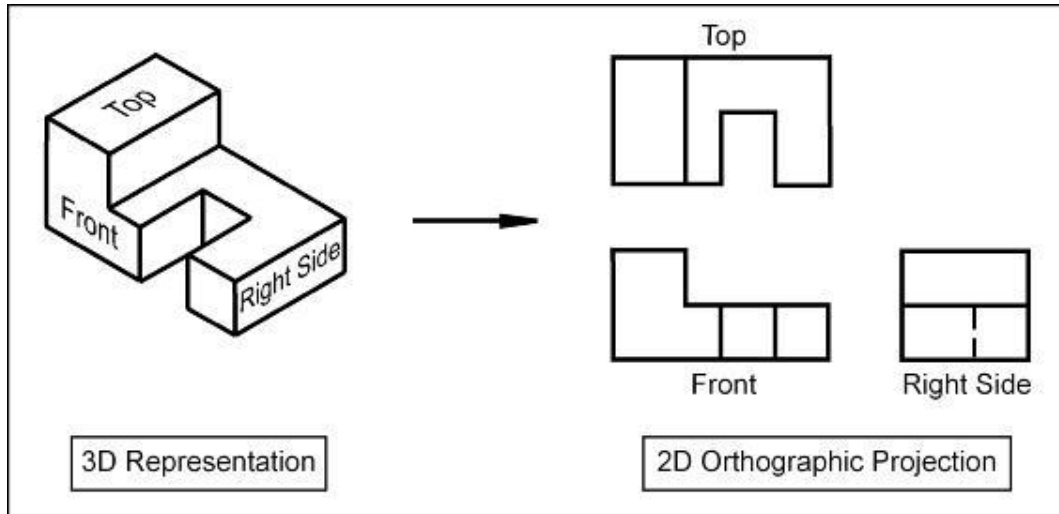


Civil Engineering Drawing -I

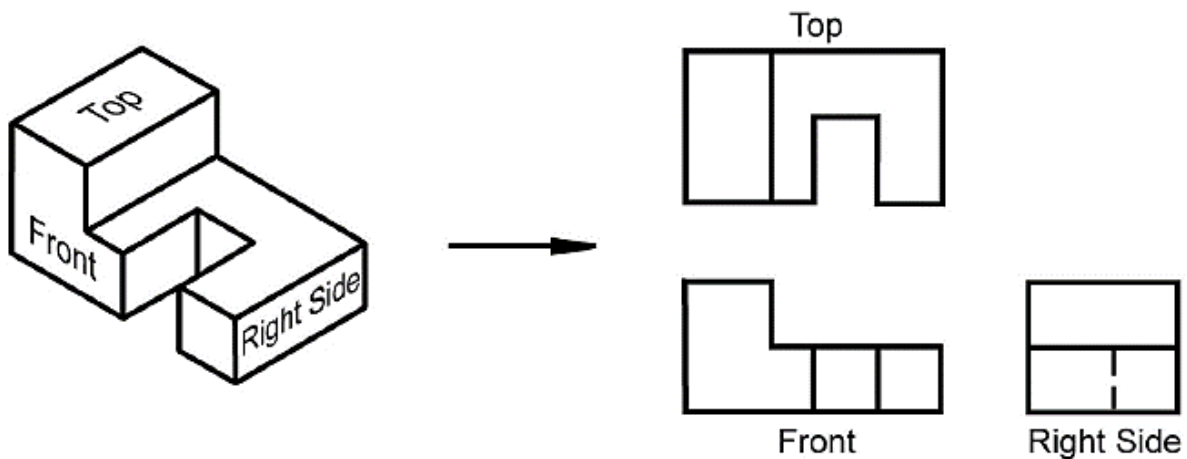
CE 1100

Lecture-07 (Orthographic Projections and Isometric Drawing)

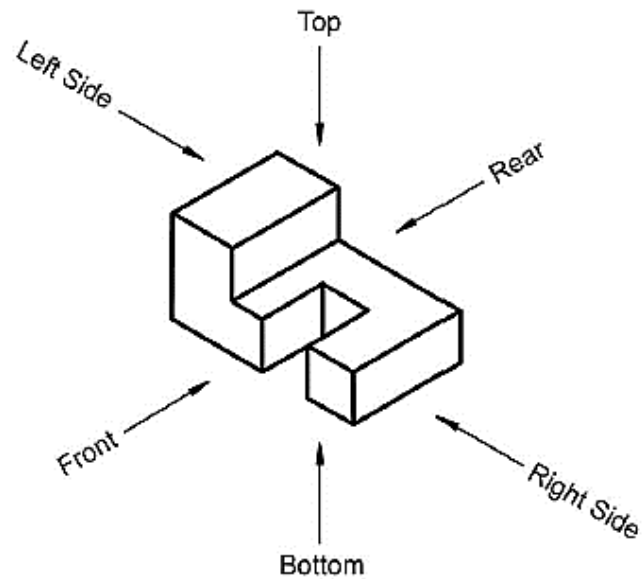


Introduction

Orthographic projection = 2-D representation of a 3-D object.

