Mensuration

- **Perimeter:**

The total boundary length of a closed figure is called its perimeter. It is expressed in usual units of measurement of length.

- **Area:**

The amount of surface enclosed by a closed figure is called its area.

(a) Area is measured in square units.

(b) 1 m = 100 cm; 1 sq. m = 10000 sq. cm;

(c) 1 cm = 10 mm; 1 sq. cm = 100 sq. mm

- **Volume:**

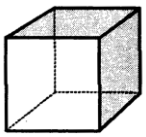
The space occupied by an object is called its volume.

(a) Volume is measured in cubic units.

(b) 1 cu m = 1000000 cu cm;

(c) 1 cu cm = 1000 cu mm

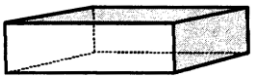
- **Cube:**



It is a solid figure with 6 square surfaces.

- Volume of a cube = edge x edge x edge cu units.

- **Cuboid:**



It is a solid figure with 6 rectangular surfaces.

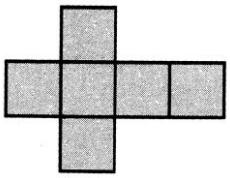
- Volume of a cuboid = length × breadth × height cubic units.

$V = l \times b \times h$

$\therefore l = \frac{V}{bh}; \quad b = \frac{V}{lh}; \quad h = \frac{V}{lb};$

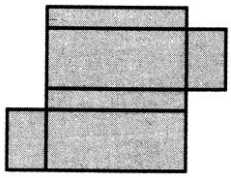
- The shape obtained on opening a solid shape is called a net.
- A net can be folded back or closed into form a solid.

- **Net of a cube :**



The net of a cube has 6 squares.

- **Net of a cuboid :**



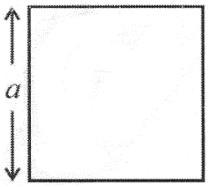
The net of a cuboid has 6 rectangles.

NOTES

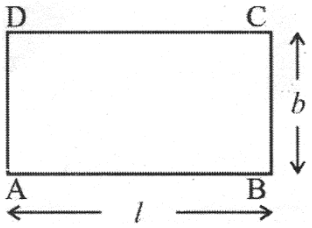
FUNDAMENTALS

✓ Perimeter, the length of the sides enclosing the figure is called its perimeter.

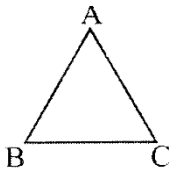
Perimeter of square $= 4 \times side = 4a$



Perimeter of rectangle = 2 (length + breadth) $= 2(l + b)$



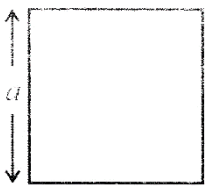
Perimeter of triangle = sum of its sides $= (AB + BC + CA)$



✓ **Area:** The area of any figure is the plane space occupied by it or the amount of surface enclosed within its boundary lines.

✓ It is measured in square units i.e. Square meter (m^2), Square centimeter (cm^2) etc.

Area of square $= (side)^2 = a^2$ *sq.* unit



Area of rectangle= length × breadth $= l \times b$ Sq. unit.