# Nets

#### **Understanding: Nets**

- A net is a two-dimensional (2D) layout that can be folded to form a 3D solid shape.
- It shows all the faces of the 3D figure laid out flat.
- Nets help us to visualize and construct 3D shapes from paper or card.

### **Important Points**

- A net must include all faces of the solid
- When folded correctly, the net becomes the 3D object
- Not every layout forms a solid—only the correct arrangement will work

Take a cardboard box. Cut the edges to lay the box flat. You have now a net for that box. A net is a skeleton outline in 2D as shown in the first figure, which, when folded as shown in the second figure, results in a 3D shape as shown in the third figure



## **Common Nets**

- Cube: 6 square faces
- Cuboid: 6 rectangular faces
- Cylinder: 2 circles + 1 rectangle
- Cone: 1 circle + 1 sector (curved triangle)
- **Pyramid:** 1 polygon base + triangular faces

## i) Make a net of Cone



### ii) Make a net of Cylinder:

A cylinder closed at both ends



#### **Examples with Solutions**

**Example:** A net has 6 equal squares arranged in a cross shape. Which solid will it form?

The net with 6 equal squares forms a cube

• Solid = Cube

Example: A net has 2 circles and 1 rectangle. Which solid does it make?

This is the net of a cylinder

• Solid = Cylinder

Example: A triangle is surrounded by three rectangles in a net. What solid is formed?

This is the net of a triangular prism

• Solid = Triangular prism

**Example:** A square base and 4 attached triangles form a net. Which shape will be formed?

This net forms a square pyramid

• Solid = Square pyramid

Example: One circle and a sector form a net. What 3D shape does this create?

The circle is the base and the sector is the curved surface of a cone

• Solid = Cone

## **Summary Points**

- A net is a 2D pattern that folds into a 3D solid.
- It includes all the faces of the shape laid flat.
- Nets help understand and build 3D models.
- Different solids have different types of nets.
- Only correct nets will fold into a proper solid shape.