ME-174

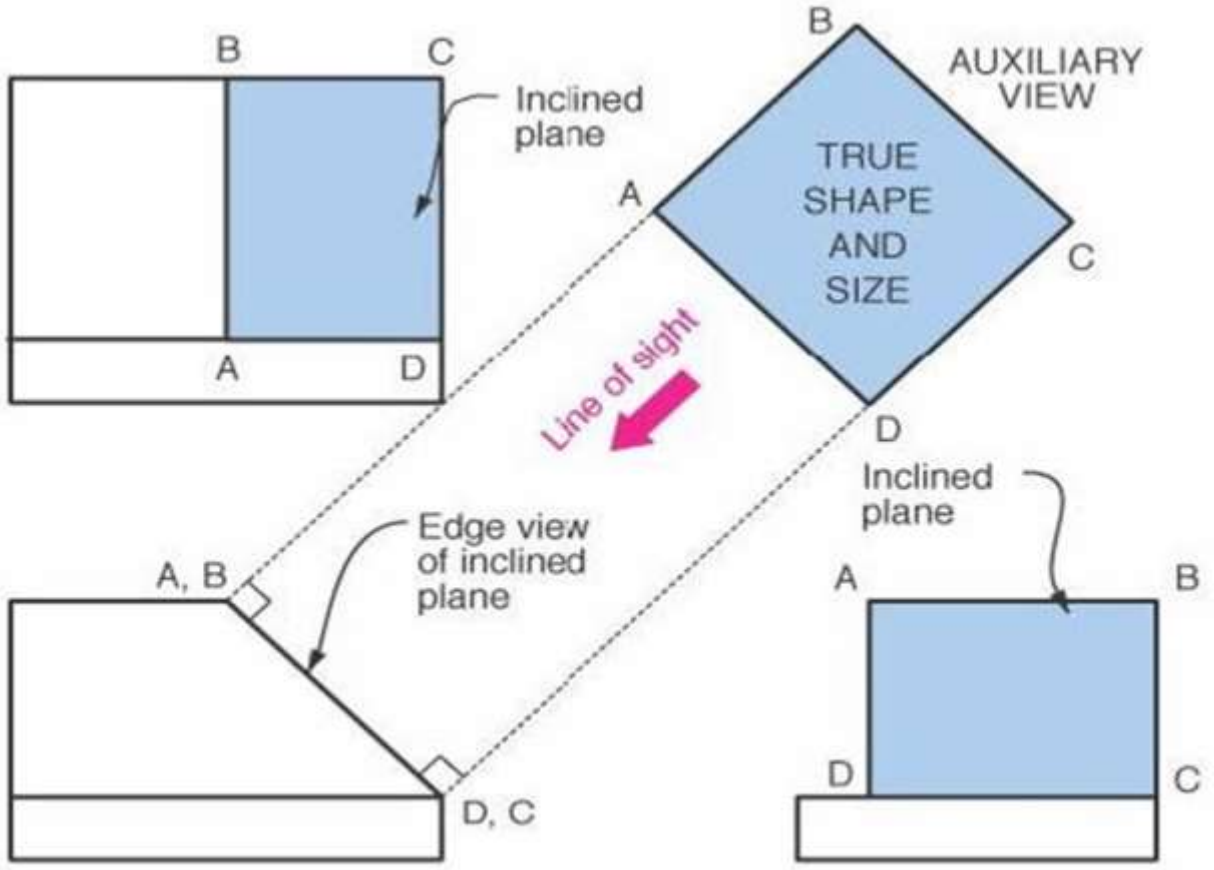
Mechanical Engineering Drawing

Auxiliary Views

Course Teachers:
Sadia Tasnim, Lecturer
Taslima Hossain Sanjana, Adj. Lecturer

What is Auxiliary View ?

- An auxiliary view is an orthographic view taken so that the lines of sight are not parallel to the principal projection planes.
- An auxiliary view is not one of the six principal views.

