



## Class 9 Maths – Chapter 7



### Exercise 7.3 – Important Questions with Answer Key

Ganita Manjari | New Syllabus 2026–27

Exercise 7.3 has **3 questions** and focuses on **sample space and events**.

---

#### 1. Single Die

**Question:** When a single 6-sided die is rolled, what is the total number of possible outcomes in the sample space?



**Solution:**

The possible outcomes are:

$$S = \{1, 2, 3, 4, 5, 6\}$$

Therefore:

$$n(S) = 6$$



**Answer:**

**6 possible outcomes**

---

#### 2. Write the Sample Space

(i)  Rolling a die and tossing a coin together

Die outcomes:

**1, 2, 3, 4, 5, 6**

Coin outcomes:

H, T

Therefore:

$S = \{(1,H), (1,T), (2,H), (2,T), (3,H), (3,T), (4,H), (4,T), (5,H), (5,T), (6,H), (6,T)\}$

Number of outcomes:

$n(S) = 12$

✓ **Answer:**

**12 outcomes**

---

(ii)  **Choosing a random integer between -5 and +5**

Taking both endpoints as included:

$S = \{-5, -4, -3, -2, -1, 0, 1, 2, 3, 4, 5\}$

Therefore:

$n(S) = 11$

✓ **Answer:**

**11 outcomes**

📌 The textbook wording says “between -5 and +5,” and the textbook solution treats **-5 and +5 as included**.

---

(iii)   **Drawing a ball**

A box contains:

- 5 green balls
- 7 red balls

One ball is drawn.

Since we are recording the **colour** of the ball:

$S = \{\text{Green, Red}\}$

✓ **Answer:**

$S = \{\text{Green, Red}\}$

---

### 3. 🍴🍽️ Village Fair

At a village fair:

**Snacks:**

🥟 Samosa

🥙 Pakora

🥘 Bhaji

**Drinks:**

☕ Chai

🥛 Lassi

**(i) List the complete sample space.**

Each snack can be paired with either drink.

✏️ **Solution:**

$S = \{$

(Samosa, Chai),

(Samosa, Lassi),

(Pakora, Chai),

(Pakora, Lassi),

(Bhaji, Chai),

(Bhaji, Lassi)

$\}$

Therefore:

$n(S) = 6$

✓ **Answer:**

**6 possible snack-drink combinations**

---

**(ii) List the event “Selecting Samosa as a snack.”**

The outcomes containing Samosa are:

**$E = \{(Samosa, Chai), (Samosa, Lassi)\}$**

✓ **Answer:**

**$E = \{(Samosa, Chai), (Samosa, Lassi)\}$**

If the probability is also required:

**$P(Samosa) = 2/6 = 1/3$**

---



## **COMPLETE ANSWER KEY**

| <b>Q.</b>     | <b>Answer</b>                                               |
|---------------|-------------------------------------------------------------|
| <b>1</b>      | <b>6 outcomes</b>                                           |
| <b>2(i)</b>   | <b>12 outcomes</b>                                          |
| <b>2(ii)</b>  | <b>11 outcomes</b>                                          |
| <b>2(iii)</b> | <b><math>S = \{Green, Red\}</math></b>                      |
| <b>3(i)</b>   | <b>6 snack-drink combinations</b>                           |
| <b>3(ii)</b>  | <b><math>E = \{(Samosa, Chai), (Samosa, Lassi)\}</math></b> |

★ **Remember**

📌 **Sample Space (S)** = set of **all possible outcomes**

📌 **Event (E)** = one or more selected outcomes from the sample space

📌 **Sample Size:  $n(S)$**  = number of outcomes in the sample space

📌 For combined experiments:

**Number of outcomes =  $6 \times 2 = 12$**

The textbook explicitly states that a sample space must contain **every possible outcome without repetition**, and an event is a **subset of the sample space**.