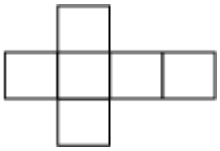
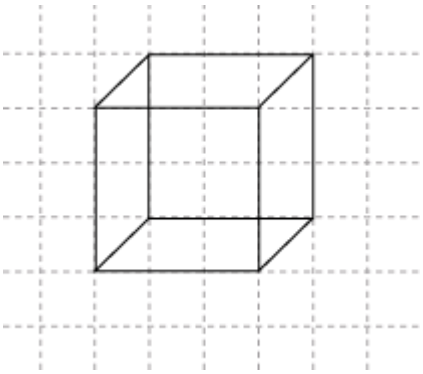
Visualising Solid Shapes

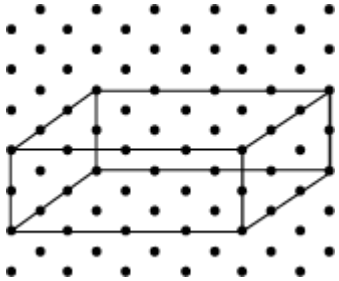
- Plane figures like rectangle, square, etc., are two-dimensional figures.
- Solid shapes like sphere, cylinder, cuboid, etc., are three-dimensional figures.
- The corners of a solid figure are called its vertices; the line segments joining the vertices are known as its edges; and its flat surfaces are called faces.
  A cuboid has 8 vertices, 12 edges and 6 faces.
- A net is a skeleton outline of a solid, which can be folded to make the solid.
  For example:

 is a net for a cube and  is a net for a cone

  Note: The same solid can have several types of nets.
- Oblique sketches
  - Oblique sketches are drawn on squared (lines or dots) paper.
  - In oblique sketches, the lengths of the sides of a solid are not proportional.

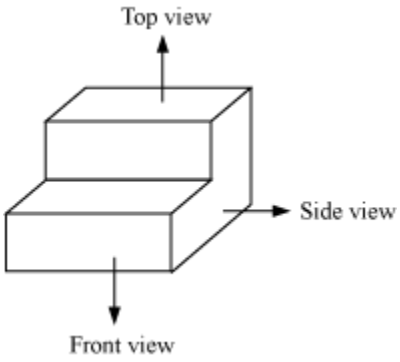


  For example: The given figure shows a cube of dimensions 3 units × 3 units × 3 units.
- Isometric sketches
  - Isometric sketches are drawn on isometric dot paper.
  - In isometric sketches, the lengths of a solid are proportional.

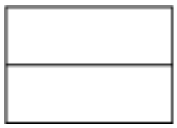


For example: The given figure represents a cuboid of dimensions 4 units × 3 units × 2 units.

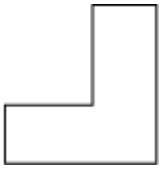
❖ Visualising three-dimensional figures from different views:



The given solid when viewed from the given directions gives

 as the front view

 as the top view

 as the side view