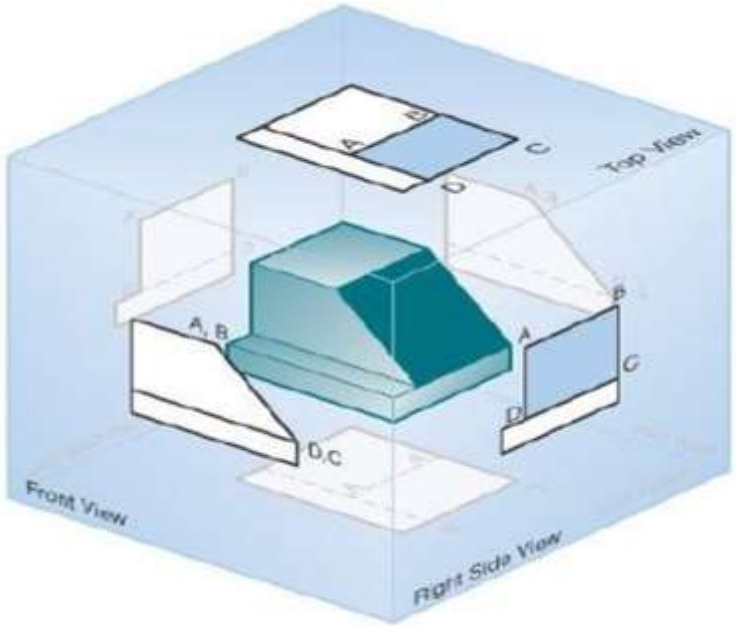


Why Auxiliary View ?

- When creating engineering drawings, it is often necessary to show features in a view where they appear true size so that they can be dimensioned.
- Many objects are quite complex, and the three principal views may not best present the geometry of the part.

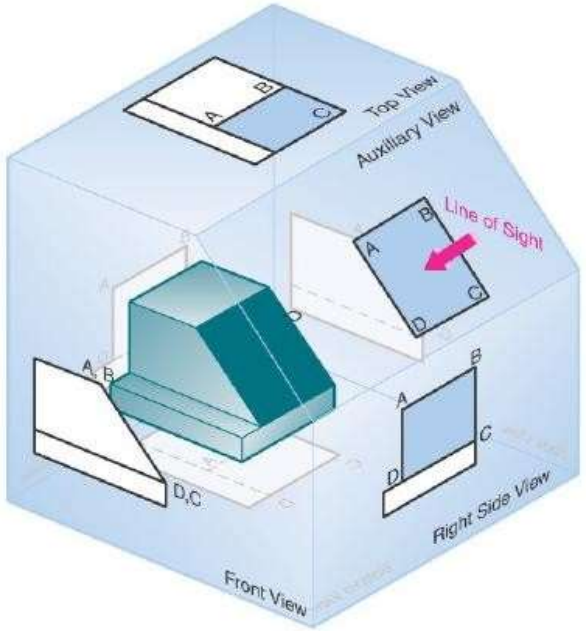
Auxiliary View = additional view

- When the glass box is unfolded, resulting in the six principal views. However, when the six views are created, surface ABCD never appears true size and shape.

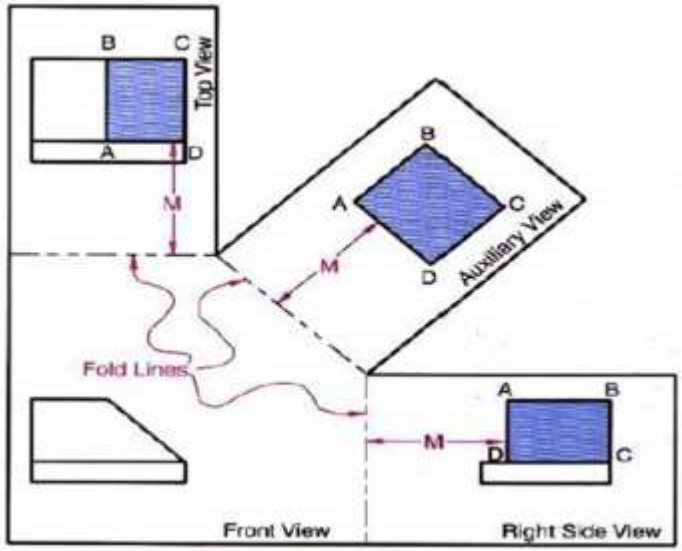


Why Auxiliary View ?

