# Probability Questions & Solution

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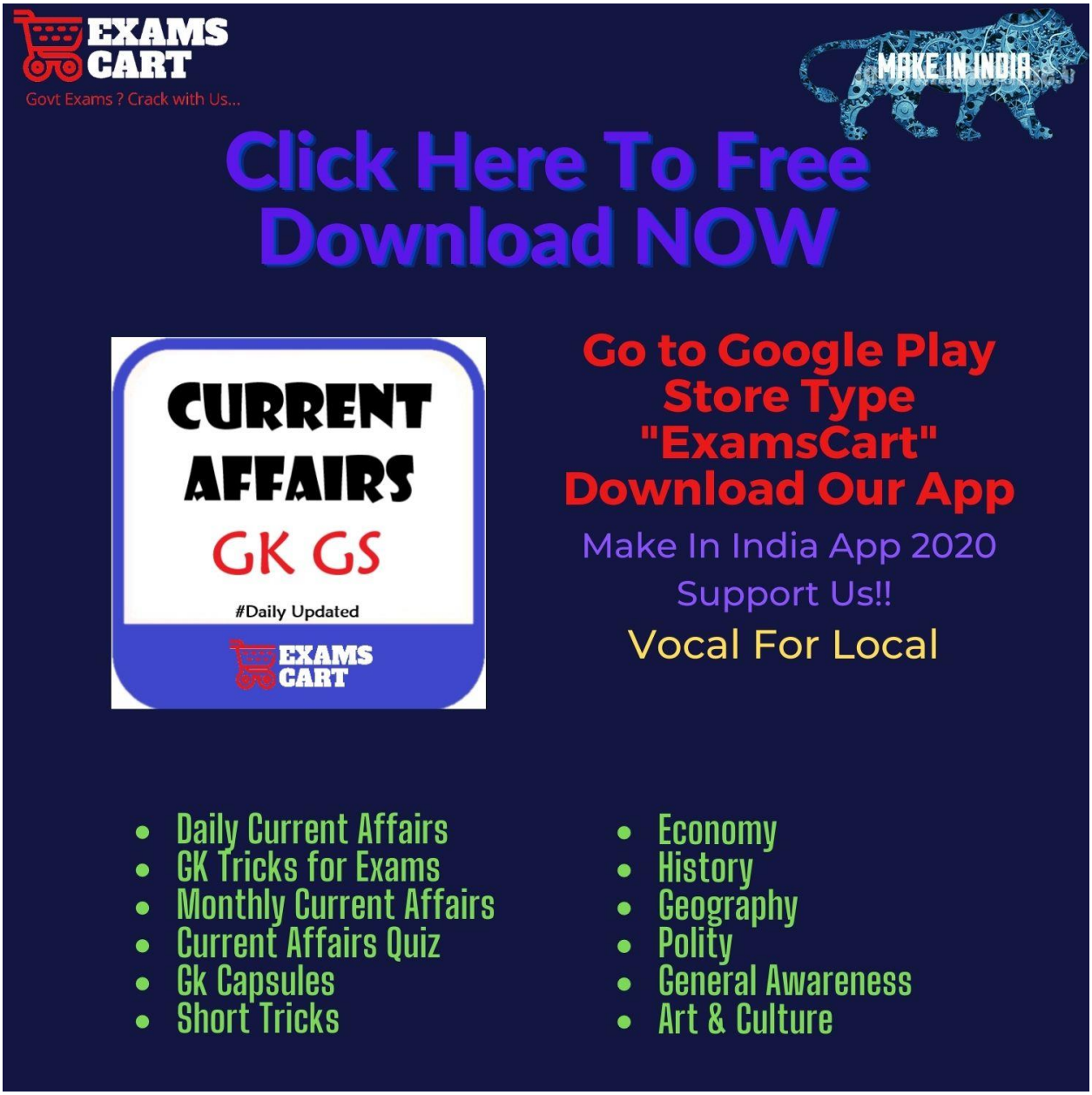

# Probability Questions With Solution

1. A bag contains 8 apple and 6 orange. Four fruits are drawn out one by one and not replaced. What is the probability that they are alternatively of different fruits?
A) 10/143
B) 15/120
C) 20/143
D) 26/110
E) None

**View Answer**
**Option C**
**Solution:**
Fruits can be drawn in two format
AOAO and OAOA
Apple drawn 1st P=8/14*6/13*7/12*5/11
Orange drawn 1st P=6/14*8/13*5/12*7/11
Adding both we get 2[8*7*6*5/14*13*12*11]=2*(10/143)=20/143.

2. In an interview the probability of Praveen to got selected is 0.4. The probability of Geetha to got selected is 0.5. The probability of Sam to got selected is 0.6. The probability of Suresh to got selected is 0.8. What is the probability that at least 2 of them got selected on that day?
A) 0.806
B) 0.632
C) 0.688
D) 0.732
E) None

**View Answer**
**Option A**
**Solution:**
Required probability=1 – no one got selected – 1 got selected
No one got selected = (1-0.4) x (1-0.5) x (1-0.6) x (1-0.8) = 0.024
1 got selected= 0.4 x ((1-0.5) x (1-0.6) x (1-0.8) ) + 0.5 x ((1-0.4) x (1-0.6) x (1-0.8)) +0.6 x ((1-0.4) x (1-0.5) x (1-0.8)) + 0.8 x ((1-0.4) x (1-0.5) x (1-0.6))
= 0.016 + 0.024 + 0.036 + 0.096 = 0.17
So, Required probability = 1 – 0.024 – 0.17 = 0.806

3. A basket contains 10 red ball and 15 white ball. out of which 3 red and 4 white balls are damaged. If two balls selected at random, what is the probability that either both are white balls or both are not damaged?
A) 203/435
B) 313/300
C) 317/400
D) 203/300
E) None

**View Answer**
**Option B**
**Solution: |**
P(A) = 15c2 / 25c2, P(B) = 18c2 / 25c2
P(A∩B) = 11c2 / 25c2
P(A∪B) = P(A) + P(B) – P(A∩B) => (15c2 / 25c2)+( 18c2 / 25c2)-( 11c2 / 25c2)=406/600==>203/300

4. A box contains tickets numbered from 1 to 16. 3 tickets are to be chosen to give 3 prizes. What is the probability that at least 2 tickets contain a number which is multiple of 4?
A) 19/240
B) 11/240
C) 43/250
D) 9/80
E) None

**View Answer**
**Option A**
**Solution:**
From 1 to 16, there are 4 numbers which are multiple of 4
1st 2 are multiple of 4, and one any other number from (16-4) = 12 tickets
4c2*12c1/16c3 = 72/560
2nd all are multiples of 4.
4c3/16c3=4/560
Add both 72/560+4/560.=76/560

5. Chance that Sheela tells truth is 35% and for Ramesh is 75%. In what percent they likely to contradict each other in the same question?
A) 9/40
B) 15/25
C) 25/40
D) 23/40
E) None

**View Answer**
**Option D**
**Solution:**
P(A) = 35/100=7/20 and P(B) = 75/100=3/4.
Now they are contradicting means one lies and other speaks truth. So,
Probability = 7/20*1/4 + 13/20 * 3/4
=7/80+39/80=46/80=23/40

