


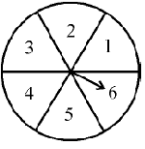
## Ch. 15 Probability

1.	Which of the following cannot be the probability of an event?			
	(a) $\frac{1}{5}$	(b) 0.3	(c) 4 %	(d) $\frac{5}{4}$
2.	If $P(A)$ denotes the probability of an event $A$ , then			
	(a) $P(A) < 0$	(b) $P(A) > 1$	(c) $0 \leq P(A) \leq 1$	(d) $-1 \leq P(A) \leq 1$
3.	One ticket is drawn at random from a bag containing tickets numbered 1 to 40. The probability that the selected ticket has a number which is a multiple of 7 is			
	(a) $\frac{1}{7}$	(b) $\frac{1}{8}$	(c) $\frac{1}{5}$	(d) $\frac{7}{40}$
4.	The probability that a number selected at random from the numbers 1, 2, 3, ..., 15 is a multiple of 4, is			
	(a) $\frac{4}{15}$	(b) $\frac{2}{15}$	(c) $\frac{1}{5}$	(d) $\frac{1}{3}$
5.	In a family of 3 children, the probability of having at least one boy is:			
	(a) $\frac{7}{8}$	(b) $\frac{1}{8}$	(c) $\frac{5}{8}$	(d) $\frac{3}{4}$
6.	Two different dice are tossed together. Find the probability (i) that the number on each die is even, (ii) that the sum of numbers appearing on the two dice is 5.			
7.	Five cards – the ten, jack, queen, king and ace of diamonds, are well shuffled with their faces downwards. One card is then picked up at random. (i) What is the probability that the drawn card is the queen? (ii) If the queen is drawn and put aside and a second card is drawn, find the probability that the second card is (a) an ace (b) a queen.			
8.	Cards marked with numbers 3, 4, 5, ....., 50 are placed in a box and mixed thoroughly. One card is drawn at random from the box. Find the probability that number on the drawn card is (i) divisible by 7 (ii) a number which is a perfect square.			
9.	A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability that the drawn card is neither a king nor a queen.			
10.	Two dice are thrown at the same time. Find the probability of getting different numbers on both dice.			
11.	A coin is tossed two times. Find the probability of getting at most one head.			
12.	Cards with numbers 2 to 101 are placed in a box. A card is selected at random from the box. Find the probability that the card which is selected has a number which is a perfect square.			
13.	A card is drawn from a well shuffled pack of 52 cards. Find the probability of getting (i) a red face card (ii) a black king.			
14.	A piggy bank contains hundred 50 p coins, seventy Re. 1 coins, fifty Rs. 2 coins and thirty Rs. 5 coins. If it is equally likely that one of the coins will fall out when the bank is turned upside down, what is the probability that the coin (i) will be a Re. 1 coin? (ii) will not be a Rs. 5 coin? (iii) will be a 50 p or a Rs. 2 coin?			
15.	A pair of dice is thrown once. Find the probability of getting the same number on each dice.			
16.	A bag contains 4 red, 5 black and 3 yellow balls. A ball is taken out of the bag at random. Find the probability			

