

Set Concepts (Including Venn Diagrams)

Chapter 12: Set Concepts (Including Venn Diagrams) · Topic 1

Key Concept

A Venn diagram uses overlapping circles to show relationships between sets, with each circle representing one set.

The union of two sets ($A \cup B$) includes all elements in either set, while the intersection ($A \cap B$) includes only elements in both sets.

The area where circles overlap in a Venn diagram represents the intersection, while the total area covered represents the union.

Venn diagrams help us visually solve problems involving groups, like finding students who like both cricket and football.

Quick Revision Notes

- A Venn diagram uses overlapping circles for sets.
- Union ($A \cup B$) includes elements in either set.
- Intersection ($A \cap B$) includes elements in both.
- The overlap area shows the intersection.
- The total area shows the union.
- Venn diagrams solve grouping problems.
- Example: students liking both cricket and football.
- They help visualise set relationships.

Practice Questions

- 1 Draw a Venn diagram for two sets you choose.
- 2 Find the union of $\{1,2,3\}$ and $\{3,4,5\}$.
- 3 Find the intersection of $\{1,2,3\}$ and $\{3,4,5\}$.
- 4 Discuss a real-life example using a Venn diagram.
- 5 Create a Venn diagram for students liking two sports.
- 6 Explain union and intersection in your own words.