6. Two dice are thrown simultaneously. What is the probability of getting the sum of the numbers as even?
A) 1/3
B) 2/3
C) 1/2
D) 3/4
E) None

**View Answer**
**Option C**
**Solution:**
Throw two dice n(s)=36
E is nos sum is even.
Hence E={( 1,1 ),(1,3 ) (1,5 ) (2,2 ) , (2,4 ) , (2,6 ), ……( 6,2 ), (6,4 ), ( 6,6 )}
n(E)= 18
Thus required probability= 18/36= 1/2

7. A basket contains 8 Red and 6 Pink toys. There is another basket which contains 7 Red and 8 Pink toys. One toy is to drawn from either of the two baskets. What is the probability of drawing a Pink toys?
A) 101/210
B) 85/156
C) 75/210
D) 120/156
E) None

**View Answer**
**Option A**
**Solution:**
Probability of one basket =1/2
1st Basket Pink toy probability =1/2* (6c1/14c1)
2nd Basket Pink toy probability = 1/2* (8c1/15c1)
Adding both (1/2*6/14) + (1/2*4/15)
3/14+4/15=101/210

8. Four persons are chosen at random from a group of 3 men, 5 women and 4 children. What is the probability of exactly two of them being men?
A) 10/60
B) 12/55
C) 25/60
D) 13/60
E) None

**View Answer**
**Option B**
**Solution:**
Total People = 3 + 5 + 4 = 12
n(s)=12c4
Probability of exactly two men and two from others
N(e) = 3c2*9c2
⇒ P= (3c2*9c2)/12c4=>12/55

9. A box contains 3 ballons of 1 shape, 4 ballons of 1 shape and 5 ballons of 1 shape. Three ballons of them are drawn at random, what is the probability that all the three are of different shape?
A) 3/44
B) 5/22
C) 3/11
D) 10/22
E) None

**View Answer**
**Option C**
**Solution:**
Total=3+4+5=12
n(s)=12c3=220
n(e)=3c1 * 4c1 * 5c1 =60
p=60/220=3/11

10. 12 persons are seated around a round table.What is the probability that two particular persons sit together?
A) 2/11
B) 4/21
C) 8/21
D) 6/21
E) None

**View Answer**
**Option A**
**Solution:**
In a circle of n different persons, the total number of arrangements possible = (n – 1)!
n(S) = (12 – 1) = 11 !
Taking two persons as a unit, total persons = 11
Therefore no. of ways for these 11 persons to around the circular table = (11 – 1)! = 10!
In any unit, 2 particular person can sit in 2! ways.
Hence total number of ways that any three person can sit,
=n(E) = 10! * 2!
Therefore P (E) = probability of three persons sitting together = n(E) / n(S)
= (10! * 2!)/11! = 2/11.

1. A bag contains 6 red, 2 blue and 4 green balls. 3 balls are chosen at random. What is the probability that at least 2 balls chosen will be red?
A) 2/7
B) 1/2
C) 1/3
D) 2/5
E) 3/7

**View Answer**
**Option B**
**Solution:**
There will be 2 cases
Case 1: 2 red, 1 blue orgreen
Prob. = ${}^{6}C_{2} \times {}^{6}C_{1} / {}^{12}C_{3}$ = 9/22
Case 2: all 3 red
Prob. = ${}^{6}C_{3} / {}^{12}C_{3}$ = 2/22
Add the cases, required prob. = 9/22 + 2/22 = 11/22 = 1/2

2. Tickets numbered 1 to 250 are in a bag. What is the probability that the ticket drawn has a number which is a multiple of 4 or 7?
A) 83/250
B) 89/250
C) 77/250
D) 93/250
E) 103/250

**View Answer**
**Option B**
**Solution:**
Multiples of 4 up to 120 = 250/4 = 62
Multiples of 7 up to 120 = 250/7 = 35 (take only whole number before the decimal part)
Multiple of 28 (4×7) up to 250 = 250/28 = 8
So total such numbers are = 62 + 35 – 8 = 89
So required probability = 89/250

3. From a deck of 52 cards, 3 cards are chosen at random. What is the probability that all are face cards?
A) 14/1105
B) 19/1105
C) 23/1105
D) 11/1105
E) 26/1105

**View Answer**
**Option D**
**Solution:**
There are 3*4 = 12 face cards in 52 cards
So required probability = $^{12}C_3$ / $^{52}C_3$ = 11/1105

4. One 5 letter word is to be formed taking all letters – S, A, P, T and E. What is the probability that this the word formed will contain all vowels together?
A) 2/5
B) 3/10
C) 7/12
D) 3/5
E) 5/12

**View Answer**
**Option A**
**Solution:**
Total words that can be formed is 5! = 120
Now vowels together:
Take: S, P, T and AE
So their arrangement is 4! * 2! = 48
So required probability = 48/120 = 2/5

5. One 5-digit number is to be formed from numbers – 0, 1, 3, 5, and 6 (repetition not allowed). What is the probability that number formed will be even?
A) 8/15
B) 7/16
C) 7/15
D) 3/10
E) 13/21

**View Answer**
**Option B**
**Solution:**
Two cases:
Case 1: 0 at last place
So 4 choices for 1st digit, 3 for 2nd, 2 for 3rd and 1 for 4th. So numbers = 4*3*2*1 = 24
Case 2: 6 at last place
For 5-digit number 0 cannot be placed at 1st place or cannot be 1st digit
So 3 choices (1, 3, 5) for 1st digit, 3 for 2nd, 2 for 3rd and 1 for 4th. So numbers = 3*3*2*1 = 18
So total choices = 24+18 = 42
Number total 5-digit numbers that can be formed from 0, 1, 3, 5, and 6
0 not allowed at 1st place, so 4 choices for 1st place, 4 for 2nd, 3 for 3rd, 2 for 4th and 1 for 5th. Sp

total = 4*4*3*2*1 = 96
So required probability = 42/96 = 7/16

**Directions (6-8):** There are 3 bags containing 3 colored balls – Red, Green and Yellow.
Bag 1 contains:
24 green balls. Red balls are 4 more than blue balls. Probability of selecting 1 red ball is 4/13
Bag 2 contains:
Total balls are 8 more than 7/13 of balls in bag 1. Probability of selecting 1 red ball is 1/3. The ratio of green balls to blue balls is 1 : 2
Bag 3 contains:
Red balls equal total number of green and blue balls in bag 2. Green balls equal total number of green and red balls in bag 2. Probability of selecting 1 blue ball is 3/14.

