Mathematics

Practice Test Paper 3

(Chapter 14: Probability)

Class X | 2026–27

Time Allowed: 45 Minutes | Maximum Marks: 25

General Instructions

1. All 13 questions are compulsory. The paper has four sections: A, B, C and D.
2. Section A - 5 marks; Section B - 8 marks; Section C - 9 marks; Section D - 3 marks.
3. Choose one correct option in Section A. Show the necessary steps and reasoning in Sections B, C and D.
4. Give probabilities in their simplest form. Use of calculators is not allowed.

SECTION A

(5 questions × 1 mark = 5 marks)

1. The probabilities of all elementary events of a finite experiment add up to which value?

(A) 0 (B) $\frac{1}{2}$

(C) The number of outcomes (D) 1

2. The probability that a parcel arrives late is 0.37. Find the probability that it does not arrive late.

(A) 0.37 (B) 0.63

(C) 0.73 (D) 1.37

3. A fair die is rolled. What is the probability of a composite number?

(A) $\frac{1}{3}$ (B) $\frac{1}{2}$

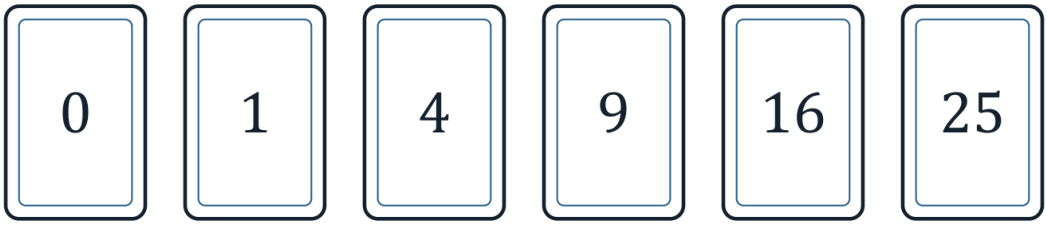
(C) $\frac{1}{6}$ (D) $\frac{2}{3}$

4. Assume birthdays are equally likely on the 365 days of a non-leap year. For a person with a fixed birthday, what is the probability that a randomly chosen friend has the same birthday?

(A) $\frac{364}{365}$ (B) $\frac{1}{12}$

(C) $\frac{1}{365}$ (D) $\frac{1}{2}$

5. The six cards shown are shuffled face down and one is selected at random. Find the probability of a two-digit number.



(A) $\frac{1}{2}$ (B) $\frac{1}{3}$

(C) $\frac{1}{6}$ (D) $\frac{2}{3}$

SECTION B

(4 questions × 2 marks = 8 marks)

6. A fish is selected at random from a tank containing 5 male and 8 female fish. Find the probabilities of (i) male and (ii) female.

7. A pen is chosen at random from the stock below. Find the probabilities that it (i) works and (ii) is faulty.

Condition	Working	Faulty
Number of pens	111	9

8. Assume that the first day of a non-leap year is equally likely to be any weekday. Find the probability that the year contains 53 Mondays.

9. A bag has 8 red balls and 2 blue balls. A student says, “There are two colours, so each has probability 1/2.” Explain the error and give the correct probabilities.

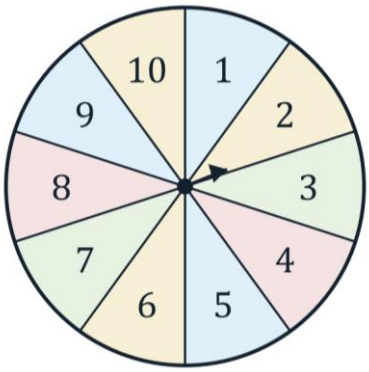
SECTION C

(3 questions × 3 marks = 9 marks)

10. Two fair dice are rolled independently. List the ordered outcomes for which the numbers differ by exactly 2, and find the probability.

11. A fair coin is tossed three times independently. Find the probabilities of (i) exactly two heads and (ii) at most one head. Which event is more likely?

12. The spinner shown has ten equally likely sectors. Find the probabilities of (i) a prime number, (ii) a perfect square and (iii) a number that is neither prime nor a perfect square.



SECTION D

(Application Based Question - 3 marks)

13. A box contains 90 identical discs numbered 1 to 90. One disc is drawn at random. Find the following probabilities.

(i) The number has two digits.

(ii) The number is a perfect square.

(iii) The number is divisible by 5.