

# Fabrication Development

# Fabrication Developments

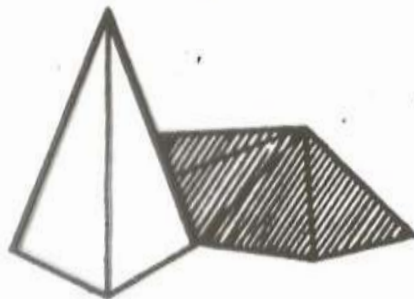
The shaded areas in the illustration show, in a flat plane, the true shape and dimensions of material required to manufacture the four items. This shape is known as a Development and to produce it basic knowledge of geometry and practice in making layouts is required.



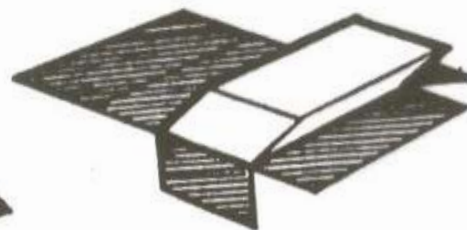
**Cone**



**Cylinder**



**Pyramid**



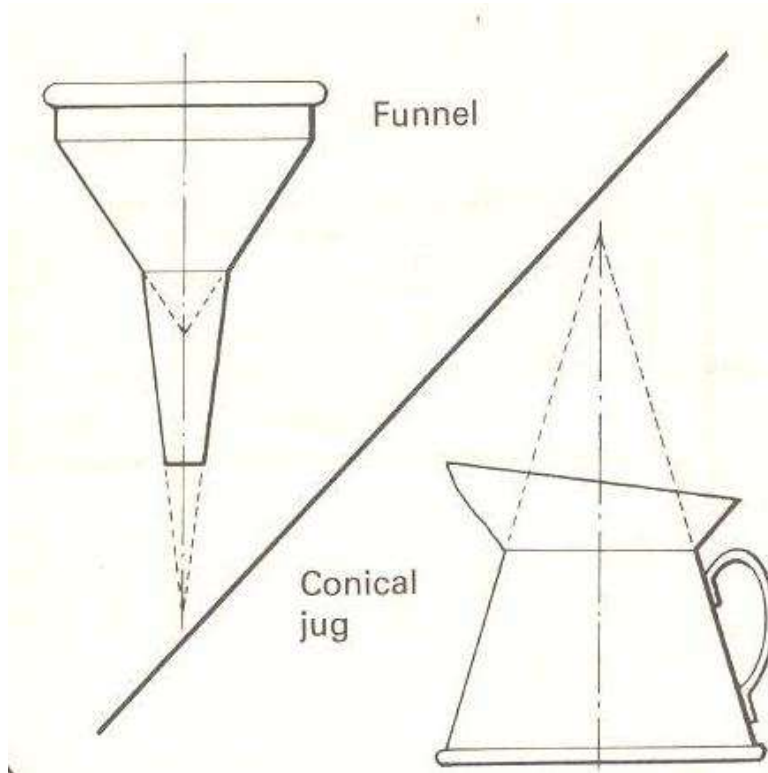
**Prism**

The development of patterns can be achieved by using one of three methods:-

- a) Radial Line
- b) Parallel Line
- c) Triangulation

# Geometrical Forms

## Class 1



The majority of fabricated shapes are of geometrical form. For the purpose of surface (pattern) development geometrical forms may be classified as follows:

### **Class 1. Pyramid or Cone**

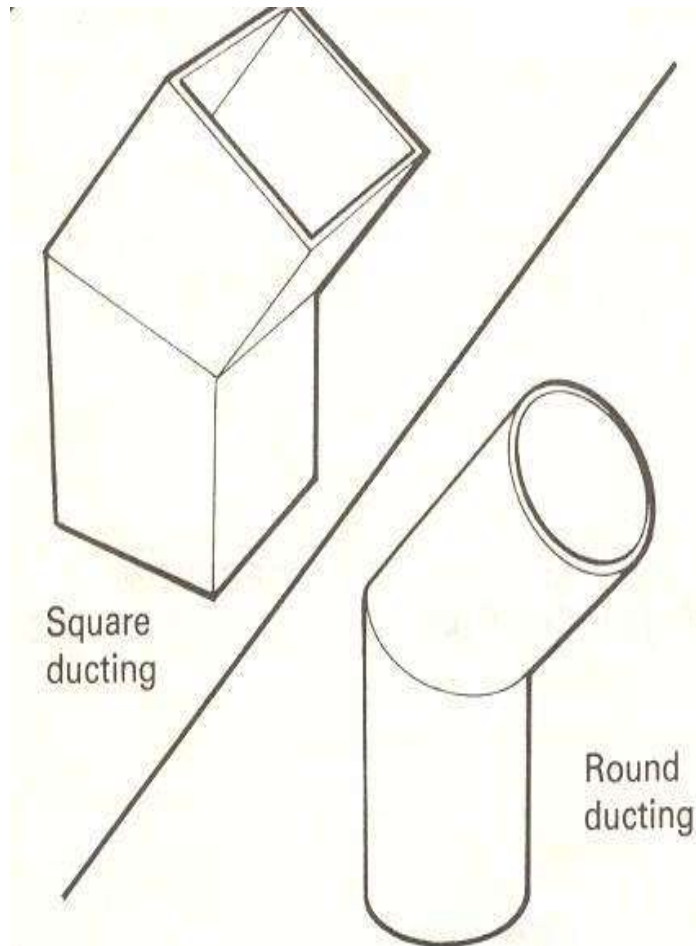
This form has a single point top (apex) while the base may be circular, oval, square or rectangular.

Typical examples:

- a) Funnel
- b) Conical jug

# Geometrical Forms

## Class 2



## **Class 2. Prism**

This form has a uniform cross-section in shape and size.

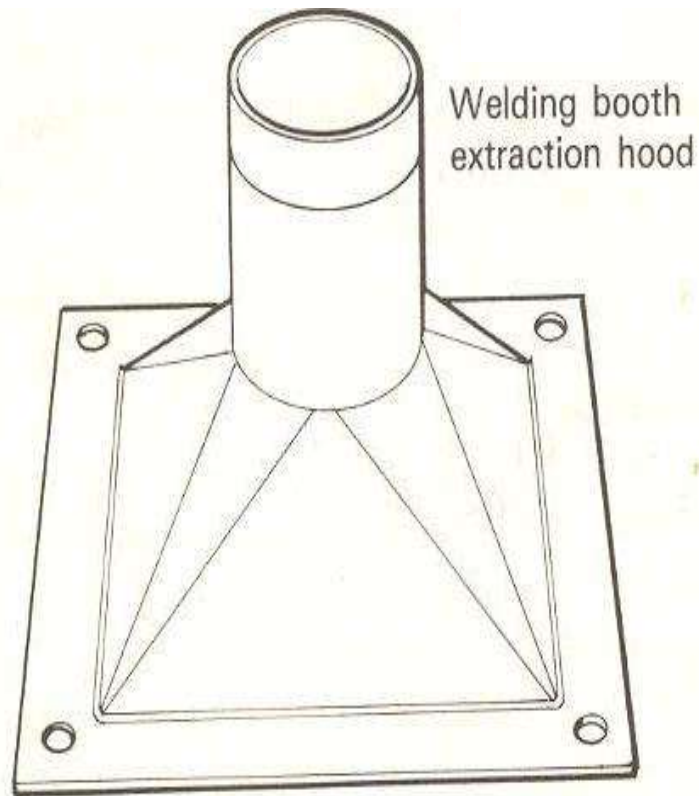
A cylinder may be regarded as a prism with circular ends.

Typical examples:

- a) Square or rectangular ducting.
- b) Circular pipe-work

# Geometrical Forms

## Class 3



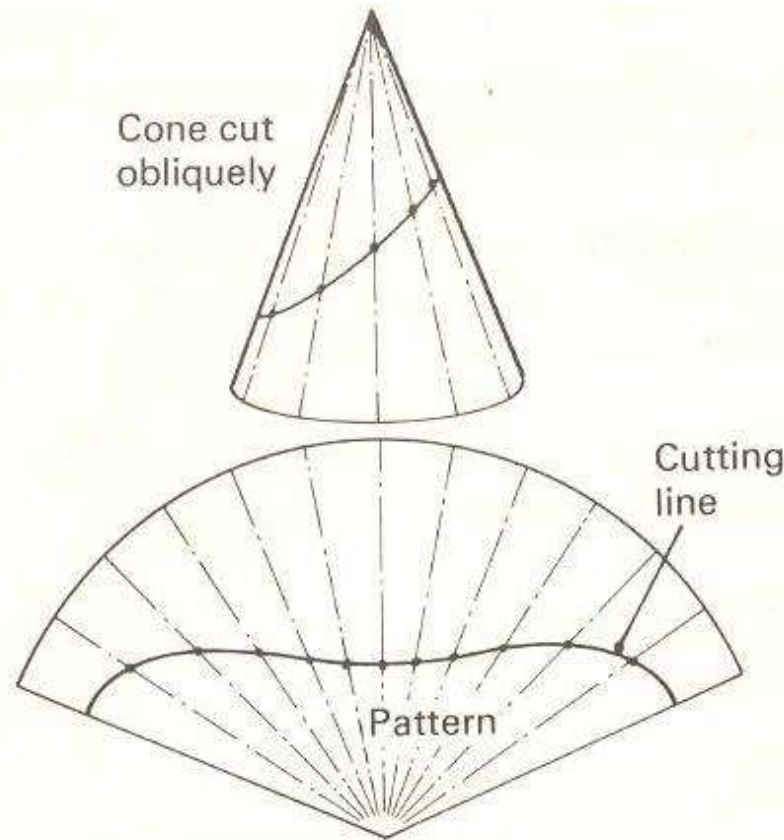
## **Class 3. Transformer**

This transforms the shape at one end of the body to a different shape at the other end.

Typical example:

Connection between welding booth and extraction ducting.

# Methods of Pattern Development



There are three methods in general use.

The class of geometrical form of the object to be made must be taken into account when deciding which method is to be used.

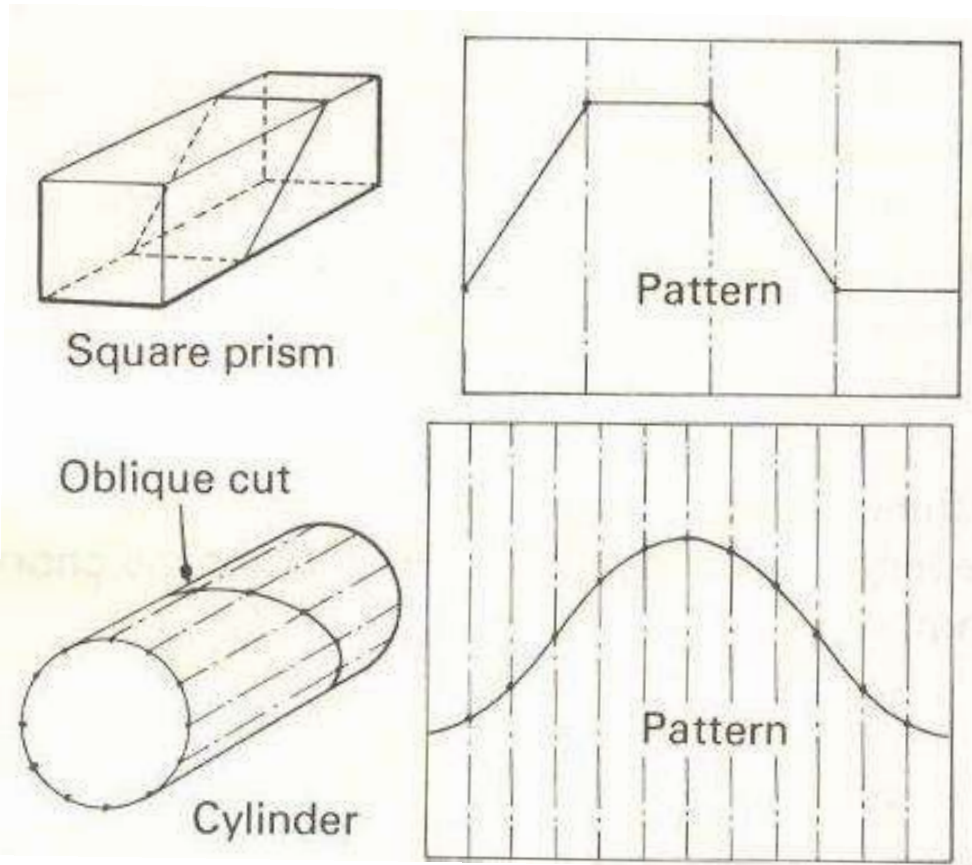
## Radial line method

Objects belonging to class 1 can be developed using this method. These include all shapes which form parts of pyramids or cones.