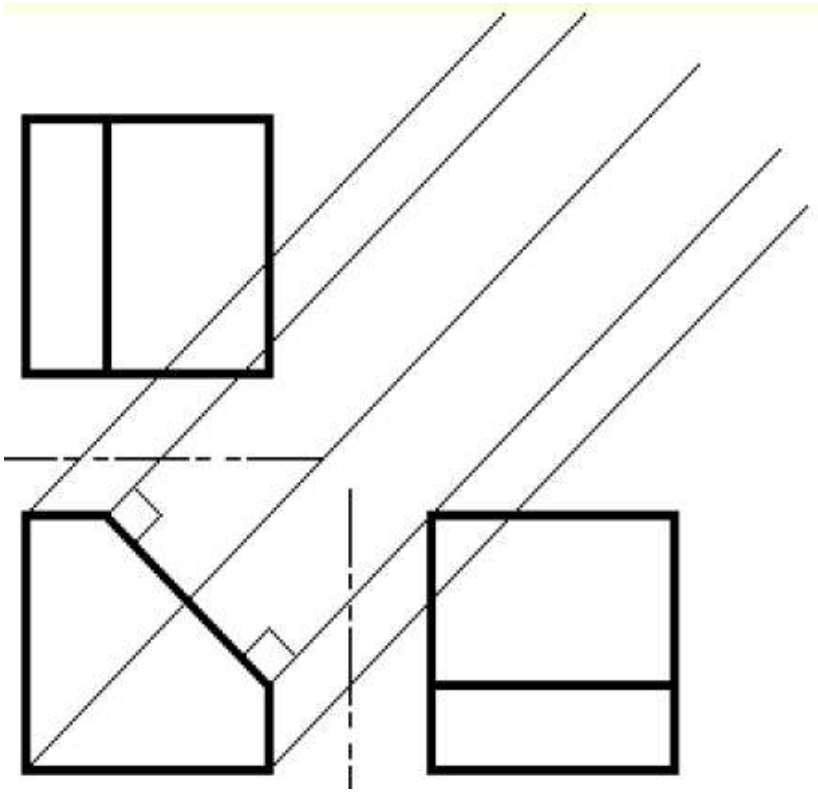
- The object suspended inside a glass box, which has a special or auxiliary plane that is parallel to inclined surface ABCD.
- The line of sight required to create the auxiliary view is perpendicular to the new projection plane and to surface ABCD

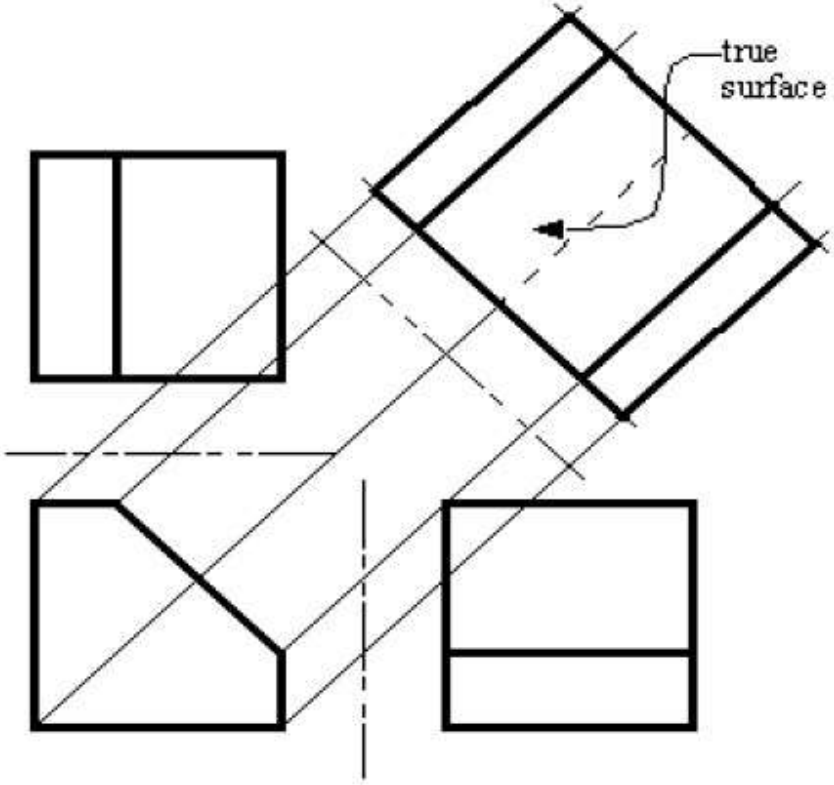


- Now, surface ABCD is shown in true size and shape and is located at distance M from the fold line.