	that the ball taken out is of (i) yellow colour (ii) not of red colour.	
17.	A bag contains tickets, numbered 11, 12, 13, ..., 30. A ticket is taken out from the bag at random. Find the probability that the number on the drawn ticket (i) is a multiple of 7 (ii) is greater than 15 and a multiple of 5.	
18.	A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball from the bag is thrice that of a red ball, find the number of blue balls in the bag.	
19.	Tickets numbers 3, 5, 7, 9, ..., 29 are placed in a box and mixed thoroughly. One ticket is drawn at random from the box. Find the probability that the number on the ticket is (i) a prime number (ii) a number less than 16 (iii) a number divisible by 3.	
20.	An unbiased die is tossed once. Find the probability of getting (i) a multiple of 2 or 3 (ii) a prime number greater than 2.	[2007]
21.	From a pack of 52 cards, red face cards are removed. After that a card is drawn at random from the pack. Find the probability that the card drawn is (i) a queen (ii) a red card (iii) a spade card.	[2007]
22.	From a pack of 52 cards, a black jack, a red queen and two black kings fell down. A card was then drawn from the pack at random. Find the probability that the selected card is a (i) black card (ii) king (iii) red queen.	[2007]
23.	Two coins are tossed simultaneously. Find the probability of getting (i) two heads (ii) at least one tail.	[2007]
24.	A box contains 5 red balls, 4 green balls and 7 white balls. A ball is drawn at random from the box. Find the probability that the ball drawn is (i) white (ii) neither red nor white.	[2007]
25.	All the three face cards of spades are removed from a well-shuffled pack of 52 card. A card is then drawn at random from the remaining pack. Find the probability of getting (i) a black face card (ii) a queen (iii) a black card.	[2007]
26.	Cards marked with numbers 3, 4, 5, ....., 50 are placed in a box and mixed thoroughly. One card is drawn at random from the box. Find the probability that number on the drawn card is (i) divisible by 7 (ii) a number which is a perfect square.	[2007]
27.	Tickets numbers 3, 5, 7, 9, . . ., 29 are placed in a box and mixed thoroughly. One ticket is drawn at random from the box. Find the probability that the number on the ticket is (i) a prime number(ii) a number less than 16 (iii) a number divisible by 3.	[2007]
28.	A bag contains 5 red balls and some blue balls. If the probability of drawing a blue ball from the bag is thrice that of a red ball, find the number of blue balls in the bag.	[2007]
29.	From a well shuffled pack of cards, a card is drawn at random. Find the probability of getting a black queen.	[2008]
30.	A die is thrown once. Find the probability of getting (i) an even prime number (ii) a multiple of 3.	[2008]
31.	A die is thrown once. Find the probability of getting a number less than 3.	[2008]
32.	The king, queen and jack of clubs are removed from a deck of 52 playing cards and the remaining cards are shuffled. A card is drawn from the remaining cards. Find the probability of getting a card of (i) heart (ii) queen (iii) clubs.	[2009]
33.	A box has cards numbered 14 to 99. Cards are mixed thoroughly and a card is drawn from the bag at random. Find the probability that the number on the card, drawn from the box is (i) an odd number (ii) a perfect square number (iii) a number divisible by 7.	[2009]

34.	Two coins are tossed simultaneously. Find the probability of getting exactly one head.	[2009]		
35.	Two dice are thrown simultaneously. What is the probability that (i) 5 will not come up on either of them? (ii) 5 will come up on at least one? (iii) 5 will come up at both dice?	[2009]		
36.	A die is thrown twice. What is the probability that the same number will come up either time?	[2010]		
37.	From a well-shuffled pack of playing cards, black jacks, black kings and black aces are removed. A card is then drawn at random from the pack. Find the probability of getting (i) a red card (ii) not a diamond card.	[2010]		
38.	Cards bearing numbers 1, 3, 5, ..., 35 are kept in a bag. A card is drawn at random from the bag. Find the probability of getting a card bearing (i) a prime number less than 15 (ii) a number divisible by 3 and 5.	[2010]		
39.	A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability of getting a red face card.	[2010]		
40.	A card is drawn from a well-shuffled deck of 52 playing cards. The probability that the card will not be an ace is	[2011]		
	(a) $\frac{1}{13}$	(b) $\frac{1}{4}$	(c) $\frac{12}{13}$	(d) $\frac{3}{4}$
41.	The probability of throwing a number greater than 2 with a fair die is	[2011]		
	(a) $\frac{2}{3}$	(b) $\frac{5}{6}$	(c) $\frac{1}{3}$	(d) $\frac{2}{5}$
42.	Which of the following cannot be the probability of an event?	[2011]		
	(a) 1.5	(b) $\frac{3}{5}$	(c) 25 %	(d) 0.3
43.	Two dice are rolled once. Find the probability of getting such numbers on the two dice, whose product is 12.	[2011]		
44.	A box contains 80 discs which are numbered from 1 to 80. If one disc is drawn at random from the box, find the probability that it bears a perfect square number.	[2011]		
45.	Two different dice are thrown at the same time. Find the probability that the sum of the two numbers appearing on the top of the dice is 7.	[2011]		
46.	Cards marked with numbers 5, 6, 7, ..., 74 are placed in a bag and mixed thoroughly. One card is drawn at random from the bag. Find the probability that the number on the card is a perfect square.	[2011]		
47.	A coin is tossed two times. Find the probability of getting at least one head.	[2011]		
48.	Two dice are rolled once. Find the probability of getting such numbers on two dice, whose product is a perfect square.	[2011]		
49.	A game consists of tossing a coin 3 times and noting its outcome each time. Hanif wins if he gets three heads or three tails and loses otherwise. Calculate the probability that Hanif will lose the game.	[2011]		
50.	A ticket is drawn at random from a bag containing tickets numbered from 1 to 40. Find the probability that the selected ticket has a number which is a multiple of 5.	[2011]		
51.	Cards bearing numbers 2, 3, 4, ..., 11 are kept in a bag. A card is drawn at random from the bag. The probability of getting a card with a prime number is	[2012]		