6. 1 ball each is chosen from bag 1 and bag 2, What is the probability that 1 is red and other blue?
A) 15/128
B) 21/115
C) 17/135
D) 25/117
E) 16/109

**View Answer**
**Option D**
**Solution:**
Let red = x, so blue = x-4
So
x/(24+x+(x-4)) = 4/13
Solve, x = 16
**So bag 1: red = 16, green = 24, blue = 12**
NEXT:
bag 2: total = 8 + 7/13 * 52 = 36
green and blue = y and 2y. Let red balls = z
So z + y + 2y = 36……(1)
Now Prob. of red = 1/3
So z/36 = 1/3
Solve, z = 12
From (1), y = 8
**So bag 2: red = 12, green = 8, blue = 16**
NEXT:
bag 3: red = 8+16 = 24, green = 12+8 = 20
Blue prob. = 3/14
So a/(24+20+a) = 3/14
Solve, a = 12
**So bag 3: red = 24, green = 20, blue = 12**
Now probability that 1 is red and other blue::
16/52 * 16/36 + 12/52 * 12/36 = 25/117

7. Some green balls are transferred from bag 1 to bag 3. Now probability of choosing a blue ball from bag 3 becomes 3/16. Find the number of remaining balls in bag 1.
A) 60
B) 58
C) 52

D) 48
E) 44

**View Answer**
**Option E**
**Solution:**
blue balls in bag 3 are 12
Let x green balls are transferred. So
12/(56+x) = 3/16 [56 was number of bags in bag 3 before transfer] Solve, x = 8
So remaining number of balls in bag 1 = 52-8 = 44

8. Green balls in ratio 4 : 1 from bags 1 and 3 respectively are transferred to bag 4. Also 4 and 8 red balls from bags 1 and 3 respectively . Now probability of choosing green ball from bag 4 is 5/11. Find the number of green balls in bag 4?
A) 12
B) 15
C) 10
D) 9
E) 11

**View Answer**
**Option C**
**Solution:**
4x and x = 5x green balls
4+8 = 12 red balls
So 5x/(5x+12) = 5/11
Solve, x = 2
5*2 = 10 green balls

**Directions (9-10):** There are 3 people – A, B and C. Probability that A speaks truth is 3/10, probability that B speaks truth is 3/7 and probability that C speaks truth is 5/6. For a particular question asked, at most 2 people speak truth. All people answer to a particular question asked.



9. What is the probability that B will speak truth for a particular question asked?
A) 7/18
B) 14/33
C) 4/15
D) 9/28
E) 10/33

**View Answer**
**Option D**
**Solution:**
In any case B speaks truth. Now at most 2 people speak truth for 1 question
So case 1: B and A speaks truth
Probability = 3/7 * 3/10 * (1-5/6) = 3/140
Case 2: B and C speaks truth
Probability = 3/7 * ( 1- 3/10) * 5/6 = 5/20
Case 3: Only B speaks truth
Probability = 3/7 * ( 1- 3/10) * (1-5/6) = 1/20
Add the three cases = 6/20 + 3/140 = 45/140 = 9/28

10. A speaks truth only when B does not speak truth, then what is the probability that C does not speak truth on a question?
A) 11/140
B) 21/180
C) 22/170
D) 13/140
E) None of these

**View Answer**
**Option A**
**Solution:**
Case 1: B does not speak truth, A speaks truth
So A speaks truth here
Probability that C does not speak truth = 3/10 * (1 – 3/7) * ( 1- 5/6) = 1/35
Case 2: B speaks truth
So A does not speak truth here
Probability that C does not speak truth = ( 1- 3/10) * 3/7 * ( 1- 5/6) = 1/20
So total = 1/35 + 1/20 = 11/140

1. There are 100 tickets in a box numbered 1 to 100. 3 tickets are drawn at one by one. Find the probability that the sum of number on the tickets is odd.
A) 2/7
B) 1/2
C) 1/3
D) 2/5
E) 3/7

**View Answer**
**Option B**
**Solution:**
There will be 4 cases
Case 1: even, even, odd
Prob. = 1/2 × 1/2 × 1/2
Case 2: even, odd, even
Prob. = 1/2 × 1/2 × 1/2
Case 3: odd, even, even
Prob. = 1/2 × 1/2 × 1/2
Case 4: odd, odd, odd
Prob. = 1/2 × 1/2 × 1/2
Add all the cases, required prob. = 1/2

2. There are 4 green and 5 red balls in first bag. And 3 green and 5 red balls in second bag. One ball is drawn from each bag. What is the probability that one ball will be green and other red?
A) 85/216
B) 34/75
C) 95/216
D) 35/72
E) 13/36

**View Answer**
**Option D**
**Solution:**
Case 1:first green, second red
Prob. = 4/9 × 5/8 = 20/72
Case 2:first red, second green
Prob. = 5/9 × 3/8 = 15/72
Add the two cases

3. A bag contains 2 red, 4 blue, 2 white and 4 black balls. 4 balls are drawn at random, find the probability that at least one ball is black.
A) 85/99
B) 81/93
C) 83/99
D) 82/93
E) 84/99

**View Answer**
**Option A**
**Solution:**
Prob. (At least 1 black) = 1 – Prob. (None black)
So Prob. (At least 1 black) = $1 - ({}^{8}C_{4}/{}^{12}C_{4}) = 1 - 14/99$

4. Four persons are chosen at random from a group of 3 men, 3 women and 4 children. What is the probability that exactly 2 of them will be men?
A) 1/9
B) 3/10
C) 4/15
D) 1/10
E) 5/12

**View Answer**
**Option B**
**Solution:**
2 men means other 2 woman and children
So prob. = ${}^{3}C_{2} \times {}^{7}C_{2} / {}^{10}C_{4} = 3/10$

5. Tickets numbered 1 to 120 are in a bag. What is the probability that the ticket drawn has a number which is a multiple of 3 or 5?
A) 8/15
B) 5/16
C) 7/15
D) 3/10
E) 13/21

**View Answer**
**Option C**
**Solution:**
Multiples of 3 up to 120 = 120/3 = 40
Multiples of 5 up to 120 = 120/5 = 24 (take only whole number before the decimal part)
Multiple of 15 (3×5) up to 120 = 120/15 = 8
So total such numbers are = 40 + 24 – 8 = 56
So required probability = 56/120 = 7/15

6. There are 2 people who are going to take part in race. The probability that the first one will win is 2/7 and that of other winning is 3/5. What is the probability that one of them will win?
A) 14/35
B) 21/35
C) 17/35
D) 19/35
E) 16/35

**View Answer**
**Option D**
**Solution:**
Prob. of 1st winning = 2/7, so not winning = 1 – 2/7 = 5/7
Prob. of 2nd winning = 3/5, so not winning = 1 – 3/5 = 2/5
So required prob. = 2/7 * 2/5 + 3/5 * 5/7 = 19/35

7. Two cards are drawn at random from a pack of 52 cards. What is the probability that both the cards drawn are face card (Jack, Queen and King)?
A) 11/221
B) 14/121
C) 18/221
D) 15/121
E) 14/221

**View Answer**
**Option A**
**Solution:**
There are 52 cards, out of which there are 12 face cards.
So probability of 2 face cards = ${}^{12}C_2/{}^{52}C_2$ = 11/221

8. A committee of 5 people is to be formed from among 4 girls and 5 boys. What is the probability that the committee will have less number of boys than girls?
A) 7/12
B) 7/15
C) 6/13
D) 5/12
E) 7/13

**View Answer**
**Option D**
**Solution:**
Case 1: 1 boy and 4 girls
Prob. = ${}^{5}C_{1} \times {}^{4}C_{4}/{}^{9}C_{5} = 5/146$
Case 2: 2 boys and 3 girls
Prob. = ${}^{5}C_{2} \times {}^{4}C_{3}/{}^{9}C_{5} = 40/126$
Add the two cases = 45/126 = 5/12