How to Draw

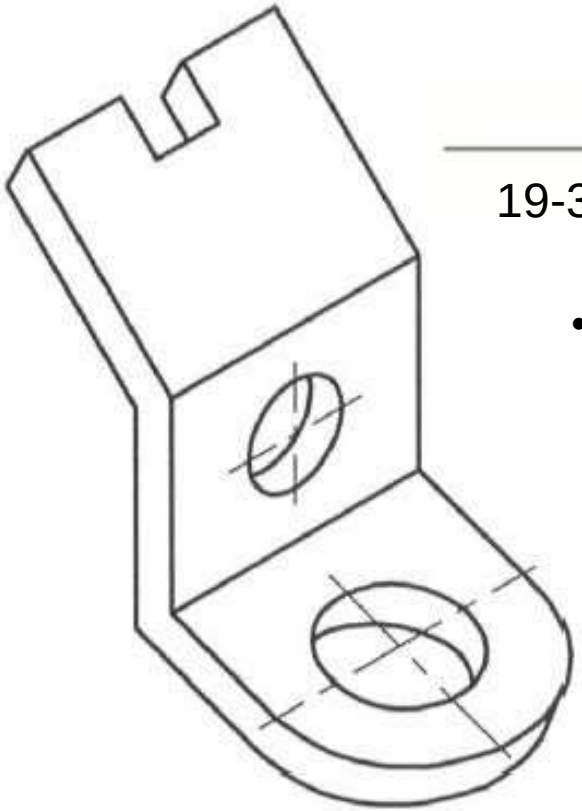




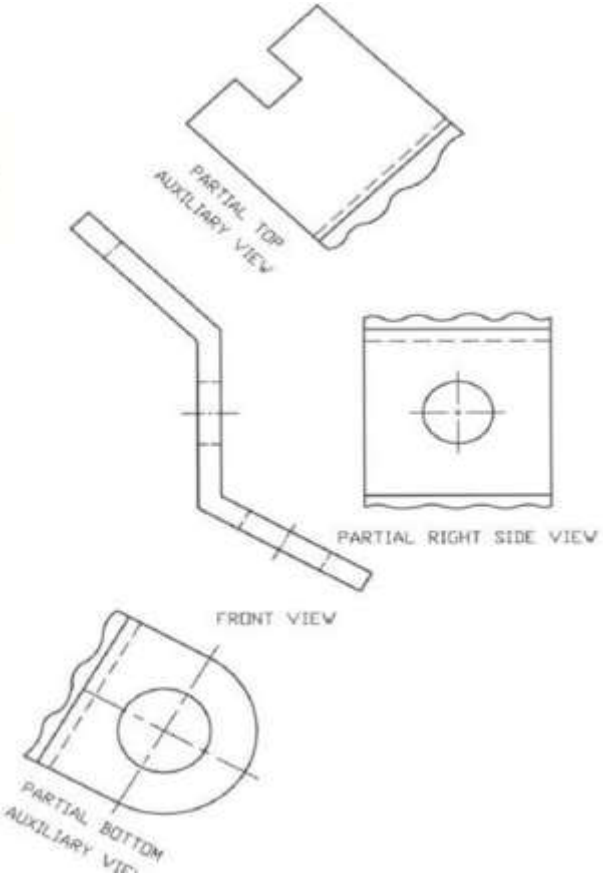
Partial auxiliary view

- In auxiliary views, it is normal practice not to project hidden features or other features that are not part of the inclined surface. When only the details for the inclined surface are projected and drawn in the auxiliary view, the view is called a partial auxiliary view.

Let's see an example !

