



INDIAN SCHOOL AL WADI AL KABIR

Department: Mathematics

Class X

Worksheet – Probability

22-11-2023

Questions of 1 mark each

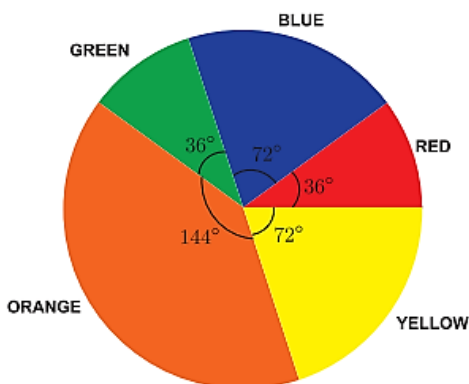
Q.1.	A girl calculates that the probability of her winning the first prize in a lottery is 0.08. If 6000 tickets are sold, then the number of tickets she bought is							
	A	480	B	450	C	400	D	600
Q.2.	A letter of English alphabets is chosen at random. What is the probability that it is a letter of the word ‘MATHEMATICS’?							
	A	$\frac{5}{13}$	B	$\frac{9}{26}$	C	$\frac{4}{13}$	D	$\frac{11}{26}$
Q.3.	One card is drawn from a well shuffled deck of 52 cards. The probability that it is black queen is							
	A	$\frac{1}{26}$	B	$\frac{1}{13}$	C	$\frac{1}{52}$	D	$\frac{2}{13}$
Q.4.	A number is selected at random from first 50 natural numbers. The probability that it is multiple of 3 and 4 both is							
	A	$\frac{7}{50}$	B	$\frac{4}{25}$	C	$\frac{1}{25}$	D	$\frac{2}{25}$
Q.5.	A jar contains 24 marbles-some are green and others are blue. If a marble is drawn at random from the jar, the probability that it is green is $\frac{2}{3}$. Then the number of blue marbles in the jar is							
	A	12	B	8	C	10	D	16
Q.6.	Probability of happening of an event is denoted by p and probability of non-happening of the event is denoted by q. Relation between p and q is							
	A	$p + q = 1$	B	$p = 1, q = 1$	C	$p = q - 1$	D	$p + q + 1 = 0$

Q.7.	The probability of a non-leap year having 53 Mondays is							
	A	$\frac{6}{7}$	B	$\frac{1}{53}$	C	$\frac{7}{53}$	D	$\frac{1}{7}$
Q.8.	Two different dice are thrown together. The probability that the number obtained is a doublet of odd numbers is							
	A	$\frac{13}{18}$	B	$\frac{1}{12}$	C	$\frac{4}{9}$	D	$\frac{1}{4}$
Q.9.	A badminton club has 40 members, 12 from group X, 15 from group Y, 8 from group Z and 5 from group W. A single member is selected at random to be the president. The probability that the member is from X or Z is (CFQ)							
	A	$\frac{1}{5}$	B	$\frac{3}{10}$	C	$\frac{1}{2}$	D	$\frac{2}{5}$
Q.10.	DIRECTION:							
	<p>In the given question, a Statement of Assertion (A) is followed by a Statement of Reason (R). Choose the correct option.</p> <p>Assertion: The probability of getting at least one head when flipping two fair coins is $\frac{3}{10}$.</p> <p>Reason: When flipping two fair coins, there are four equally likely outcomes: HH, HT, TH, and TT. Out of these four outcomes, two of them have at least one head (HH, HT). Therefore, the probability of getting at least one head is 2 out of 4, which simplifies to $\frac{1}{2}$.</p> <p>(a) Both assertion (A) and reason (R) are true and reason (R) is the correct explanation of assertion (A). (b) Both assertion (A) and reason (R) are true but reason (R) is not the correct explanation of assertion (A). (c) Assertion (A) is true but reason (R) is false. (d) Assertion (A) is false but reason (R) is true.</p>							
Questions of 2 marks each								
Q.11.	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.							

