

# Probability

**Q1. When we toss a coin, it yields two well-defined outcomes—Head or Tail. Based on this information match the following:**

Tossing a coin	Event
{Head, Tail}	Random experiment
Occurrence of head or tail	Sample space

**Q2. State True or False:**

- The probability of a sure event is 1. \_\_\_\_\_
- In a die, the sum of dots on opposite faces may or may not be 7. \_\_\_\_\_
- The probability of an event ranges from 1 to 10. \_\_\_\_\_
- When a die is thrown randomly, the probability of getting a 5 is  $\frac{1}{6}$ . \_\_\_\_\_

**Q3. A bag contains 2 white marbles, 5 grey marbles and 6 red marbles. If Raj randomly takes out a marble from the bag, write the probability of getting:**

- A white marble : Probability = \_\_\_\_\_
- A grey marble : Probability = \_\_\_\_\_
- A white or grey marble : Probability = \_\_\_\_\_
- A pink marble : Probability = \_\_\_\_\_

**Q4. In a box, there are cards bearing letters of the English alphabet from A to Z. A card is taken out of the box at random. What is the probability that card taken out bears:**

- A vowel : Probability =  $\frac{\square}{\square}$

- b. A letter G : Probability =  $\frac{\square}{\square}$
- c. Any letter from the word 'LOST' : Probability =  $\frac{\square}{\square}$
- d. Any letter other than B : Probability =  $\frac{\square}{\square}$

**Q5. Kirti threw a die randomly 500 times and the following results were recorded.**

<b>Outcome</b>	1	2	3	4	5	6
<b>Frequency</b>	70	85	125	85	65	70

**If Kirti throws a die randomly again, what is the probability of her getting:**

- a. a six  
Probability =  $\frac{\square}{\square}$
- b. a prime number more than 3  
Probability =  $\frac{\square}{\square}$
- c. an even number  
Probability =  $\frac{\square}{\square}$
- d. a number less than 5  
Probability =  $\frac{\square}{\square}$

**Q6. If two coins are tossed simultaneously, find the probability of getting:**

- a. two heads:  
Probability =  $\frac{\square}{\square}$
- b. at least one head:  
Probability =  $\frac{\square}{\square}$
- c. exactly one head:  
Probability =  $\frac{\square}{\square}$

**Q7. From a well-shuffled pack of cards, a card is chosen at random. What is the probability that the chosen card is:**

a. black in colour:  
Probability =  $\frac{\square}{\square}$

b. a queen or a jack:  
Probability =  $\frac{\square}{\square}$

c. not a heart:  
Probability =  $\frac{\square}{\square}$

**Q8. A coin is tossed 200 times with the following observations:**

Head: 125; Tail : 75

When a coin is tossed at random, find the probability of getting:

a. a head :  
Probability : \_\_\_\_\_

b. a tail :  
Probability : \_\_\_\_\_

**Q9. Ramesh will win if he gets a four. Sushil will win if he gets a one. If both of them throw a die randomly, who has a higher probability of winning?**

Answer: \_\_\_\_\_

**Q10. The following table shows Karan's score in the previous 8 matches:**

<b>Runs scored</b>	Less than 50	50	More than 50
<b>Number of matches</b>	2	3	3

Find the probability of Karan scoring the following runs in the next match:

a. less than 50 runs : Probability =  $\frac{\square}{\square}$

b. more than 50 runs : Probability =  $\frac{\square}{\square}$

c. 50 runs : Probability =  $\frac{\square}{\square}$

# Answers

1.

Tossing a coin	Random experiment
{Head, Tail}	Sample space
Occurrence of head or tail	Event

2. a. True; b. False; c. False; d. True

3. a.  $\frac{2}{13}$ ; b.  $\frac{5}{13}$ ; c.  $\frac{7}{13}$ ; d. 0

4. a.  $\frac{5}{26}$ ; b.  $\frac{1}{26}$ ; c.  $\frac{2}{13}$ ; d.  $\frac{25}{26}$

5. a.  $\frac{7}{50}$ ; b.  $\frac{13}{100}$ ; c.  $\frac{12}{25}$ ; d.  $\frac{73}{100}$

6. a.  $\frac{1}{4}$ ; b.  $\frac{3}{4}$ ; c.  $\frac{1}{2}$

7. a.  $\frac{1}{2}$ ; b.  $\frac{2}{13}$ ; c.  $\frac{3}{4}$

8. a.  $\frac{5}{8}$ ; b.  $\frac{3}{8}$

9. Both have equal probability of winning, i.e.,  $\frac{1}{6}$ .

10. a.  $\frac{1}{4}$ ; b.  $\frac{3}{8}$ ; c.  $\frac{3}{8}$