

Tender Heart High School, Sec-33B, Chandigarh

Class - VI

Date - 10.02.2025

Subject - Mathematics

Teacher - Ms. Sushma

## Chapter - 20

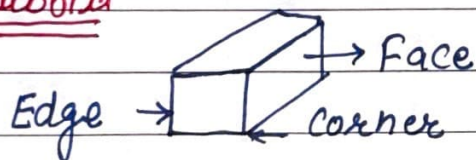
### Recognition of 3D Shapes (Solids)

A closed figure which lies in more than one plane is called a space figure or a solid figure.

A solid is a three-dimensional figure that encloses a part of space.

#### Identifying Faces, Vertices and Edges:-

Cuboid



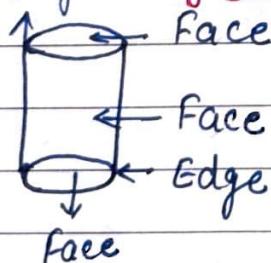
Cube



A cuboid has 6 faces, 12-edges, 8 corners (called vertices)

A cube is a cuboid whose edges are of equal length. It has 6 faces, 12 Edges, 8 vertices

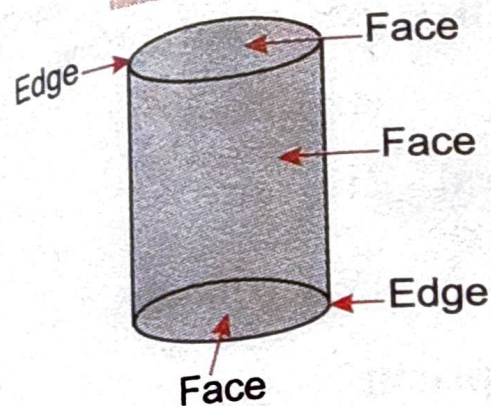
Cylinder



It has 2 flat or plane faces which are circles and one curved surface. It has 2 edges and no corners.

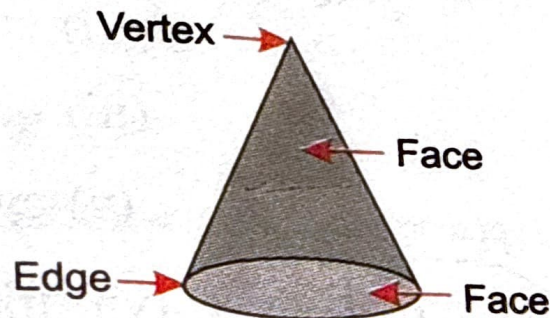


## CYLINDER



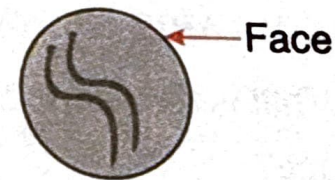
It has **2 flat or plane faces** which are circles and **one curved surface**. It has **2 edges** and **no corners**.

## CONE



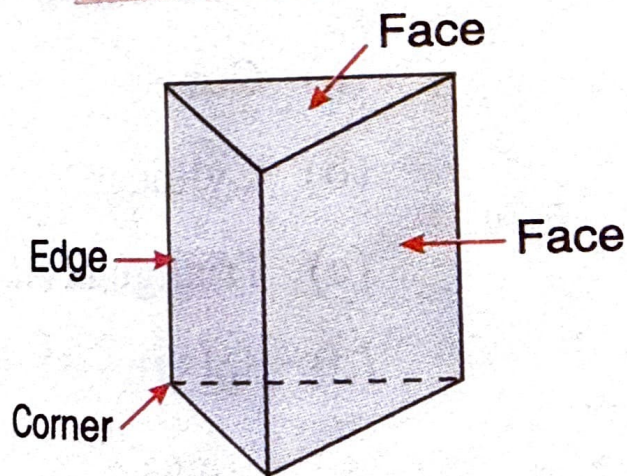
A cone has **one flat face** that is a circle and **one curved surface**. It has **one edge** and **one vertex**.