<p>Q.12.</p>	<p>On a particular day, Vidhi and Unnati couldn't decide on who would get to drive the car. They had one coin each and flipped their coins exactly three times. The following was agreed upon:</p> <ul style="list-style-type: none"> ➤ If Vidhi gets two heads in a row, she would drive the car. ➤ If Unnati gets a head immediately followed by a tail, she would drive the car. <p>Who has more probability to drive the car that day? List all outcome and show steps. (CFQ)</p>
<p>Q.13.</p>	<p>Jenin has four 50- rupee notes, seven 100-rupee notes and two 2000-rupee notes in her purse. She doesn't have any other denomination of currency with her. She goes for shopping and buys a dress for ₹799. She takes out a note from her purse at random.</p> <p>(i) Find the probability that the note will be sufficient to pay for the dress.</p> <p>(ii) Find the probability that she will be able to give exactly ₹799 to the shopkeeper. (CFQ)</p>
<p>Q.14.</p>	<p>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 numbers 25?</p>
<p>Questions of 3 marks each</p>	
<p>Q.15.</p>	<p>Two coins are tossed simultaneously. What is the probability of getting</p> <p>(i) at least one head (ii) at most one tail (iii) a head and a tail?</p>
<p>Q.16.</p>	<p>A box contains cards on which the numbers from 2 to 101 are marked. A card is drawn from the bag at random, find the probability that number on the card drawn is:</p> <p>(i) a multiple of 7 (ii) a perfect square number (iii) a two digit number</p>
<p>Q.17.</p>	<p>Three - digit numbers are made using the digits 4, 5, 9 (without repetition). If a number among them is selected at random, what is the probability that the number will be</p> <p>(i) a multiple of 5 (ii) a multiple of 9 (iii) will end with 9</p>
<p>Q.18.</p>	<p>The probability of selecting a blue marble at random from a jar that contains only blue, black and green marbles is $\frac{1}{5}$. The probability of selecting a black marble at random from the same jar is $\frac{1}{4}$.</p> <p>If the jar contains 11 green marbles, find the total number of marbles in the jar.</p>

Case study-based (4 marks)

Q.19. A survey was taken at a high school, and the results were put in a circle graph. The students were asked to list their favourite colours. The measurement of each central angle is shown. If a person is chosen at random from the school, find the probability of each response.



- What is the probability of favourite colour being red?
- What is the probability of favourite colour being blue or green?
- What is the probability of favourite colour not being red or blue?
- What is the probability of favourite colour not being orange or green?
- What is the probability of favourite colour being red or blue?

Q.20. Rahul and Ravi planned to play Business (board game) in which they were supposed to use two dice



- Ravi got first chance to roll the dice. What is the probability that the sum of the two numbers appearing on the top face of the dice is 8?
- Rahul got next chance. What is the probability that he got the sum of the two numbers appearing on the top face of the dice is 13?
- Now it was Ravi's turn. He rolled the dice. What is the probability that he got the sum of the two numbers appearing on the top face of the dice is less than or equal to 12?
- Rahul got next chance. What is the probability that he got the sum of the two numbers appearing on the top face of the dice is equal to 7?
- Now it was Ravi's turn. He rolled the dice. What is the probability that he got the sum of the two numbers appearing on the top face of the dice is greater than 8?

ANSWERS

Q.1	A	Q.2	C	Q.3	A	Q.4	D
Q.5	B	Q.6	A	Q.7	D	Q.8	B
Q.9	C	Q.10	c	Q.11	45	Q.12	$\frac{3}{8}, \frac{4}{8}$, Unnati
Q.13	$\frac{2}{13}, 0$	Q.14	$\frac{1}{36}, \frac{1}{6}$, Rina	Q.15	$\frac{3}{4}, \frac{3}{4}, \frac{1}{2}$	Q.16	$\frac{7}{50}, \frac{9}{100}, \frac{9}{10}$
Q.17	$\frac{1}{3}, 1, \frac{1}{3}$	Q.18	20	Q.19	(i) 0.1 (ii) 0.3 (iii) 0.7 (iv) 0.5 (v) 0.6	Q.20	(i) $\frac{5}{36}$ (ii) 0 (iii) 1 (iv) $\frac{1}{6}$ (v) $\frac{5}{18}$