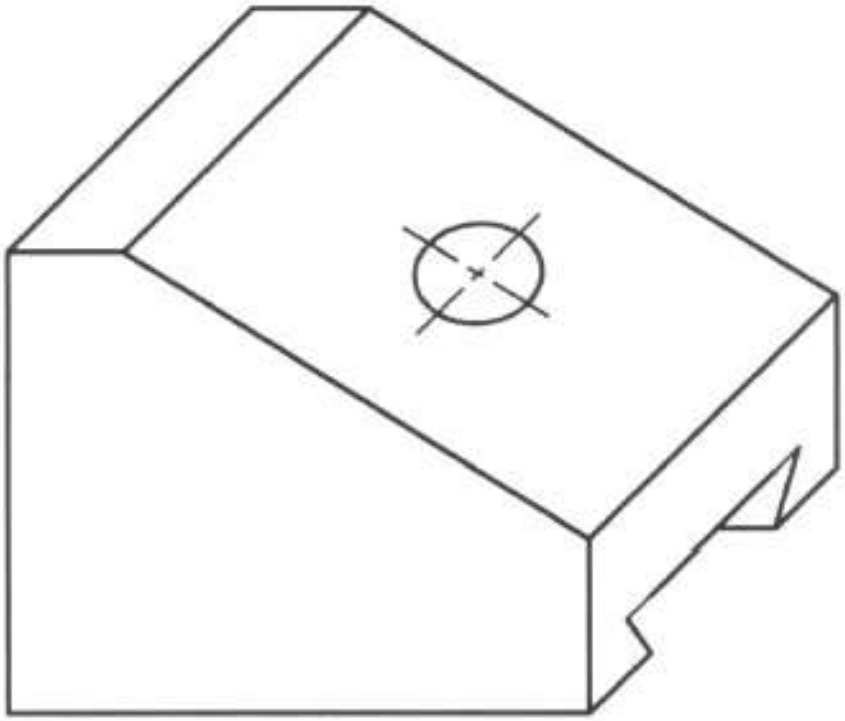


- **Break line:** To show a break on the object. It shortens the view of a long part.



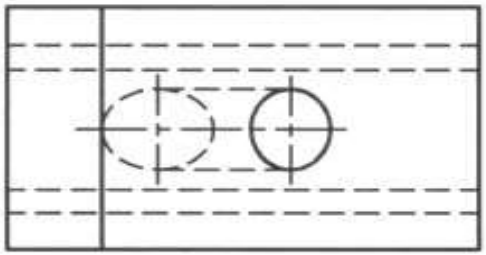
Auxiliary view
(with circular feature)

- Object with Inclined Surface Containing a Hole

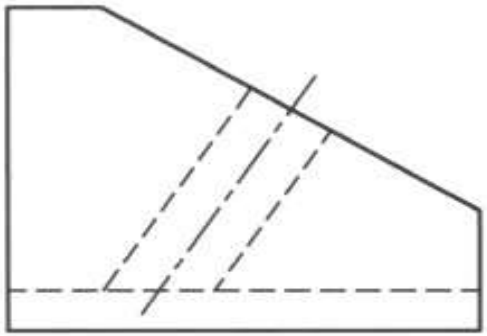


Auxiliary view
(with circular feature)

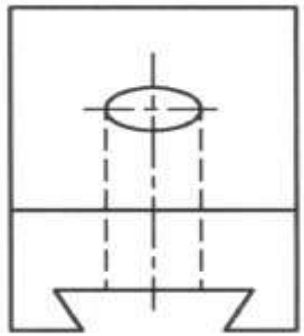
- Regular Orthographic Views will create a problem – circle will be elliptic