9. A bucket contains 2 red balls, 4 blue balls, and 6 white balls. Two balls are drawn at random. What is the probability that they are not of same color?
A) 5/11
B) 14/33
C) 2/5
D) 6/11
E) 2/3

**View Answer**
**Option E**
**Solution:**
Three cases
Case 1: one red, 1 blue
Prob = ${}^{2}C_{1} \times {}^{4}C_{1} / {}^{12}C_{2} = 4/33$
Case 2: one red, 1 white
Prob = ${}^{2}C_{1} \times {}^{6}C_{1} / {}^{12}C_{2} = 2/11$
Case 3: one white, 1 blue
Prob = ${}^{6}C_{1} \times {}^{4}C_{1} / {}^{12}C_{2} = 4/11$
Add all cases

10. A bag contains 5 blue balls, 4 black balls and 3 red balls. Six balls are drawn at random. What is the probability that there are equal numbers of balls of each color?
A) 11/77
B) 21/77
C) 22/79
D) 13/57
E) 15/77

**View Answer**
**Option E**
**Solution:**
${}^{5}C_{2} \times {}^{4}C_{2} \times {}^{3}C_{2} / {}^{12}C_{6}$

**Directions (1-3): An urn contains some balls colored white, blue and green. The probability of choosing a white ball is 4/15 and the probability of choosing a green ball is 2/5. There are 10 blue balls.**

1. What is the probability of choosing one blue ball?
A) 2/7
B) 1/4
C) 1/3
D) 2/5
E) 3/7

**View Answer**
**Option C**
**Solution:**
Probability of choosing one blue ball = 1 – (4/15 + 2/5) = 1/3

2. What is the total number of balls in the urn?
A) 45
B) 34
C) 40
D) 30
E) 42

**View Answer**
**Option D**
**Solution:**
Probability of choosing one blue ball is 1/3
And total blue balls are 10. So with 10/30 we get probability as 1/3
So total balls must be 30

3. If the balls are numbered 1, 2, …. up to number of balls in the urn, what is the probability of choosing a ball containing a multiple of 2 or 3?
A) 3/4
B) 4/5
C) 1/4
D) 1/3
E) 2/3

**View Answer**
**Option E**
**Solution:**
There are 30 balls in the urn.
Multiples of 2 up to 30 = 30/2 = 15
Multiples of 3 up to 30 = 30/3 = 10 (take only whole number before the decimal part)
Multiples of 6 (2×3) up to 30 = 30/6 = 5

So total such numbers are = 15 + 10 – 5 = 20
So required probability = 20/30 = 2/3

4. There are 2 brothers A and B. Probability that A will pass in exam is 3/5 and that B will pass in exam is 5/8. What will be the probability that only one will pass in the exam?
A) 12/43
B) 19/40
C) 14/33
D) 21/40
E) 9/20

**View Answer**
**Option B**
**Solution:**
Only one will pass means the other will fail
Probability that A will pass in exam is 3/5. So Probability that A will fail in exam is 1 – 3/5 = 2/5
Probability that B will pass in exam is 5/8. So Probability that B will fail in exam is 1 – 5/8 = 3/8
So required probability = P(A will pass)*P(B will fail) + P(B will pass)*P(A will fail)
So probability that only one will pass in the exam = 3/5 * 3/8 + 5/8 * 2/5 = 19/40

5. If three dices are thrown simultaneously, what is the probability of having a same number on all dices?
A) 1/36
B) 5/36
C) 23/216
D) 1/108
E) 17/216

**View Answer**
**Option A**
**Solution:**
Total events will be 6*6*6 = 216
Favorable events for having same number is {1,1,1}, {2,2,2}, {3,3,3}, {4,4,4}, {5,5,5}, {6,6,6} – so 6 events
Probability of same number on all dices is 6/216 = 1/36

6. There are 150 tickets in a box numbered 1 to 150. What is the probability of choosing a ticket which has a number a multiple of 3 or 7?
A) 52/125
B) 53/150
C) 17/50
D) 37/150
E) 32/75

**View Answer**

**Option E**
**Solution:**
Multiples of 3 up to 150 = 150/3 = 50
Multiples of 7 up to 150 = 150/7 = 21 (take only whole number before the decimal part)
Multiples of 21 (3×7) up to 150 = 150/21 = 7
So total such numbers are = 50 + 21 – 7 = 64
So required probability = 64/150 = 32/75

7. There are 55 tickets in a box numbered 1 to 55. What is the probability of choosing a ticket which has a prime number on it?
A) 3/55
B) 5/58
C) 8/21
D) 16/55
E) 4/13

**View Answer**
**Option D**
**Solution:**
Prime numbers up to 55 is 16 numbers which are 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 43, 41, 47, 53.
So probability = 16/55

8. A bag contains 4 white and 5 blue balls. Another bag contains 5 white and 7 blue balls. What is the probability of choosing two balls such that one is white and the other is blue?
A) 61/110
B) 59/108
C) 45/134
D) 53/108
E) 57/110

**View Answer**
**Option D**
**Solution:**
Case 1: Ball from first bag is white, from another is blue
So probability = 4/9 * 7/12 = 28/108
Case 1: Ball from first bag is blue, from another is white
So probability = 5/9 * 5/12 = 25/108
Add the cases
So required probability = 28/108 + 25/108 = 53/108

9. The odds against an event are 2 : 3 and the odds in favor of another independent event are 3 : 4. Find the probability that at least one of the two events will occur.
A) 11/35
B) 27/35
C) 13/35
D) 22/35
E) 18/35

**View Answer**

**Option B**

**Solution:**

Let 2 events A and B
Odds against A are 2 : 3
So probability of occurrence of A = 3/(2+3) = 3/5. And non-occurrence of A = 2/5
Odds in favor of B are 3 : 4
So probability of occurrence of B = 3/(3+4) = 3/7. And non-occurrence of B = 4/7
Probability that at least one occurs
Case 1: A occurs and B does not occur
So probability = 3/5 * 4/7 = 12/35
Case 2: B occurs and A does not occur
So probability = 3/7 * 2/5 = 6/35
Case 3: Both A and B occur
So probability = 3/5 * 3/7 = 9/35
So probability that at least 1 will occur = 12/35 + 6/35 + 9/35 = 27/35

10. The odds against an event are 1 : 3 and the odds in favor of another independent event are 2 : 5. Find the probability that one of the event will occur.
A) 17/28
B) 5/14
C) 11/25
D) 9/14
E) 19/28

**View Answer**

**Option A**

**Solution:**

Let 2 events A and B
Odds against A are 1 : 3
So probability of occurrence of A = 3/(1+3) = 3/4. And non-occurrence of A = 1/4
Odds in favor of B are 2 : 5
So probability of occurrence of B = 2/(2+5) = 2/7. And non-occurrence of B = 5/7
Case 1: A occurs and B does not occur
So probability = 3/4 * 5/7 = 15/28
Case 2: B occurs and A does not occur
So probability = 2/7 * 1/4 = 2/28
So probability that one will occur = 15/28 + 2/28 = 17/28

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From a pack of 52 cards, 1 card is chosen at random. What is the probability of the card being diamond or queen?
A) 2/7
B) 6/15
C) 4/13
D) 1/8
E) 17/52

**View Answer**
**Option C**
**Solution:**
In 52 cards, there are 13 diamond cards and 4 queens.
1 card is chosen at random
For 1 diamond card, probability = 13/52
For 1 queen, probability = 4/52
For cards which are both diamond and queen, probability = 1/52
So required probability = 13/52 + 4/52 – 1/52 = 16/52 = 4/13

- From a pack of 52 cards, 1 card is drawn at random. What is the probability of the card being red or ace?

