CLASS-VII

CHAPTER-15

VISUALISING SOLID SHAPES

INTRODUCTION

1.Figures having two dimensions, i.e., length and breadth are two dimensional figures or plane figures, e.g., circle, square and rectangle etc.

2. Figures having three dimensions, i.e., length, breadth and height are called three dimensional figures, e.g., cube, cylinder and cuboid etc.

3.A net is the Skeleton out line in two dimensions which when folded results in a three dimensional figures. There are different nets for different shapes.

4.Various methods are used to draw solids on a flat surface.

(i)oblique sketches: In oblique sketches the size of the front faces and its opposite are same and the edges may not be equal to the actual measurement of the figure.

(ii)Isometric sketches: These are drawn on isometric dot sheet. Isometric sketches show exact measurement of edges of solid figures.

LEVEL-1

1.Match the following

|  |  |  |  |
| --- | --- | --- | --- |
| SN | COLUMN-A | SN | COLUMN-B |
| (i) |  | (a) | Circle |
| (ii) |  | (b) | Triangle |
| (iii) |  | (c) | Square |
| (iv) |  | (d) | rectangle |

2.Match the following

|  |  |  |  |
| --- | --- | --- | --- |
| SN | COLUMN-A | SN | COLUMN-B |
| (i) |  | (a) | Cube |
| (ii) |  | (b) | Cuboid |
| (iii) |  | (c) | Sphere |
| (iv) |  | (d) | cylinder |

3.What cross section do you get when you give a (i) vertical cut(ii)horizontal cut to a brick.

4.Name the solid shape which have all equal sides ,6 faces,8 vertices and 12 edges.

5. Name the solid shape which have only one faces, no vertices and no edges.

LEVEL-2

1.A solid figure which does not have a vertex or an edge is called:

(i) cone (ii) pyramid (iii) sphere (iv) cuboid

2.A square is a :(i) a plane figure (ii) solid figure (iii) 3-D (iv) none of these

3.The corner where three faces of a cuboid meet is called:

(i) edge (ii) vertex (iii) side (iv) face

4.How many edge are there in a cuboid:

(i) 10 (ii) 12 (iii) 6 (iv) 8

5.How many faces does a cylinder have?

(i) 3 (ii) 4 (iii) 2 (iv) 1

LEVEL-3

1. Two dimensional figure are based on only :

(i) one side (ii) length and breadth (iii) length and height (iv) breadth and height

2.A 3 D figure with a rectangular base and side faces made of triangle is called:

(i)prism (ii)square pyramid (iii)a rectangular pyramid (iv) triangular pyramid

3.Two cubes of side 2 cm formed side to side will have a total height of:

(i) 4 cm (ii)3 cm (iii) 2 cm (iv) 6 cm

4.Which of the following is not a three dimensional figure?

Cuboid, pyramid, square, prism

5.Draw the following three dimensional shapes giving their number of faces, vertices and edges.

(i)cube (ii)cone (iii)cylinder (iv) square prism

WORK SHEET

1.The dimensions of a cuboid are 5 cm, 3 cm and 2 cm. Draw three different isometric sketches of this cuboid.

2. Three cubes each with 2 cm edge are placed side by side to form a cuboid. Sketch an oblique or isometric sketch of this cuboid.

3. What cross-sections do you get when you give a (i) vertical cut (ii) horizontal cut to the following solids?

(a) A round apple (b) A die (c) A circular pipe (d) An ice cream cone

4. Examine if the following are true statements:

(i) The cube can cast a shadow in the shape of a rectangle.

(ii) The cube can cast a shadow in the shape of a hexagon.