

Sets

Chapter 1: Sets · Topic 1

Key Concept

A set is denoted using curly braces, like $A=\{1,2,3\}$, and each item in a set is called an element, with unique elements only.

Set operations include union (combining elements from both sets), intersection (common elements), and difference (elements in one set but not another).

A subset is a set whose elements are all contained within another set, while the universal set contains all elements under consideration.

Venn diagrams visually represent sets and their relationships, making it easier to understand operations like union and intersection.

Quick Revision Notes

- Set: collection of distinct objects, curly braces.
- Example: $A=\{1,2,3\}$. Elements are unique.
- Union: combines elements from both sets.
- Intersection: common elements only.
- Difference: elements in one, not other.
- Subset: all elements within another set.
- Universal set: contains all elements considered.
- Venn diagrams visualise set relationships.

Practice Questions

- 1 Write a set of your favourite fruits.
- 2 Find the union of $A=\{1,2,3\}$ and $B=\{3,4,5\}$.
- 3 Find the intersection of $A=\{1,2,3\}$ and $B=\{3,4,5\}$.
- 4 Draw a Venn diagram showing two overlapping sets.
- 5 Identify a subset of a given set.
- 6 Explain sets in your own words.