## SPHERE



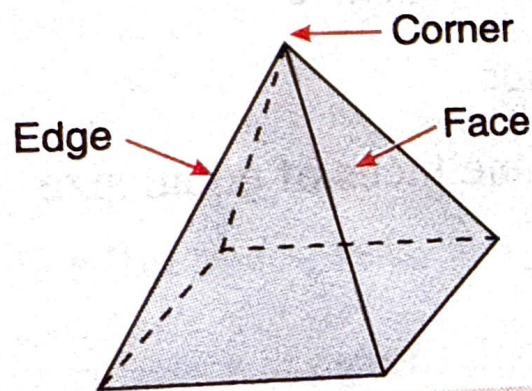
A sphere has **one curved surface**, **no edges** and **no corners**.

## TRIANGULAR PRISM



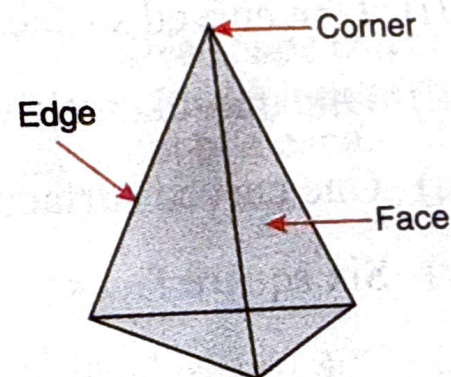
It has **5 faces**, **6 corners (vertices)** and **9 edges**.

## SQUARE PYRAMID



It has **5 faces**, **5 corners (vertices)** and **8 edges**.

## TRIANGULAR PYRAMID



It has **4 faces**, **4 corners (vertices)** and **6 edges**.

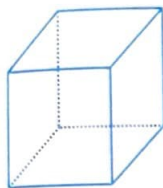


## Net of a 3D-shape

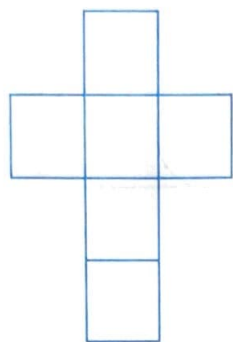
In geometry, the net of a 3D-shape is the figure in a plane which can be folded to form that 3D-shape. In other words, a net of a 3D-shape is the figure that would be formed when the 3D-shape is opened and spread out flat in a 2D-plane.

We will study some most common nets of certain 3D-shapes in this chapter, though there may be numerous nets for any particular 3D-shape.

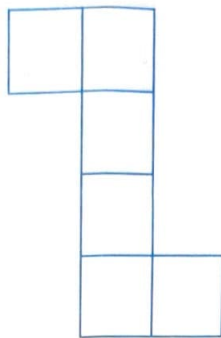
1. **Cube** : Given below are 11 most common nets of a cube.



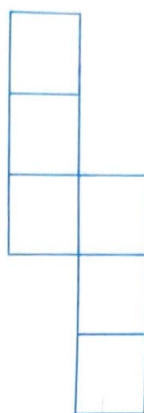
Cube



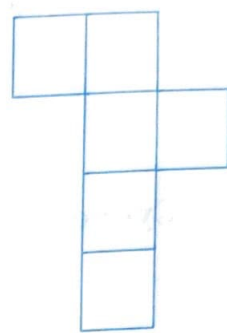
(i)



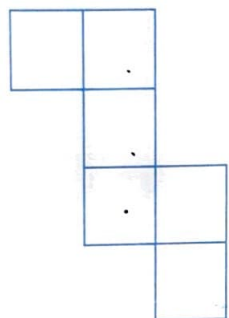
(ii)



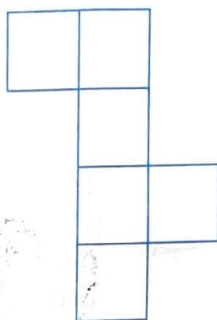
(iii)



