Mathematics

Practice Test Paper 6

(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. If P(not E) = 3/8, what is P(E)?

(A) $\frac{3}{8}$ (B) $\frac{8}{3}$

(C) $\frac{5}{8}$ (D) $\frac{1}{8}$

2. For an event with m favourable outcomes among n equally likely outcomes, which condition must hold?

(A) $0 \le m \le n$ (B) $m > n$

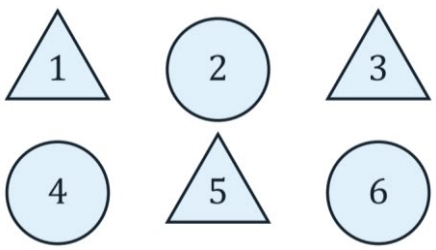
(C) $m < 0$ (D) $n = 0$

3. A fair die is rolled once. What is the probability of an odd number less than 3?

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

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

4. One of the six numbered counters shown is chosen at random. What is the probability that it is circular?



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

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

5. One card is drawn from a well-shuffled standard deck. What is the probability that its suit is hearts?

(A) $\frac{1}{4}$ (B) $\frac{1}{2}$

(C) $\frac{1}{13}$ (D) $\frac{3}{4}$

SECTION B

(4 questions × 2 marks = 8 marks)

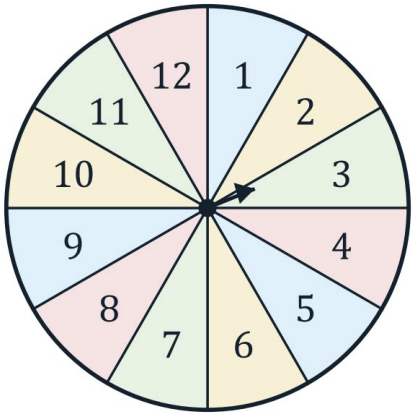
6. Each student in the table uses exactly one listed travel method. One student is selected at random. Find the probabilities of (i) walking or cycling and (ii) not travelling by bus.

Travel method	Bus	Walk	Cycle	Car
Students	12	9	15	4

7. One date in April is chosen at random, with all 30 dates equally likely. Find the probabilities that its date number is (i) a multiple of 5 and (ii) prime.

8. The ace of hearts is removed from a standard deck. A card is then drawn at random from the remaining cards. Find the probabilities that it is (i) red and (ii) black.

9. The spinner shown has twelve equally likely sectors. Find the probabilities of (i) a number divisible by 3 or 4 and (ii) a number divisible by neither 3 nor 4.



SECTION C

(3 questions × 3 marks = 9 marks)

10. A fair die is rolled twice independently. Find the probabilities that (i) 5 does not appear on either roll and (ii) 5 appears at least once.

11. A bag initially has 7 red balls and some blue balls. After adding 3 red balls, the probability of drawing a red ball is 1/2. Find the initial number of blue balls and the initial probability of blue.

12. A notebook is chosen at random from the stock in the table. Find the probabilities that it is (i) made of new paper, (ii) ruled and recycled and (iii) neither ruled nor recycled.

Notebook	Recycled paper	New paper
Ruled	18	12
Plain	8	12

SECTION D

(Application Based Question - 3 marks)

13. A carton contains 100 shirts: 88 good, 8 with minor defects and 4 with major defects. One shirt is chosen at random. Trader A accepts only good shirts. Trader B rejects only shirts with major defects. Find the following probabilities.

(i) Trader A accepts the shirt.

(ii) Trader B accepts the shirt.

(iii) Trader B rejects the shirt.