

Representing 3-D in 2-D

Chapter 19: Representing 3-D in 2-D · Topic 1

Key Concept

A net is a flattened, unfolded pattern of a 3D solid that can be folded to form the shape, like a cube's net showing six connected squares.

Isometric drawings represent 3D objects on paper while maintaining relative proportions, often using isometric dot or grid paper.

Oblique sketches show one face of an object in true shape, with other faces drawn at an angle to suggest depth.

Understanding these representations helps us visualise and communicate 3D shapes and structures using 2D drawings, useful in design and construction.

Quick Revision Notes

- A net is a flattened pattern of a 3D solid.
- A cube's net has six connected squares.
- Isometric drawings maintain relative proportions.
- They use isometric dot or grid paper.
- Oblique sketches show one true face with angled depth.
- These represent 3D shapes in 2D.
- This is useful in design and construction.
- Understanding this helps visualise structures.

Practice Questions

- 1 Draw a net for a cube.
- 2 Practice an isometric drawing of a simple box.
- 3 Draw an oblique sketch of a cuboid.
- 4 Discuss why nets are useful for understanding solids.
- 5 Fold a paper net into a 3D shape.
- 6 Explain the difference between isometric and oblique sketches.