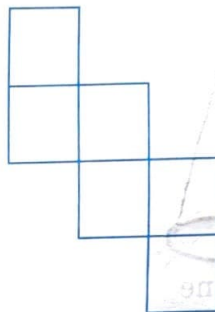
(iv)



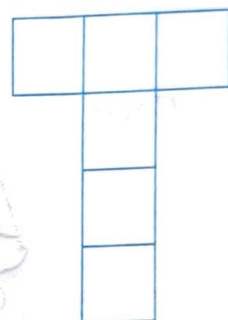
(v)



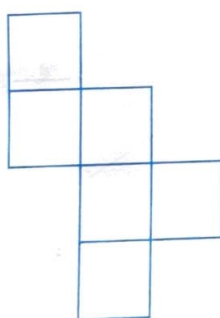
(vi)



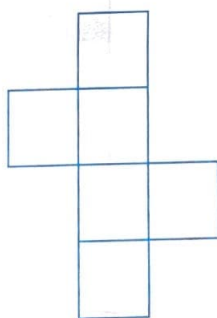
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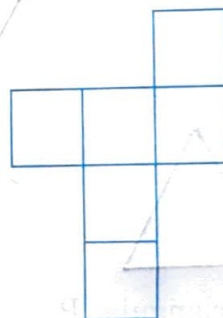
(viii)



(ix)

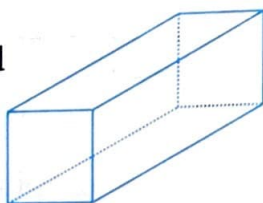


(x)

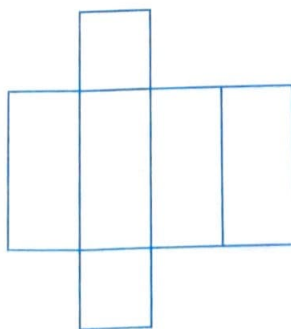


(xi)

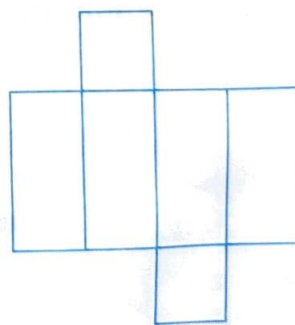
2. **Cuboid**



Cuboid (having two square faces)

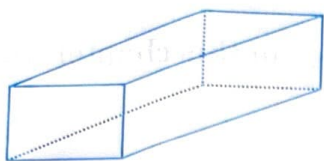


(i)

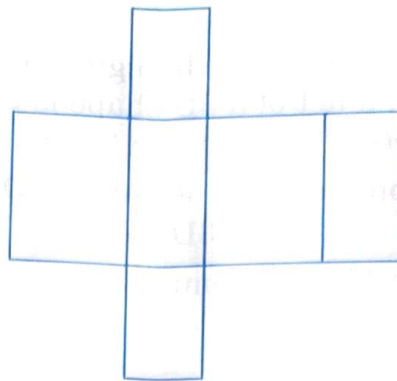


(ii)

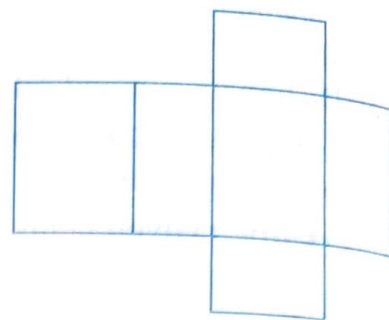
3.