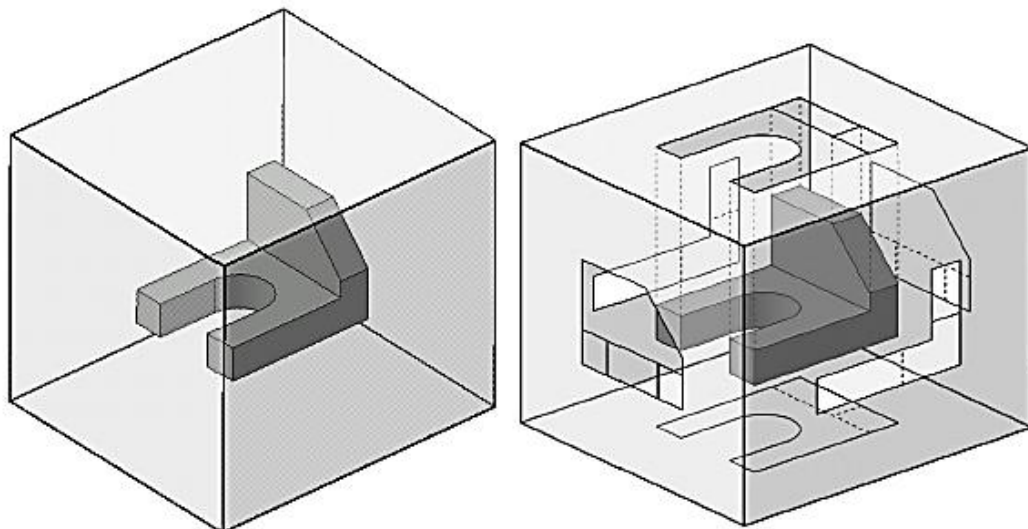


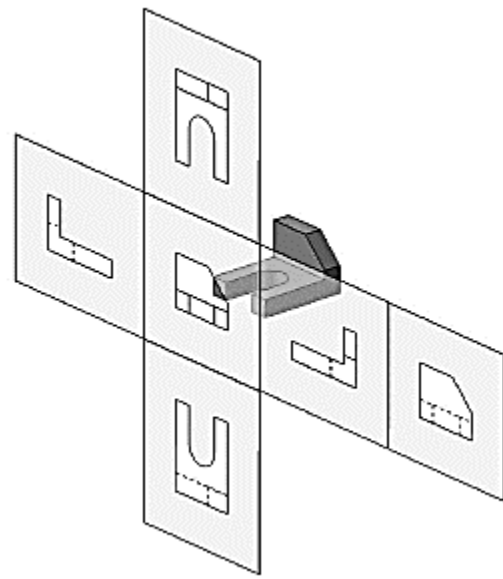
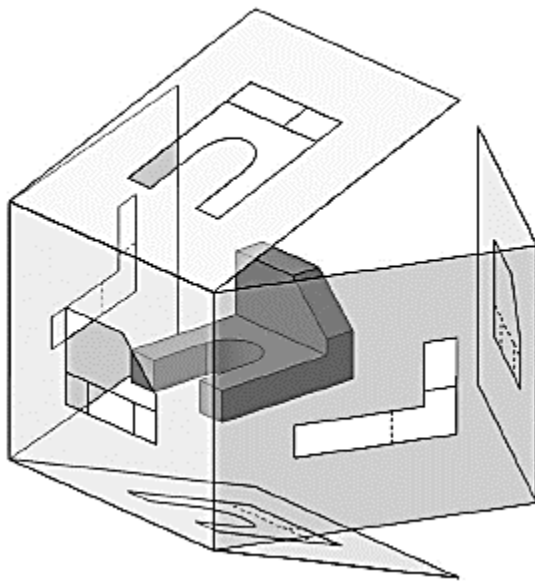
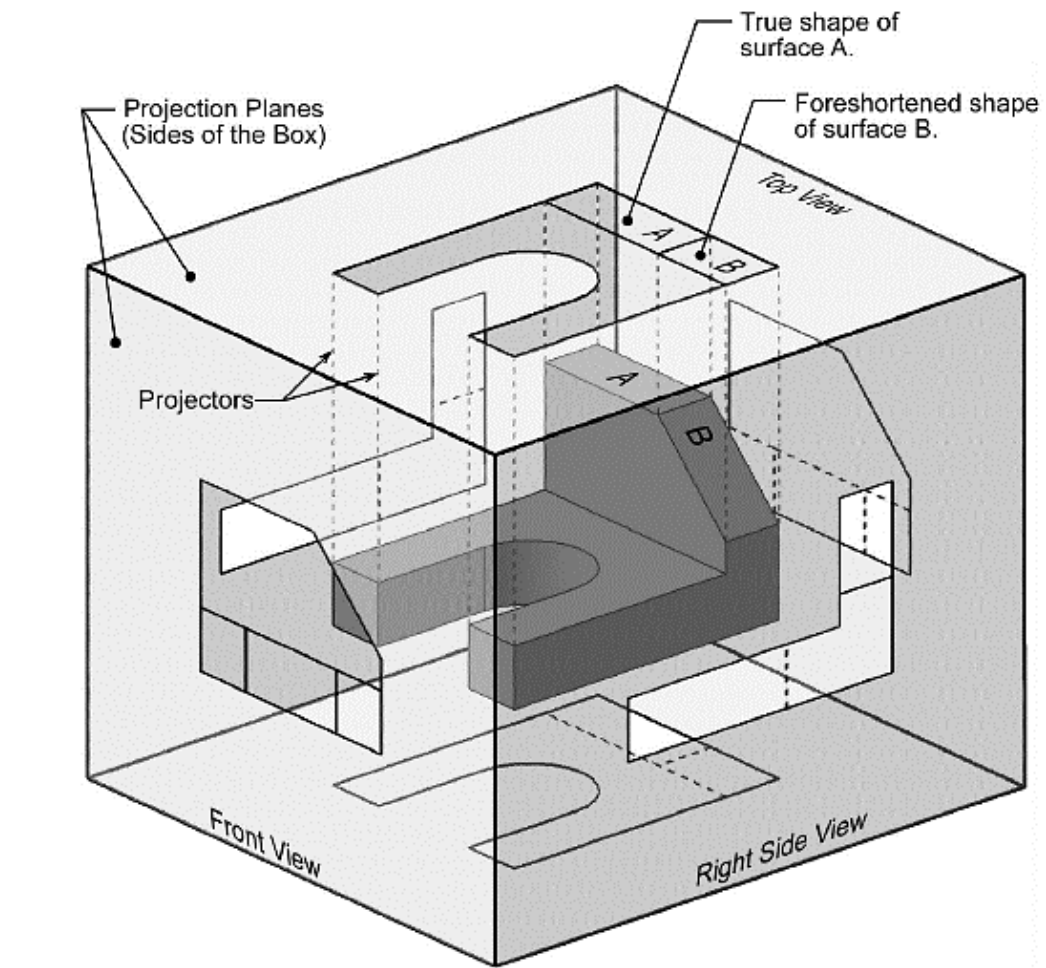
The 6 principal views are created by looking at the object, straight on, in the directions indicated.



The Glass Box Method

- ⊗ The object is placed in a glass box.
- ⊗ The sides of the box represent the 6 principal planes.
- ⊗ The image of the object is projected on the sides of the box.
- ⊗ Things to notice:
- ⊗ The projection planes.
- ⊗ The projectors.
- ⊗ How surfaces A and B are projected.
- ⊗ The box is unfolded creating the 6 principal views.





Standard Views

When constructing an orthographic projection, we need to include enough views to completely describe the true shape of the part.