TOP VIEW



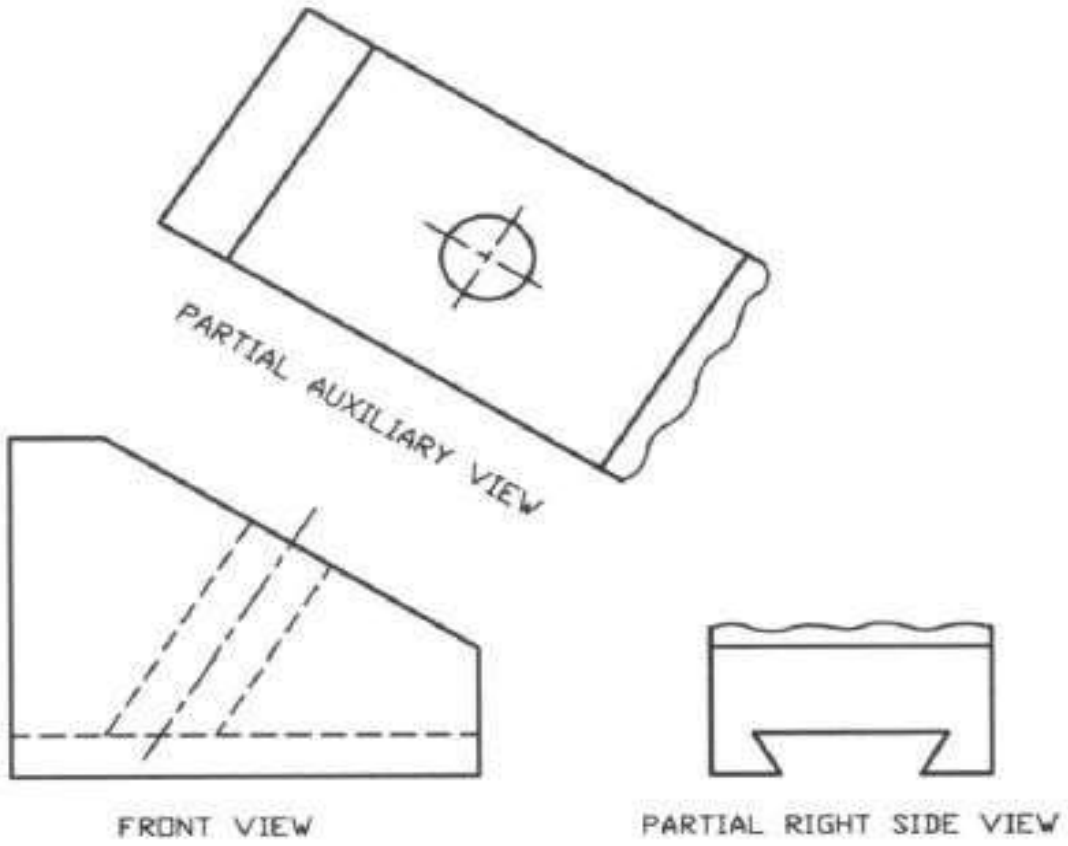
FRONT VIEW



RIGHT SIDE VIEW

Auxiliary view
(with circular feature)

- Partial Auxiliary Views :



Lines

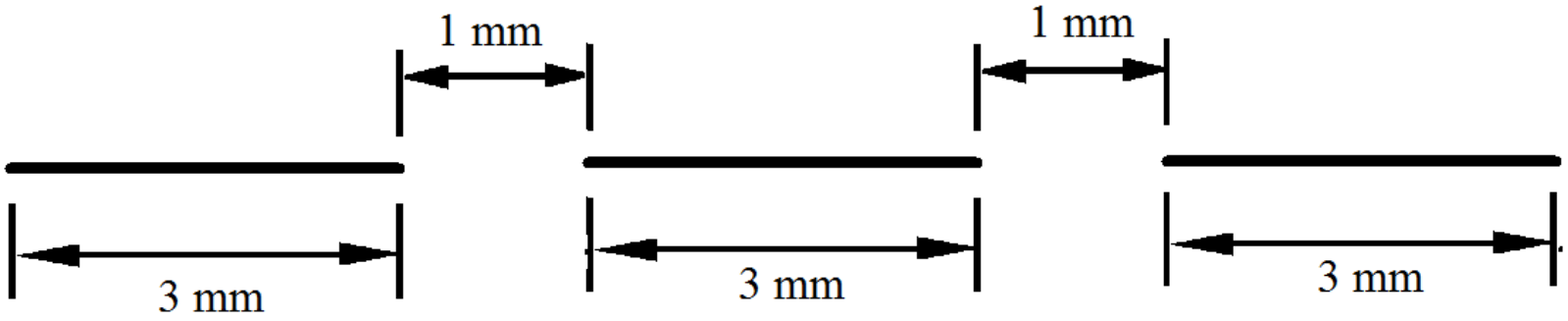
- Object Line : 100% thick
- Hidden Line: 50% thick
- Dimension, Extension Line: 25% thick
- Center Line : 50% thick
- Cutting Plane Line : 125% thick
- Hatchet line :25% thick
- Break line : 25% thick