Cuboid (having all faces rectangular)

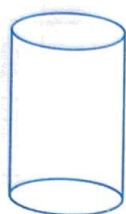


(i)

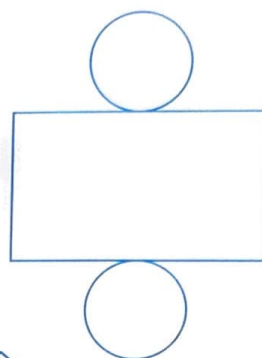


(ii)

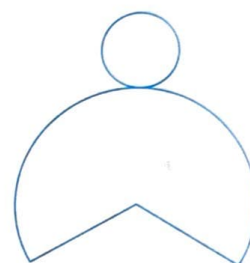
4. Cylinder



Cylinder

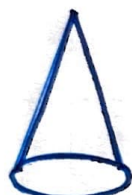


(i)

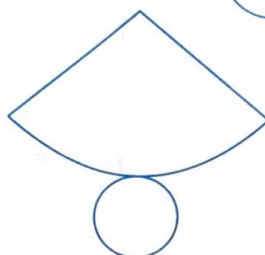


(ii)

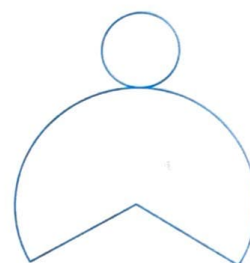
5. Cone



Cone

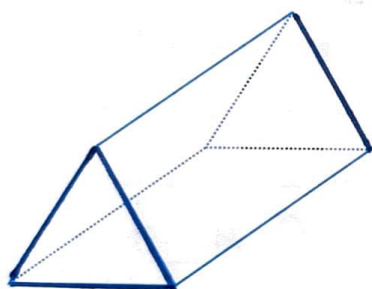


(i)

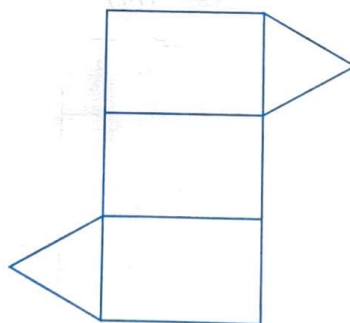


(ii)

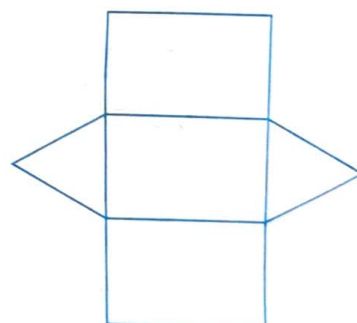
6. Triangular Prism



Triangular Prism

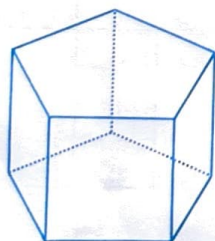


(i)

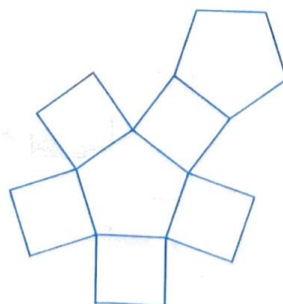


(ii)

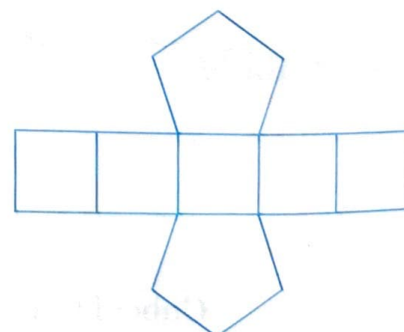
7. Pentagonal Prism



Pentagonal Prism

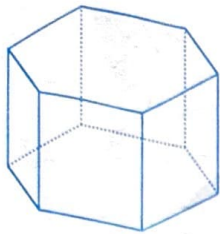


(i)

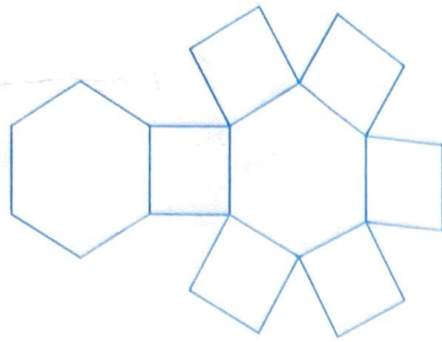


(ii)