⊙ Complex part = more views

⊙ Simple part = less views

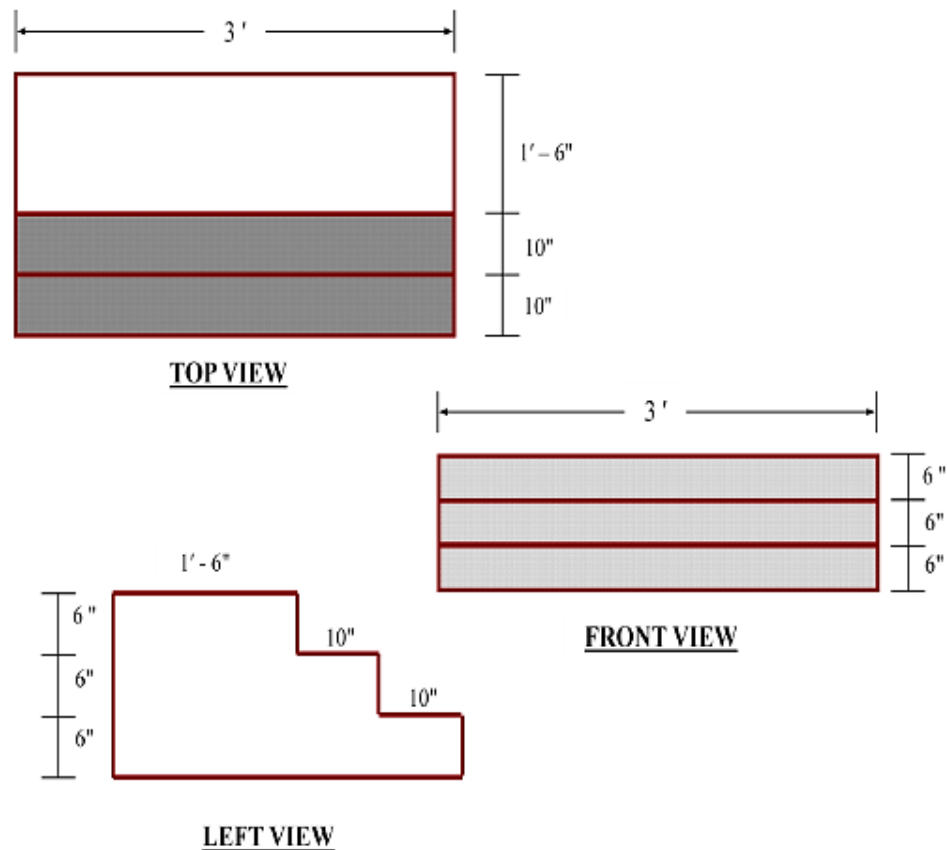
Front View

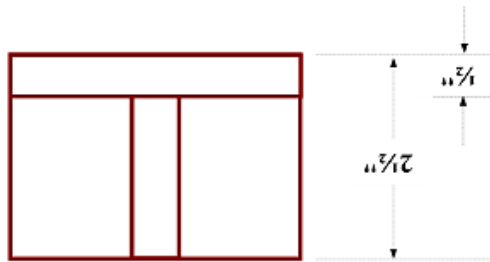
The front view shows the most features or characteristics of the object.

- It usually contains the least amount of hidden lines.

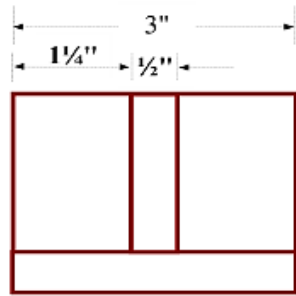
- The front view is chosen first and the other views are based on the orientation of the front view.

Class performance

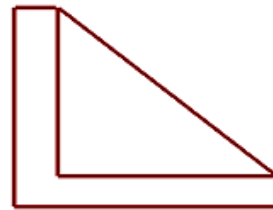




TOP VIEW

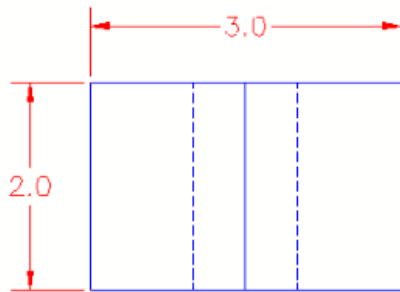


FRONT VIEW



LEFT VIEW

2.

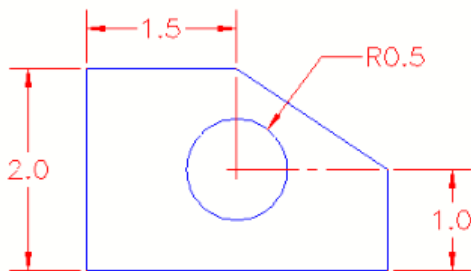


Top view

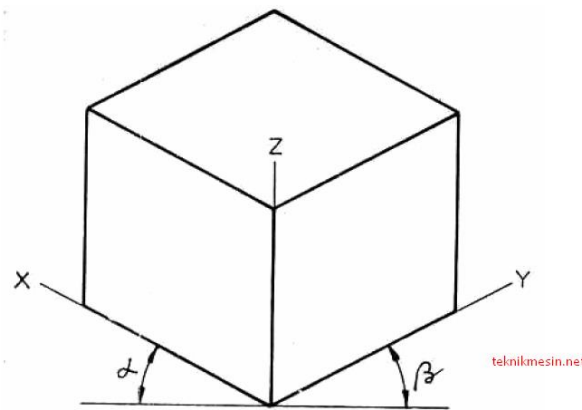


LEFT SIDE VIEW

3.