A) 5/18
B) 7/13
C) 15/26
D) 9/13
E) 17/26

**View Answer**
**Option B**
**Solution:**
In 52 cards, there are 26 red cards and 4 ace and there 2 such cards which are both red and ace.
1 card is chosen at random
For 1 red card, probability = 26/52
For 1 ace, probability = 4/52
For cards which are both red and ace, probability = 2/52
So required probability = 26/52 + 4/52 – 2/52 = 28/52 = 7/13

- There are 250 tickets in an urn numbered 1 to 250. One ticket is chosen at random. What is the probability of it being a number containing a multiple of 3 or 8?

A) 52/125
B) 53/250
C) 67/125
D) 101/250
E) 13/25

**View Answer**
**Option A**
**Solution:**
Multiples of 3 up to 250 = 250/3 = 83 (take only whole number before the decimal part)
Multiples of 8 up to 250 = 250/3 = 31
Multiples of 24 (3×8) up to 250 = 250/24 = 10
So total such numbers are = 83 + 31 – 10 = 104
So required probability = 104/250 = 52/125

- There are 4 white balls, 5 blue balls and 3 green balls in a box. 2 balls are chosen at random. What is the probability of both balls being non-blue?

A) 23/66
B) 5/18
C) 8/21
D) 7/22
E) 1/3

**View Answer**
**Option D**
**Solution:**
Both balls being non-blue means both balls are either white or green
There are total 12 balls (4+3+5)
and total 7 white + green balls.
So required probability = $^{7}C_{2}/^{12}C_{2}$ = [(7*6/2*1) / (12*11/2*1)] = 21/66 = 7/22

- There are 4 white balls, 3 blue balls and 5 green balls in a box. 2 balls are chosen at random. What is the probability that first ball is green and second ball is white or green in color?

A) 1/3
B) 5/18
C) 1/2
D) 4/21
E) 11/18

**View Answer**
**Option B**
**Solution:**
There are total 4+3+5 = 12 balls
Probability of first ball being green is = 5/12
Now total green balls in box = 5 – 1 = 4
So total white + green balls = 4 + 4 = 8
So probability of second ball being white or green is 8/12 = 2/3
So required probability = 5/12 * 2/3 = 5/18



- 2 dices are thrown. What is the probability that there is a total of 7 on the dices?

A) 1/3
B) 2/7
C) 1/6
D) 5/36
E) 7/36

**View Answer**
**Option C**
**Solution:**
There are 36 total events which can happen ({1,1), {1,2}…….{6,6})
For a total of 7 on dices, we have – {1,6}, {6,1}, {2,5}, {5,2}, {3,4}, {4,3} – so 6 choices
So required probability = 6/36 = 1/6

- 2 dices are thrown. What is the probability that sum of numbers on the two dices is a multiple of 5?

A) 5/6
B) 5/36
C) 1/9
D) 1/6
E) 7/36

**View Answer**
**Option E**
**Solution:**
There are 36 total events which can happen ({1,1), {1,2}…….{6,6})
For sum of number to be a multiple of 5, we have – {1,4}, {4,1}, {2,3}, {3,2}, {4,6}, {6,4}, {5,5} – so 7 choices
So required probability = 7/36

- There are 25 tickets in a box numbered 1 to 25. 2 tickets are drawn at random. What is the probability of the first ticket being a multiple of 5 and second ticket being a multiple of 3.

A) 5/11
B) 1/4
C) 2/11
D) 1/8
E) 3/14

**View Answer**
**Option D**
**Solution:**
There are 5 tickets which contain a multiple of 5
So probability of 1st ticket containing multiple of 5 = 5/25 = 1/5
Now:
Case 1: If the ticket chosen contained 15
If there was a 15 on first draw, then there are 7 tickets in box which contain a multiple of 3 out of 24 tickets. (25/3 – 1 = 8 – 1 = 7) – because 15 is already out from the box
So probability = 7/24 (24 tickets remaining after 1st draw)
Case 2: If the ticket chosen contained other than 15 (5 or 10 or 20 or 25)
If 15 was not there on first draw, then there are 8 tickets in box which contain a multiple of 3 out of 24 tickets. (25/3 = 8) – because 15 is already out from the box
So probability = 8/24 (24 tickets remaining after 1st draw)
Add the cases for probability of multiple of 3 on second ticket, so prob. = 7/24 + 8/24 = 15/24 (added the cases because we want one of these cases to happen and not both)
So required probability = 1/5 * 15/24 = 1/8 (multiplied the cases because we want both to happen)

- What is the probability of selecting a two digit number at random such that it is a multiple of 2 but not a multiple of 14?

A) 17/60
B) 11/27
C) 13/30
D) 31/60

E) 17/30

**View Answer**
**Option C**
**Solution:**
There are 90 two digit numbers (10-99)
Multiple of 2 = 90/2 = 45
Multiple of 14 = 90/14 = 6
Since all multiples of 14 are also multiple of 2, so favorable events = 45 – 6 = 39
So required probability = 39/90 = 13/30

- There are 2 urns. 1st urn contains 6 white and 6 blue balls. 2nd urn contains 5 white and 7 black balls. One ball is taken at random from first urn and put to second urn without noticing its color. Now a ball is chosen at random from 2nd urn. What is the probability of the second ball being a white colored ball?

A) 11/13
B) 6/13
C) 5/13
D) 5/12
E) 11/12

**View Answer**
**Option A**
**Solution:**
Case 1: first was a white ball
Now it is put in second urn, so total white balls in second urn = 5+1 = 6, and total balls in second urn = 12+1 = 13
So probability of white ball from second urn = 6/13
Case 2: first was a blue ball
Now it is put in second urn, so total white balls in second urn remain 5, and total balls in second urn = 12+1 = 13
So probability of white ball from second urn = 5/13
So required probability = 6/13 + 5/13 = 11/13 (added the cases because we want one of these cases to happen and not both)



- **A card from a pack of 52 cards is lost. From the remaining cards of the pack, two cards are drawn and are found to be both hearts. Find the Probability of the lost card being a heart?**

A. 12/50
B. 8/50
C. 11/50
D. 9/50
E. None of these

**Answer & Explanation**
Answer – **C. 11/50**
**Explanation :**
Total cards = 52
Drawn cards(Heart) = 2
Present total cards = total cards-drawn cards =52-2=50