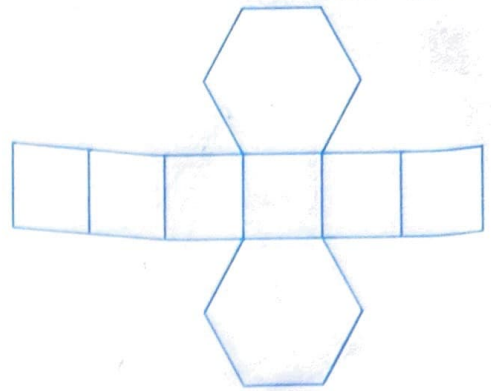
## 8. Hexagonal Prism



Hexagonal Prism

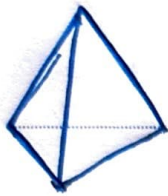


(i)

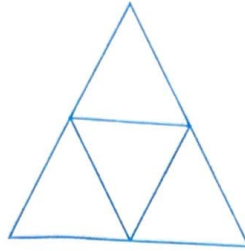


(ii)

## 9. Tetrahedron



Tetrahedron

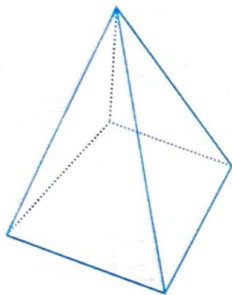


(i)

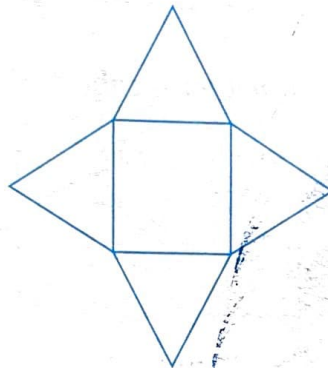


(ii)

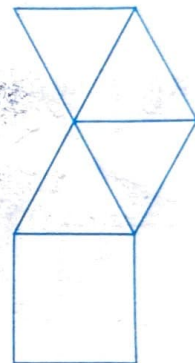
## 10. Square Pyramid



Square Pyramid

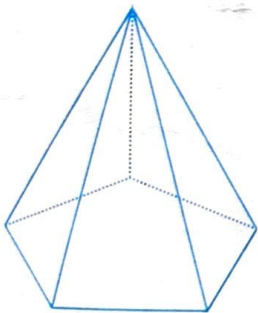


(i)

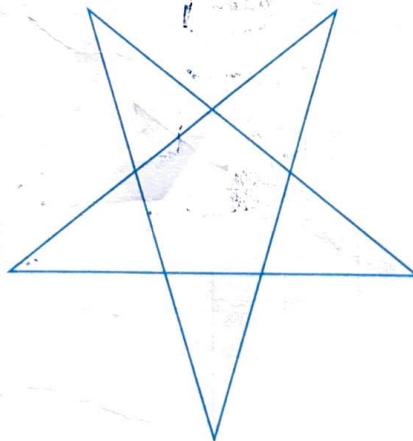


(ii)

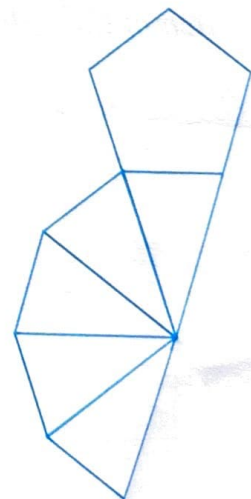
## 11. Pentagonal Pyramid



Pentagonal Pyramid

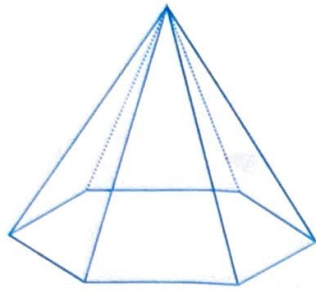


(i)

