Mathematics

Practice Test Paper 4

(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. For an event E, P(E) = 2P(not E). What is P(E)?

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

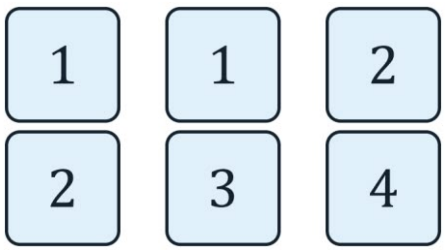
(C) $\frac{1}{2}$ (D) $\frac{3}{4}$

2. One card is selected from a well-shuffled standard deck. Find the probability of a red king.

(A) $\frac{1}{13}$ (B) $\frac{1}{2}$

(C) $\frac{1}{26}$ (D) $\frac{2}{13}$

3. A fair die has the six face labels shown. What is the probability of rolling 1?



(A) $\frac{1}{4}$ (B) $\frac{1}{6}$

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

4. An event consisting of exactly one outcome is called what?

(A) An impossible event (B) An elementary event

(C) A certain event (D) A complementary pair

5. One household is selected at random from the table. What is the probability that it owns at least two bicycles?

Bicycles owned	0	1	2	3
Households	6	14	8	2

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

(C) $\frac{4}{15}$ (D) $\frac{1}{15}$

SECTION B

(4 questions × 2 marks = 8 marks)

6. A student treats "two heads", "two tails" and "one of each" as three equally likely outcomes of tossing two fair coins independently. Is this correct? Justify your answer.

7. A bag contains 12 black balls and some white balls. Each ball is equally likely to be drawn. If P(black) = 3/7, how many white balls are there?

8. A two-digit positive integer is chosen at random. Find the probability that its units digit is zero.

9. All four queens are removed from a standard deck. One of the remaining cards is drawn at random. Find the probability of a face card.

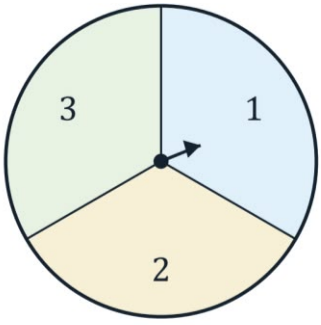
SECTION C

(3 questions × 3 marks = 9 marks)

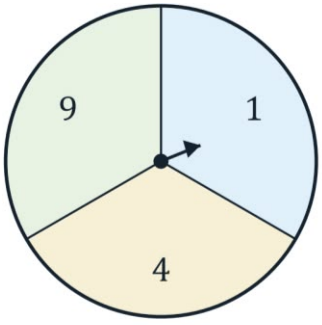
10. The items in the two boxes shown in the table are mixed together. One item is chosen at random. Find the probabilities of (i) a defective item, (ii) an item originally in Box A and (iii) a good item originally in Box B.

Box	Good	Defective
A	24	6
B	35	5

11. Each of the two spinners shown is fair. They are spun independently. If x and y are their results, find the probabilities that xy is (i) less than 9, (ii) equal to 9 and (iii) greater than 9.



x



y

12. Two fair dice are rolled independently. Find the probabilities that their sum is (i) prime and (ii) not prime. Show how you count the favourable outcomes.

SECTION D

(Application Based Question - 3 marks)

13. Each letter of PROBABILITY is written on a separate identical slip. All eleven slips are mixed and one is drawn at random. Find each probability.

(i) The letter is B.

(ii) The letter is a vowel (A, E, I, O or U).

(iii) The letter is not P.