

CLASS 11

MATHS

EXTRA QUESTIONS

Class 11 Maths Chapter 14 Probability – Extra Questions with Answers

Extra practice questions for Class 11 Maths Chapter 14 (Probability), beyond the textbook. These Class 11 Maths Chapter 14 important questions are handy for last-minute exam practice.

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- Very Short Answer Questions (1 mark)
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Extra practice questions for Class 11 Maths Chapter 14 (Probability), beyond the textbook. These Class 11 Maths Chapter 14 important questions are handy for last-minute exam practice.

Very Short Answer Questions (1 mark)

Q1. Write the sample space when a die is rolled.

Ans: {1, 2, 3, 4, 5, 6}.

Q2. What is the probability of a sure event?

Ans: 1.

Q3. Find the probability of getting an even number when a die is rolled.

Ans: Favourable outcomes {2,4,6} = 3; $P = 3/6 = 1/2$.

Q4. If $P(A) = 0.4$, find $P(A')$, the complement.

Ans: $1 - 0.4 = 0.6$.

Q5. Are the events “rolling an even number” and “rolling an odd number” on a die mutually exclusive?

Ans: Yes, they cannot happen simultaneously.

Short Answer Questions (2–3 marks)

Q6. A card is drawn from a standard deck of 52 cards. Find the probability that it is a king or a queen.

Ans: These are mutually exclusive events. $P(\text{king}) = 4/52$; $P(\text{queen}) = 4/52$. $P(\text{king or queen}) = 4/52 + 4/52 = 8/52 = 2/13$.

Q7. Two dice are rolled. Find the probability that the sum of the numbers is 7.

Ans: Total outcomes = 36. Favourable: (1,6),(2,5),(3,4),(4,3),(5,2),(6,1) = 6 outcomes. $P = 6/36 = 1/6$.

Q8. In a class of 40 students, 18 play cricket, 20 play football, and 8 play both. Find the probability that a randomly chosen student plays cricket or football, using the addition rule.

Ans: $P(\text{cricket}) = 18/40$, $P(\text{football}) = 20/40$, $P(\text{both}) = 8/40$. $P(\text{cricket or football}) = 18/40 + 20/40 - 8/40 = 30/40 = 3/4$.

Higher-Order Thinking / Application Questions

Q9. Explain why the formula $P(A \cup B) = P(A) + P(B)$ would overcount the probability if A and B are NOT mutually exclusive, using the class example above (cricket/football) as illustration.

Ans: If we simply added $P(\text{cricket}) + P(\text{football}) = 18/40 + 20/40 = 38/40$ without subtracting the overlap, we would be double-counting the 8 students who play both sports (they'd be counted once in the cricket group and again in the football group). Subtracting $P(A \cap B) = 8/40$ removes this double-counting, correctly giving $30/40$ as the true probability of playing at least one sport.

Q10. A single die is rolled once. Event A = “rolling a number greater than 4” and Event B = “rolling an even number.” Find $P(A)$, $P(B)$, $P(A \cap B)$, and $P(A \cup B)$, explaining each step.

Ans: $A = \{5,6\}$, so $P(A) = 2/6 = 1/3$. $B = \{2,4,6\}$, so $P(B) = 3/6 = 1/2$. $A \cap B$ (both greater than 4 AND even) = {6}, so $P(A \cap B) = 1/6$. Using the addition rule: $P(A \cup B) = P(A) + P(B) - P(A \cap B) = 1/3 + 1/2 - 1/6 = 2/6 + 3/6 - 1/6 = 4/6 = 2/3$.

Class 11 Maths Chapter 14 – Solutions and Notes

For complete step-by-step answers and a quick summary, check the [Class 11 Maths Chapter 14 Solutions](#) and [Class 11 Maths Chapter 14 Revision Notes](#).

See also: [Chapter 2](#) | [Chapter 3](#) | [Chapter 4](#) | [Chapter 5](#) | [Chapter 6](#) | [Chapter 7](#) | [Chapter 8](#) | [Chapter 9](#) | [Chapter 10](#) | [Chapter 11](#) | [Chapter 12](#) | [Chapter 13](#) | [Chapter 14](#)

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