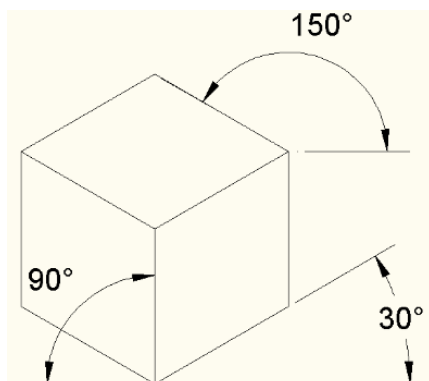
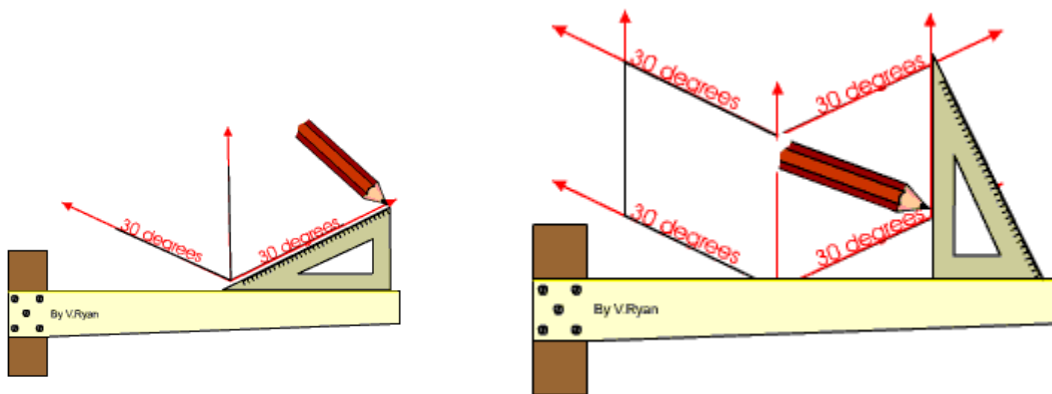


FRONT VIEW

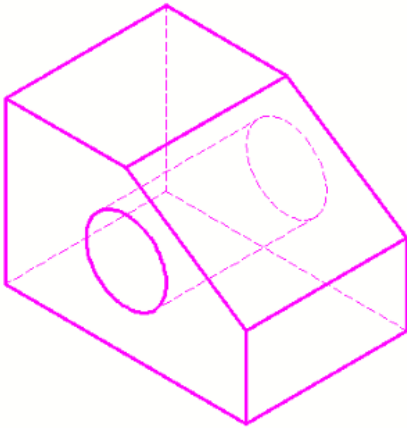
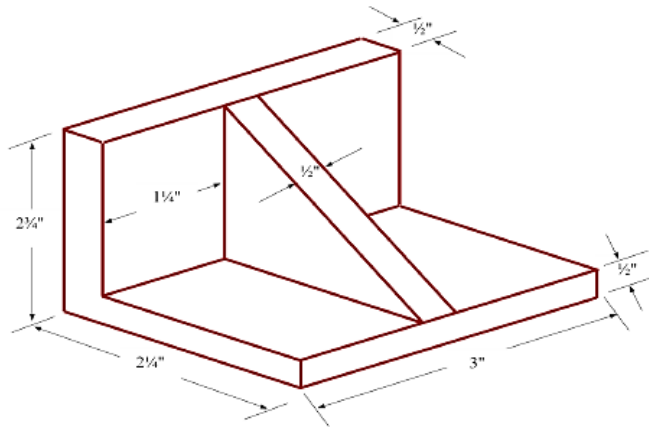


The reason to draw at 30 degree is because at 30 degree all the three axis vary in the same proportion. That is why the figure looks perfect. If we would use any other angle other than 30 degree then the proportion would not be equal and the figure looks somewhat distorted.

Steps for drawing Isometric view:-



2.



1.