Remaining Card 13-2 = 11
Probability = 11/50

- **There are three boxes each containing 3 Pink and 5 Yellow balls and also there are 2 boxes each containing 4 Pink and 2 Yellow balls. A Yellow ball is selected at random. Find the probability that Yellow ball is from a box of the first group?**

A. 42/61
B. 45/61
C. 51/61
D. 52/61
E. None of these

**Answer & Explanation**

Answer – **B. 45/61**

**Explanation :**

Probability = (3/5 * 5/8)/([3/5 * 5/8] + [2/5 * 1/3]) = 45/61

- **A fruit basket contains 10 Guavas and 20 Bananas out of which 3 Guavas and 5 Bananas are defective. If two fruits selected at random, what is the probability that either both are Bananas or both are non-defective?**

A. 315/435
B. 313/435
C. 317/435
D. 316/435
E. None of these

**Answer & Explanation**

Answer – **D. 316/435**

**Explanation :**

P(A) = 20c2 / 30c2, P(B) = 22c2 / 30c2
P(A∩B) = 15c2 / 30c2
P(A∪B) = P(A) + P(B) – P(A∩B) => (20c2/30c2)+(22c2/30c2)-(15c2/30c2)=316/435

- **A committee of five persons is to be chosen from a group of 10 people. The probability that a certain married couple will either serve together or not at all is?**

A. 54/199
B. 52/195
C. 53/186
D. 51/126
E. None of these

**Answer & Explanation**

Answer – **D. 51/126**

**Explanation :**

Five persons is to be chosen from a group of 10 people = 10C5 = 252
Couple Serve together = 8C3 * 2C2 = 56
Couple does not serve = 8C5 = 56
Probability = 102/252 = 51/126

- **Out of 14 applicants for a job, there are 6 women and 8 men. It is desired to select 2 persons for the job. The probabilty that atleast one of selected persons will be a Woman is?**

A. 77/91
B. 54/91
C. 45/91
D. 40/91
E. None of these

**Answer & Explanation**

Answer – **A. 77/91**
**Explanation :**
Man only = 8C2 = 14
Probability of selecting no woman = 14/91
Probability of selecting atleast one woman = 1 – 14/91 = 77/91

- **Three Bananas and three oranges are kept in a box. If two fruits are chosen at random, Find the probability that one is Banana and another one is orange?**

A. 1/5
B. 3/5
C. 4/5
D. 2/5
E. None of these

**Answer & Explanation**

Answer – **B. 3/5**
**Explanation :**
Total probability = 6C2 = 15
Probability that one is Banana and another one is orange = 3C1 * 3C1 = 9
probability = 9/15 = 3/5

- **A basket contains 6 White 4 Black 2 Pink and 3 Green balls. If three balls picked up random, What is the probability that all three are White?**

A. 4/91
B. 5/93
C. 7/97
D. 8/92

**Answer & Explanation**

Answer – **A. 4/91**
**Explanation :**
Total Balls = 15
Probability = 6c3 / 15c3 = 4/91

- **A basket contains 6 White 4 Black 2 Pink and 3 Green balls. If three balls are picked at random, what is the probability that two are Black and one is Green?**

A. 22/355
B. 15/381
C. 10/393
D. 14/455
E. 18/455

**Answer & Explanation**

Answer – **E. 18/455**
**Explanation :**
Total Balls = 15
Probability = 4c2 * 3c1/ 15c3 = 18/455

- **A basket contains 6 White 4 Black 2 Pink and 3 Green balls. If four balls are picked at random, what is the probability that atleast one is Black?**

A. 69/91
B. 80/91
C. 21/91
D. 55/91
E. None of these

**Answer & Explanation**

Answer – **A. 69/91**
**Explanation :**
Total Balls = 15
Probability = 11c4/15c4 = 22/91
One is black = 1 – 22/91 = 69/91

- **A basket contains 6 White 4 Black 2 Pink and 3 Green balls.If two balls are picked at random, what is the probability that either both are Pink or both are Green?**

A. 2/105
B. 4/105
C. 8/137
D. 5/137
E. None of these

**Answer & Explanation**

Answer – **B. 4/105**
**Explanation :**
Probability both are Pink = 1/15C2
Probability both are Green = 3/15C2
Required Probability = 4/15C2 = 4/105

- **A box contains 27 marbles some are blue and others are green. If a marble is drawn at random from the box, the probability that it is blue is 1/3. Then how many number of green marbles in the box?**

A. 10
B. 15
C. 14
D. 18

**Answer & Explanation**

Answer – **D. 18**
**Explanation :**
Blue marble – x
xc1/27c1 = 1/3
x/27=1/3 —> x=27/3=9
No of green marbles = Total – Blue marble =27-9=18

- **In a bag there are 4 white, 4 red and 2 green balls. Two balls are drawn at random.What is the probability that at least one ball is of red colour?**

A. 4/3
B. 7/3
C. 1/3
D. 2/3

**Answer & Explanation**

Answer – **D. 2/3**
**Explanation :**
Total Balls =10
Other than red ball = 6c2
6c2/10c2=1/3 —> 1-1/3 = 2/3

- **Sahil has two bags (A & B) that contain green and blue balls.In the Bag 'A' there are 6 green and 8 blue balls and in the Bag 'B' there are 6 green and 6 blue balls. One ball is drawn out from any of these two bags. What is the probability that the ball drawn is blue?**

A. 15/28
B. 13/28

C. 17/28
D. 23/28

**Answer & Explanation**

Answer – **A. 15/28**

**Explanation :**

Total balls in A bag = 14, Total balls in A bag = 12
A bag = 1/2(8c1/14c1) = 2/7
B bag = 1/2(6c1/12c1) = 1/4 —> total Probability = 2/7 + 1/4 =15/28

- **In an examination, there are three sections namely Reasoning, Maths and English. Reasoning part contains 4 questions. There are 5 questions in maths section and 6 questions in English section. If three questions are selected randomly from the list of questions then what is the probability that all of them are from maths?**

A. 7/91
B. 8/91
C. 2/91
D. 4/91

**Answer & Explanation**

Answer – **C. 2/91**

**Explanation :**

Total no of questions= 15
Probability = 5c3/15c3 = 2/91

- **A basket contains 5 red 4 blue 3 green marbles. If three marbles picked up random, What is the probability that either all are green or all are red?**

A. 1/20
B. 7/20
C. 3/20
D. 9/20

**Answer & Explanation**

Answer – **A. 1/20**

**Explanation :**

Total Marbles = 12
Either all are green or all are red = 5c3 + 3c3
probability = 5c3 + 3c3/12c3 = 11/220 = 1/20

- **A basket contains 5 red 4 blue 3 green marbles. If three marbles picked up random, What is the probability that at least one is blue?**

A. 41/55
B. 53/55
C. 47/55
D. 49/55

**Answer & Explanation**

Answer – **A. 41/55**

**Explanation :**

Total Marbles = 12
other than blue 8c3 / 12c3 = 14/55
probability = 1-14/55 = 41/55

- **A basket contains 5 red 4 blue 3 green marbles. If two marbles picked up random, What is the probability that both are red?**