Object Line

Thickness: 100 %

Hidden Line

Thickness: 50 %

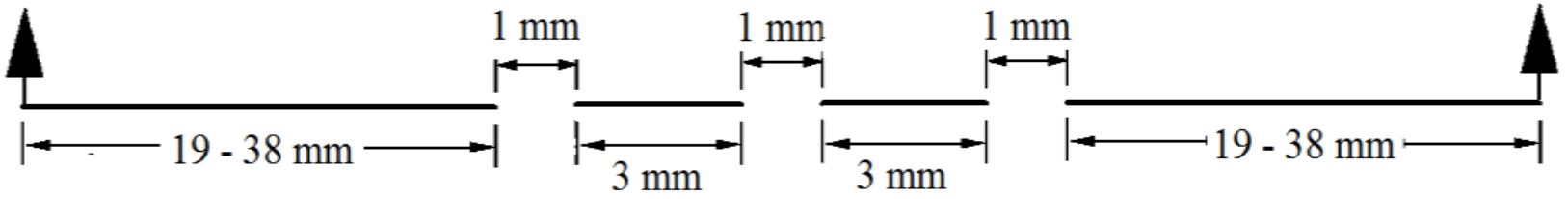


Center Line

Thickness: 50 %

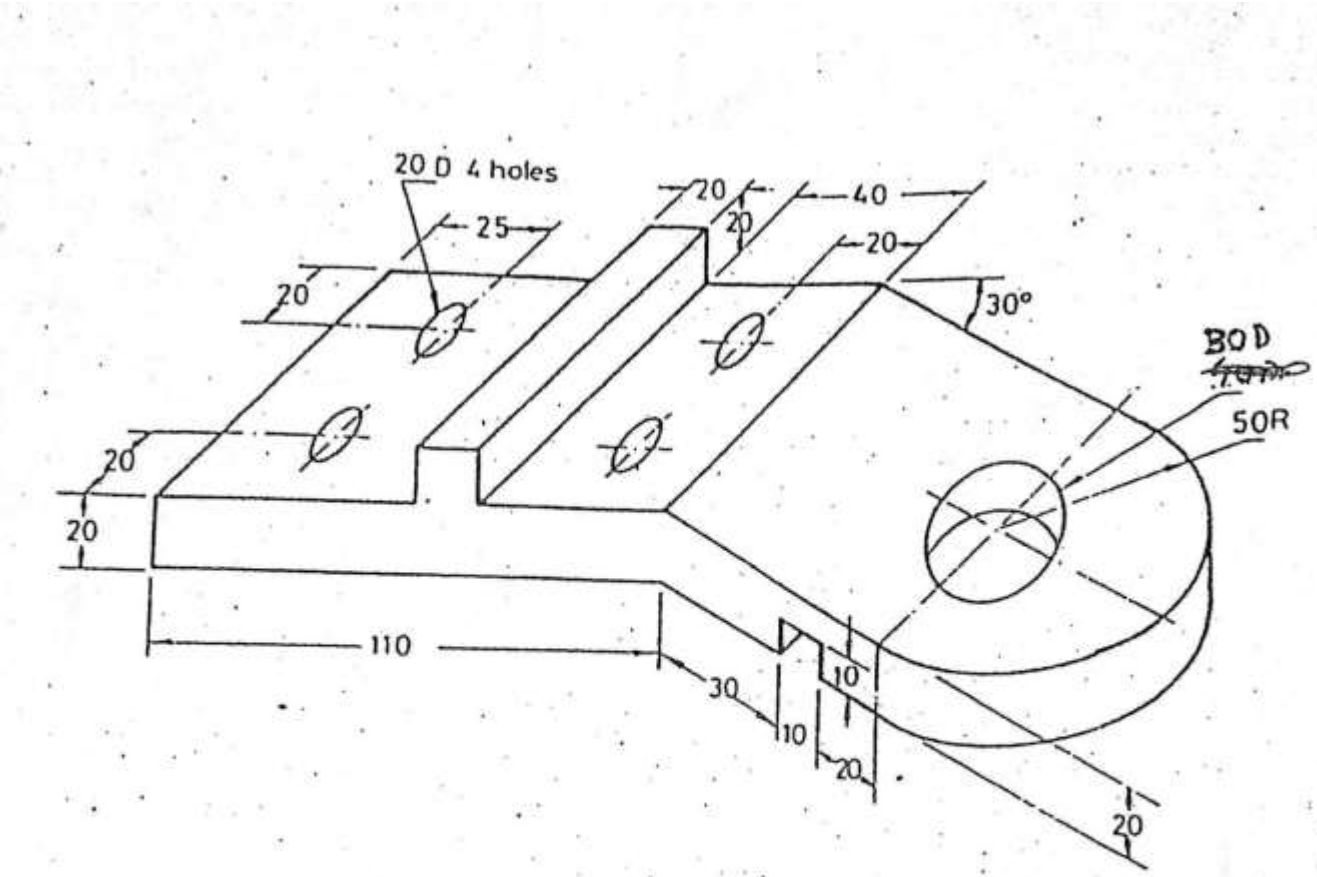
Thickness: 25 %

Thickness: 125 %