	(a) $\frac{1}{2}$	(b) $\frac{2}{5}$	(c) $\frac{3}{10}$	(d) $\frac{5}{9}$	
52.	A card is drawn at random from a well-shuffled pack of 52 cards. Find the probability of getting (i) a red king (ii) a queen or a jack.				[2012]
53.	All kings, queens and aces are removed from a pack of 52 cards. The remaining cards are well-shuffled and then a card is drawn from it. Find the probability of getting (i) a black face card (ii) a red card.				[2012]
54.	A box contains 90 discs, numbered from 1 to 90. If one disc is drawn at random from the box, the probability that it bears a prime number less than 23, is:				[2013]
	(a) $\frac{7}{90}$	(b) $\frac{10}{90}$	(c) $\frac{4}{45}$	(d) $\frac{9}{89}$	
55.	The probability of getting an even number, when a die is thrown once, is:				[2013]
	(a) $\frac{1}{2}$	(b) $\frac{1}{3}$	(c) $\frac{1}{6}$	(d) $\frac{5}{6}$	
56.	A group consists of 12 persons of which are extremely patient, other 6 are extremely honest and rest are extremely kind. A person from the group is selected at random. Assuming that each person is equally likely to be selected, find the probability of selecting a person who is (i) extremely patient (ii) extremely kind or honest. Which of the above values you prefer more.				[2013]
57.	A bag contains cards numbered from 1 to 25. A card is drawn at random from the bag. The probability that the number on this card is divisible by both 2 and 3 is				[2014]
	(a) $\frac{1}{5}$	(b) $\frac{3}{25}$	(c) $\frac{4}{25}$	(d) $\frac{2}{25}$	
58.	Two different coins are tossed simultaneously. The probability of getting at least one head is				[2014]
	(a) $\frac{1}{4}$	(b) $\frac{1}{8}$	(c) $\frac{3}{4}$	(d) $\frac{7}{8}$	
59.	Two different dice are rolled simultaneously. Find the probability that the sum of numbers appearing on the two dice is 10.				[2014]
60.	Cards numbered 1 to 30 are put in a bag. A card is drawn at random from this bag. Find the probability that the number on the drawn card is (i) not divisible by 3 (ii) a prime number greater than 7 (iii) not a perfect square number.				[2014]
61.	A letter of English alphabet is chosen at random. Determine the probability that the chosen letter is a consonant.				[2015]
62.	Two different dice are rolled together. Find the probability of getting: (i) the sum of numbers on two dice to be 5. (ii) even numbers on both dice.				[2015]
63.	A box contains 20 cards numbered from 1 to 20. A card is drawn at random from the box. Find the probability that the number on the drawn card is (i) divisible by 2 or 3 (ii) a prime number.				[2015]
64.	Two different dice are tossed together. Find the probability that the product of the two numbers on the top of the dice is 6.				[2015]
65.	The probability of selecting a red ball at random from a jar that contains only red, blue and orange balls is $\frac{1}{4}$ . The probability of selecting a blue ball at random from the same jar is $\frac{1}{3}$ . If the jar contains 10 orange balls, find the total number of balls in the jar.				[2015]
66.	A card is drawn at random from a well-shuffled deck of playing cards. Find the probability that the card drawn is (i) a card of spade or an ace (ii) a black king (iii) neither a jack nor a king (iv) either a				[2015]