A. 4/33
B. 5/33

C. 7/33
D. 8/33

**Answer & Explanation**

Answer – **B. 5/33**

**Explanation :**

Total Marbles = 12

Probability = 5c2 / 12c2 = 5/33

- **A bag contains 5 red caps, 4 blue caps, 3 yellow caps and 2 green caps.If three caps are picked at random, what is the probability that two are red and one is green?**

A. 22/55
B. 15/81
C. 10/91
D. 5/91

**Answer & Explanation**

Answer – **D. 5/91**

**Explanation :**

Total caps = 14

Probability = 5c2 * 2c1/ 14c3 = 5/91

- **A bag contains 5 red caps, 4 blue caps, 3 yellow caps and 2 green caps. If four caps are picked at random, what is the probability that two are red, one is blue and one is green?**

A. 22/1001
B. 80/1001
C. 21/1001
D. 55/1001

**Answer & Explanation**

Answer – **B. 80/1001**

**Explanation :**

Total caps = 14

Probability = 5c2 * 4c1 * 2c1 / 14c4 = 80/1001

- **A bag contains 2 red caps, 4 blue caps, 3 yellow caps and 5 green caps. If three caps are picked at random, what is the probability that none is green?**

A. 2/13
B. 3/13
C. 1/13
D. 5/13

**Answer & Explanation**

Answer – **B. 3/13**

**Explanation :**

Total caps = 14

Probability = 5c0 * 9c3/ 14c3 = 3/13

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**A bag contains 5 red and 7 white balls. Four balls are drawn out one by one and not replaced. What is the probability that they are alternatively of different colours?**

a) 7/99
b) 11/99
c) 14/99
d) 19/99
e) None of these

**Answer & Explanation**

Answer – **c) 14/99**
**Explanation :**
Balls are picked in two manners – RWRW or WRWR
So probability = (5/12)*(7/11)*(4/10)*(6/9) + (7/12)*(5/11)*(6/10)*(4/9) = 14/99

- **P and Q are sitting in a ring with 11 other persons. If the arrangement of 11 persons is at random, then the probability that there are exactly 4 persons between them?**

a) 1/3
b) 1/4
c) 1/5
d) 1/6
e) None of these

**Answer & Explanation**

Answer – **d) 1/6**
**Explanation :**
Fix the position of P, then Q can be sit in 12 positions, so total possible outcome = 12
Now, exactly 4 persons are sitting between them. This can be done in two ways as shown in figure, so favourable outcomes = 2
So, probability = 2/12 = 1/6

- **10 persons are seated around a round table. What is the probability that 4 particular persons are always seated together?**

a) 1/21
b) 4/21
c) 8/21
d) 11/21
e) None of these

**Answer & Explanation**

Answer – **a) 1/21**
**Explanation :**
Total outcomes = (10 -1)! = 9!
Favourable outcomes = 6!*4! (4 person seated together and 6 other persons seated randomly, so they will sit in (7-1)! Ways and those 4 persons can be arranged in 4! ways)
So probability = 1/21

- **A box contains 4 red, 5 black and 6 green balls. 3 balls are drawn at random. What is the probability that all the balls are of same colour?**

a) 33/455
b) 34/455
c) 44/455
d) 47/455
e) None of these

**Answer & Explanation**

Answer – **b) 34/455**
**Explanation :**
(4c3 + 5c3 + 6c3)/15c3 = 34/455

- **An apartment has 8 floors. An elevator starts with 4 passengers and stops at 8 floors of the apartment. What is the probability that all passengers travels to different floors?**

a) 109/256
b) 135/256
c) 105/256
d) 95/256
e) None of these

**Answer & Explanation**

Answer – **c) 105/256**

**Explanation :**

Total outcomes = 8*8*8*8

Favourable outcomes = 8*7*6*5 (first person having 8 choices, after that second person have 7 choices and so on)

So, probability = 105/256

- **A speak truth in 60% cases and B in 80% cases. In what percent of cases they likely to contradict each other narrating the same incident?**

a) 9/25
b) 7/25
c) 11/25
d) 13/25
e) None of these

**Answer & Explanation**

Answer – **c) 11/25**

**Explanation :**

P(A) = 3/5 and P(B) = 4/5. Now they are contradicting means one is telling truth and other telling the lie.

So,

Probability = (3/5)*(1/5) + (2/5)*(4/5)

- **A box contains 30 electric bulbs, out of which 8 are defective. Four bulbs are chosen at random from this box. Find the probability that at least one of them is defective?**

a) 432/783
b) 574/783
c) 209/784
d) 334/784
e) None of these

**Answer & Explanation**

Answer – **b) 574/783**

**Explanation :**

1 – 22c4/30c4 = 1 – 209/783 = 574/783

- **Two person A and B appear in an interview. The probability of A's selection is 1/5 and the probability of B's selection is 2/7. What is the probability that only one of them is selected?**

a) 11/35
b) 12/35
c) 13/35
d) 17/35
e) None of these

**Answer & Explanation**

Answer – **c) 13/35**

**Explanation :**

A selects and B rejects + B selects and A rejects = (1/5)*(5/7) + (4/5)*(2/7) = 13/35

- **A 4- digit number is formed by the digits 0, 1, 2, 5 and 8 without repetition. Find the probability that the number is divisible by 5.**

a) 1/5
b) 2/5
c) 3/5
d) 4/5
e) None of these

**Answer & Explanation**

Answer – **b) 2/5**
**Explanation :**
Total possibility = 5*4*3*2
Favourable outcomes = 2*4*3*2 (to be divisible by 5 unit digit can be filled with only 0 or 5, so only two possibilities are there, then the remaining can be filled in 4, 3 and 2 ways respectively)
so probability = 2/5

- **A bag contains 6 red balls and 8 green balls. 2 balls are drawn at random one by one with replacement. Find the probability that both the balls are green**

a) 16/49
b) 25/49
c) 12/49
d) 21/49
e) None of these

**Answer & Explanation**

Answer – **a) 16/49**
**Explanation :**
(8c1)/(14c1) * (8c1)*(14c1) = 16/49

- **A six-digit is to be formed from the given numbers 1, 2, 3, 4, 5 and 6. Find the probability that the number is divisible by 4.**

a) 3/17
b) 4/15
c) 4/19
d) 4/17
e) None of these

**Answer & Explanation**

Answer – **b) 4/15**
**Explanation :**
For a number to be divisible by 4, the last two digit should be divisible by 4.
So possible cases – 12, 16, 24, 32, 36, 52, 56, 64 (last two digits)
So favourable outcomes = 24 +24 +24 +24 + 24+ 24+24+24 = 192
So p = 192/720 = 4/15

