

# Class 10 Mathematics - Chapter: Probability

## 1. Introduction

Probability is the measure of how likely an event is to occur. It ranges from 0 (impossible) to 1 (certain).

## 2. Basic Terms

- Experiment: An action with an uncertain outcome (e.g., tossing a coin).
- Outcome: A possible result of an experiment (e.g., heads).
- Sample Space: The set of all possible outcomes (e.g., {H, T}).
- Event: One or more outcomes of an experiment.

## 3. Probability Formula

If all outcomes are equally likely, then:

Probability of an event (E) = (Number of favorable outcomes) / (Total number of outcomes)

## 4. Example Problems

- Tossing a coin: Probability of getting heads =  $\frac{1}{2}$
- Rolling a die: Probability of getting a 4 =  $\frac{1}{6}$
- Drawing a card: Probability of drawing a king from a deck =  $\frac{4}{52} = \frac{1}{13}$

## 5. Important Points

- Probability is always between 0 and 1.
- Sum of probabilities of all possible outcomes = 1.
- Impossible event has probability 0; certain event has probability 1.

## 6. Exam Tips

- Understand the difference between outcomes, events, and sample space.
- Practice with real-life examples like dice, coins, cards.
- Use fractions and reduce them to simplest form.

Summary:

Probability is a useful tool to understand uncertainty in real-life scenarios and helps in predicting outcomes.