All lines radiate from the apex

# Methods of Pattern Development

## Parallel line method



This method is used to develop patterns for shapes belonging to Class 2 e.g. prisms and cylinders.

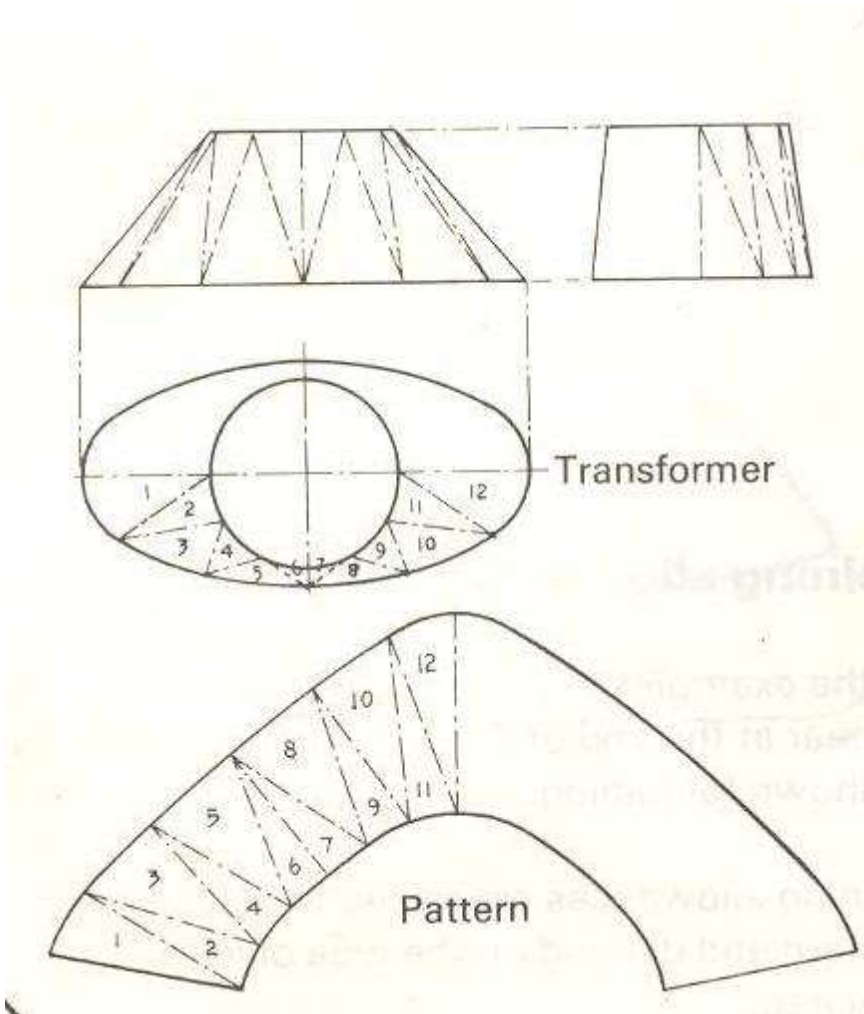


# Methods of Pattern Development

## Triangulation

This method is used to develop patterns for shapes having no apex and in which not all sides are parallel, i.e. Class 3.

Note: While both the radial and parallel line methods cannot be applied to Class 3 shapes, the method of triangulation can be used in the development of patterns for Class 1 and 2 shapes.





## Fabrication Developments

- Drawing
- Developing
- Templates
- Marking out
- Material Handling
- Cutting & Forming
- Jointing
- Finishing
- Safe use of Hand Tools
- Safe use of Equipment
- Personal Protective Equipment
- House-keeping