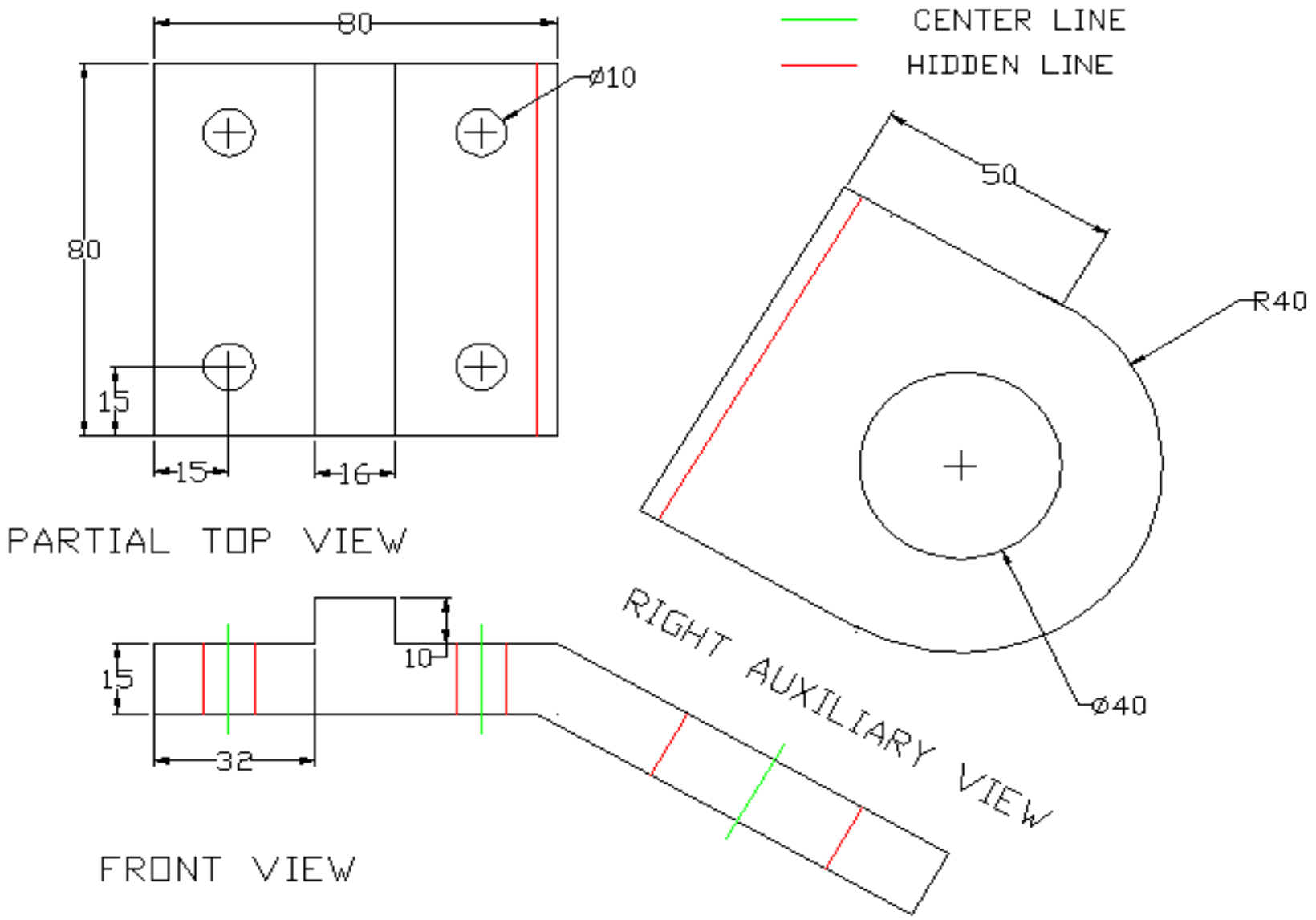
N.B.: All Percentages are with respect to the object line

First Problem



DRAW PARTIAL TOP, RIGHT AUXILIARY AND FRONT VIEW

First Problem



Persist Until Succeed !!!