them love to play basketball, and the rest loves to play football. The probability of selecting a basketball lover rich girl is

Options

This problem has only one correct answer

0.05
0.04
0.02
0.08

Correct Answer : C

19-Ass : Probability Of Same Colour

Send Feedback

A box contains 5 brown and 4 white socks. A man takes out two socks. The probability that they are of the same colour

Options

This problem has only one correct answer

5/18

1/6
5/108
4/9

Correct Answer : D

20-Ass : Probability Of Club

Send Feedback

There are five clubs in Lucknow. If 3 singers check into clubs in a day. What is the probability that each singer check into a different club?

Options

This problem has only one correct answer

12/25
13/25
12/15
13/15

Correct Answer : A

Solution Description

Total number of ways for 3 singers to check into 5 clubs = 5 * 5 * 5
Total number of ways for 3 singers to check into different club = 5 * 4 * 3

Therefore, the probability that each singer check into a different club = (5*4*3)/(5*5*5) = 12/25 - option(a).