- **A bag contains 6 red balls and 7 white balls. Another bag contains 5 red balls and 3 white balls. One ball is selected from each. Find the probability that one ball is red and one is white?**

a) 53/104
b) 47/104
c) 63/104
d) 51/104
e) None of these

**Answer & Explanation**

Answer – **a) 53/104**
**Explanation :**
(6/13)*(3/8) + (7/13)*(5/8) = 53/104

- **A lottery is organised by the college ABC through which they will provide scholarship of rupees one lakhs to only one student. There are 100 fourth year students, 150 third year students, 200 second year students and 250 first year students. What is the probability that a second year student is choosen.**

a) 1/7
b) 2/7
c) 3/7

d) 4/7
e) None of these

**Answer & Explanation**

Answer – **b) 2/7**

**Explanation :**

Second year students = 200
so, P = 200/700 = 2/7

- **A card is drawn from a pack of 52 cards. The card is drawn at random; find the probability that it is neither club nor queen?**

a) 4/13
b) 5/13
c) 7/13
d) 9/13
e) None of these

**Answer & Explanation**

Answer – **d) 9/13**

**Explanation :**

1 – [13/52 + 4/52 – 1/52] = 9/13

- **A box contains 50 balls, numbered from 1 to 50. If three balls are drawn at random with replacement. What is the probability that sum of the numbers are odd?**

a) 1/2
b) 1/3
c) 2/7
d) 1/5
e) None of these

**Answer & Explanation**

Answer –**a) 1/2**

**Explanation :**

There are 25 odd and 25 even numbers from 1 to 50.
Sum will be odd if = odd + odd + odd, odd + even + even, even + odd + even, even+ even + odd
P= (1/2)*(1/2)*(1/2) + (1/2)*(1/2)*(1/2) + (1/2)*(1/2)*(1/2) + (1/2)*(1/2)*(1/2)
=4/8 = ½

- **From a pack of cards, if three cards are drawn at random one after the other with replacement, find the probability that one is ace, one is jack and one is queen?**

a) 16/7725
b) 16/5525
c) 18/5524
d) 64/5515
e) None of these

**Answer & Explanation**

Answer – **b) 16/5525**

**Explanation :**

(4c1 + 4c1 + 4c1)/(52c3)

- **A and B are two persons sitting in a circular arrangement with 8 other persons. Find the probability that both A and B sit together.**

a) 1/9
b) 2/7
c) 2/9
d) 2/5
e) None of these

**Answer & Explanation**

Answer – **c) 2/9**

**Explanation :**

Total outcomes = (10 -1)! = 9!

Favourable outcomes = (9 -1)!*2!

So p = 2/9

- **Find the probability that in a random arrangement of the letter of words in the word 'PROBABILITY' the two I's come together.**

a) 2/11
b) 1/11
c) 3/11
d) 4/11
e) None of these

**Answer & Explanation**

Answer –**a) 2/11**

**Explanation :**

Total outcomes = 11!/(2!*2!)

favourable outcomes = (10!*2!)/(2!*2!)

p = 2/11

- **In a race of 12 cars, the probability that car A will win is 1/5 and of car B is 1/6 and that of car C is 1/3. Find the probability that only one of them won the race.**

a) 2/7
b) 7/10
c) 9/10
d) 3/7
e) None of these

**Answer & Explanation**

Answer – **b) 7/10**

**Explanation :**

1/5 + 1/6 + 1/3= 7/10 (all events are mutually exclusive)

- **A bag contains 3 red balls and 8 blacks ball and another bag contains 5 red balls and 7 blacks balls, one ball is drawn at random from either of the bag, find the probability that the ball is red.**

a) 93/264
b) 95/264
c) 91/264
d) 97/264
e) None of these

**Answer & Explanation**

Answer – **c) 91/264**

**Explanation :**

Probability = probability of selecting the bag and probability of selecting red ball

(1/2)*(3/11) + (1/2)*(5/12) = 91/264

- **A bag contains 5 red balls and 7 blue balls. Two balls are drawn at random without replacement, and then find the probability of that one is red and other is blue.**

a) 33/65
b) 35/66
c) 37/66
d) 41/65
e) None of these

**Answer & Explanation**

Answer – **b) 35/66**

**Explanation :**

(First red ball is drawn and then blue ball is drawn) + (first blue ball is drawn and then red ball is drawn)
(5/12)*(7/11) + (7/12)*(5/11) = 35/66

- **A bag contains 3 red balls and 8 blacks ball and another bag contains 5 red balls and 7 blacks balls, one ball is drawn at random from either of the bag, find the probability that the ball is red.**

a) 93/264
b) 95/264
c) 91/264
d) 97/264
e) None of these

**Answer & Explanation**

Answer – **c) 91/264**

**Explanation :**

Probability = probability of selecting the bag and probability of selecting red ball
(1/2)*(3/11) + (1/2)*(5/12) = 91/264

- **12 persons are seated at a circular table. Find the probability that 3 particular persons always seated together.**

a) 9/55
b) 7/55
c) 4/55
d) 3/55
e) None of these

**Answer & Explanation**

Answer – **d) 3/55**

**Explanation :**

total probability = (12-1)! = 11!
Desired probability = (10 – 1)! = 9!
So, p = (9! *3!) /11! = 3/55

- **P and Q are two friends standing in a circular arrangement with 10 more people. Find the probability that exactly 3 persons are seated between P and Q.**

a) 5/11
b) 4/11
c) 2/11
d) 3/11
e) None of these

**Answer & Explanation**

Answer – **c) 2/11**

**Explanation :**

Fix P at one point then number of places where B can be seated is 11.
Now, exactly three persons can be seated between P and Q, so only two places where Q can be seated. So, p = 2/11

- **A basket contains 5 black and 8 yellow balls. Four balls are drawn at random and not replaced. What is the probability that they are of different colours alternatively.**

a) 56/429
b) 57/429
c) 61/429
d) 68/429
e) None of these

**Answer & Explanation**

Answer – **a) 56/429**

**Explanation :**

sol=> BYBY + YBYB = (5/13)*(8/12)*(4/11)*(7/10) + (8/13)*(5/12)*(7/11)*(4/10) = 56/429

- **Direction(Q6 – Q8):**

**A bag contains 6 red balls and 8 green balls. Two balls are drawn at random one after one with replacement. What is the probability that-**

**Both the balls are green**

a) 13/49
b) 15/49
c) 16/49
d) 17/49
e) None of these

**Answer & Explanation**

Answer – **c) 16/49**

**Explanation :**

P = (8/14)*(8/14)

- **First one is green and second one is red**

a) 16/49
b) 14/49
c) 11/49
d) 12/49
e) None of these

**Answer & Explanation**

Answer – **d) 12/49**

**Explanation :**

P = (8/14)*(6/14)

- **Both the balls are red**

a) 14/49
b) 9/49
c) 11/49
d) 12/49
e) None of these

**Answer & Explanation**

Answer – **b) 9/49**

**Explanation :**

P = (6/14)*(6/14)

- **Find the probability that in a leap year, the numbers of Mondays are 53?**

a) 1/7
b) 2/7
c) 3/7
d) 4/7
e) None of these

**Answer & Explanation**

Answer – **b) 2/7**

**Explanation :**

In a leap year there are 52 complete weeks i.e. 364 days and 2 more days. These 2 days can be SM, MT, TW, WT, TF, FS, and SS.

So P = 2/7

- **A urn contains 4 red balls, 5 green balls and 6 white balls, if one ball is drawn at random, find the probability that it is neither red nor white.**

a) 1/3
b) 1/4
c) 1/5
d) 2/3
e) None of these

**Answer & Explanation**

Answer – **a) 1/3**

**Explanation :**

5c1/15c1 = 1/3