	king or a queen.		
67.	A game of chance consists of spinning an arrow which comes to rest pointing at one of the numbers 1, 2, 3, 4, 5, 6, 7, 8 and these are equally likely outcomes. Find the probability that the arrow will point at any factor 8.	[2015]	
68.	A bag contains 18 balls out of which $x$ balls are red. (i) If one ball is drawn at random from the bag, what is the probability that it is not red? (ii) If 2 more red balls are put in the bag, the probability of drawing a red ball will be $\frac{9}{8}$ times the probability of drawing a red ball in the first case. Find the value of $x$ .	[2015]	
69.	A box contains cards bearing numbers from 6 to 70. If one card is drawn at random from the box, find the probability that it bears (i) a one-digit number (ii) a number divisible by 5 (iii) an odd number less than 30 (iv) a composite number between 50 and 70.	[2015]	
70.	A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability of getting neither a red card nor a queen.	[2016]	
71.	Three different coins are tossed together. Find the probability of getting (i) exactly two heads (ii) at least two heads (iii) at least two tails.	[2016]	
72.	A number $x$ is selected at random from the numbers 1, 2, 3 and 4. Another number $y$ is selected at random from the numbers 1, 4, 9 and 16. Find the probability that product of $x$ and $y$ is less than 16.	[2016]	
73.	Cards marked with number 3, 4, 5, ..., 50 are placed in a box and mixed thoroughly. A card is drawn at random from the box. Find the probability that the selected card bears a perfect square number.	[2016]	
74.	In a single throw of a pair of different dice, what is the probability of getting (i) a prime number of each dice? (ii) a total of 9 or 11?	[2016]	
75.	20 tickets, on which numbers 1 to 20 are written, are mixed thoroughly and then a ticket is drawn at random out of them. Find the probability that the number on the drawn ticket is a multiple of 3 or 7.	[2016]	
76.	A game consists of tossing a one-rupee coin 3 times and noting the outcome each time. Ramesh will win the game if all the tosses show the same result, (i.e. either all three heads or all three tails) and loses the game otherwise. Find the probability that Ramesh will lose the game.	[2016]	
77.	A card is drawn at random from a well shuffled pack of 52 playing cards. Find the probability of getting neither a red card nor a queen.	[2016]	
78.	Three different coins are tossed together. Find the probability of getting (i) exactly two heads (ii) at least two heads (iii) at least two tails.	[2016]	
79.	A game of chance consists of spinning an arrow on a circular board, divided into 8 equal parts, which comes to rest pointing at one of the numbers 1, 2, 3, ..., 8 (figure), which are equally likely outcomes. What is the probability that the arrow will point at (i) an odd number (ii) a number greater than 3 (iii) a number less than 9?		[2016]
80.	In figure, a disc is shown on which a player spins an arrow twice. The fraction $\frac{a}{b}$ is formed, where 'a' is the number of sector on which arrow stops on second spin. On each spin, each sector has equal chance of selection by the arrow. Find the probability that the fraction $\frac{a}{b} > 1$ .		[2016]
81.	A bag contains 15 white and some black balls. If the probability of drawing a black ball from the bag is thrice that of drawing a white ball, find the number of black balls in the bag.	[2017]	
82.	Two different dice are thrown together. Find the probability that the numbers obtained have (i) even	[2017]	

	sum (ii) even product.	
<b>83.</b>	The probability of selecting a rotten apple randomly from a heap of 900 apples is 0.18. What is the number of rotten apples in the heap?	<b>[2017]</b>
<b>84.</b>	A number is chosen at random from the numbers $-3, -2, -1, 0, 1, 2, 3$ . What will be the probability that square of this number is less than or equal to 1?	<b>[2017]</b>
<b>85.</b>	Two different dice are thrown together. Find the probability that the numbers obtained (i) have a sum less than 7(ii) have a product less than 16 (iii) is a doublet of odd numbers?	<b>[2017]</b>
<b>86.</b>	Peter throws two different dice together and finds the product of the two numbers obtained. Rina throws a die and squares the number obtained. Who has the better chance to get the number 25.	<b>[2017]</b>
<b>87.</b>	Two different dice are thrown together. Find the probability that the product of the numbers appeared is less than 18.	<b>[2017]</b>
<b>88.</b>	Find the probability that in a leap year there will be 53 Tuesdays.	<b>[2017]</b>
<b>89.</b>	A box contains 90 discs which are numbered from 1 to 90. If one disc is drawn at random from the box, find the probability that it bears (i) a two-digit number (ii) a number divisible by 5.	<b>[2017]</b>
<b>90.</b>	An integer is chosen at random between 1 and 100. Find the probability that is: (i) divisible by 8 (ii) not divisible by 8.	<b>[2018]</b>
<b>91.</b>	Two different dice are tossed together. Find the probability: (i) of getting a doublet (ii) of getting a sum 10, of the numbers on the two dice.	<b>[2018]</b>