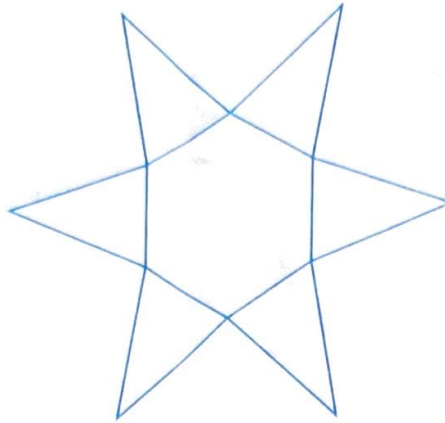


(ii)

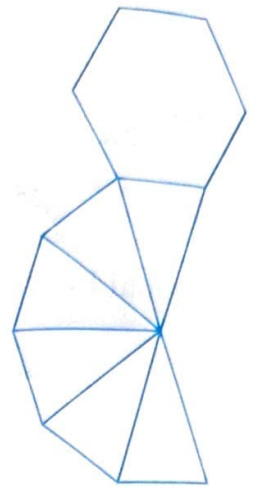
## 12. Hexagonal Pyramid



Hexagonal Pyramid

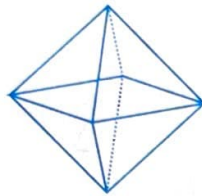


(i)

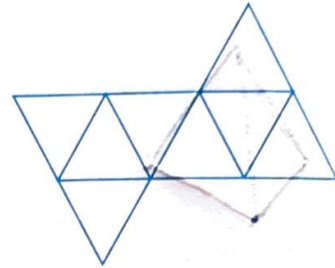


(ii)

## 13. Octahedron

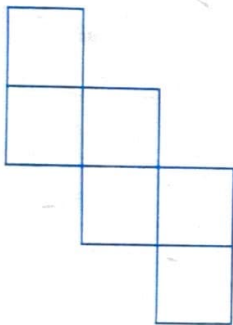


Octahedron

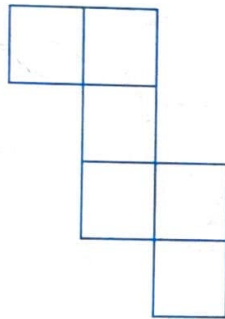


## EXERCISE 20 B

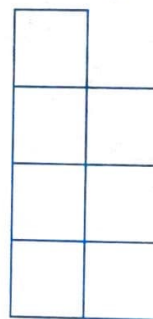
1. Which of the following is not a net for a cube ?



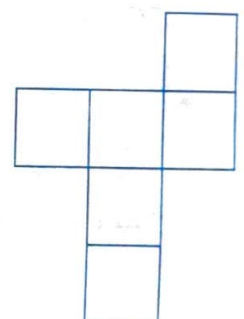
(i)



(ii)

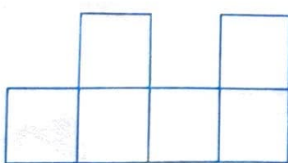


(iii)

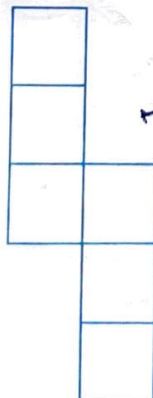


(iv)

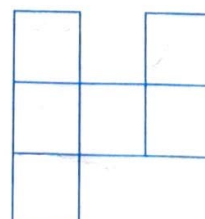
2. Which of the following is a net for a cube ?



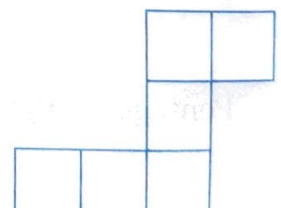
(i)



(ii)



(iii)



(iv)