

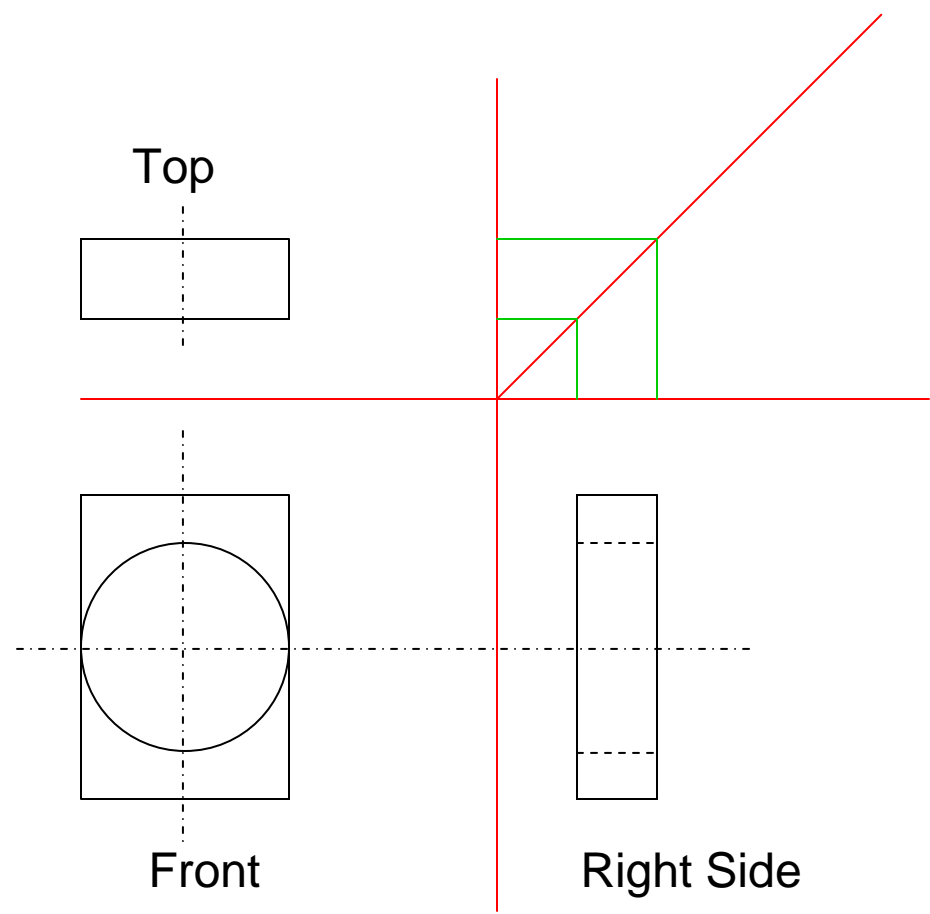
TA 101

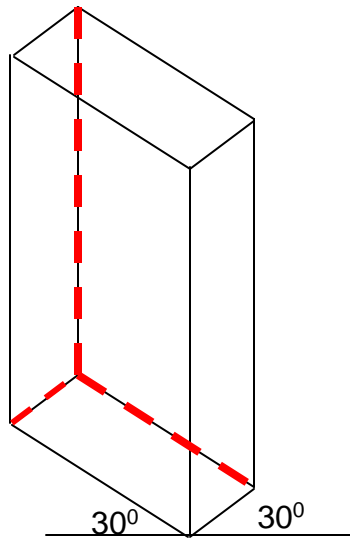
Lecture - 7

- ***Pictorials* are three-dimensional drawings that show an object's three principal planes and are similar to an image captured by a camera.**
- **Pictorials are helpful when a design is complex and when the reader of the drawings is unfamiliar with orthographic drawings.**
- **These drawings are also used to describe products in catalogs, parts manuals, and maintenance publications.**
- **The ability to sketch pictorials rapidly to explain a detail to another engineer is an important communication skill.**

Isometric drawing = Isometric view

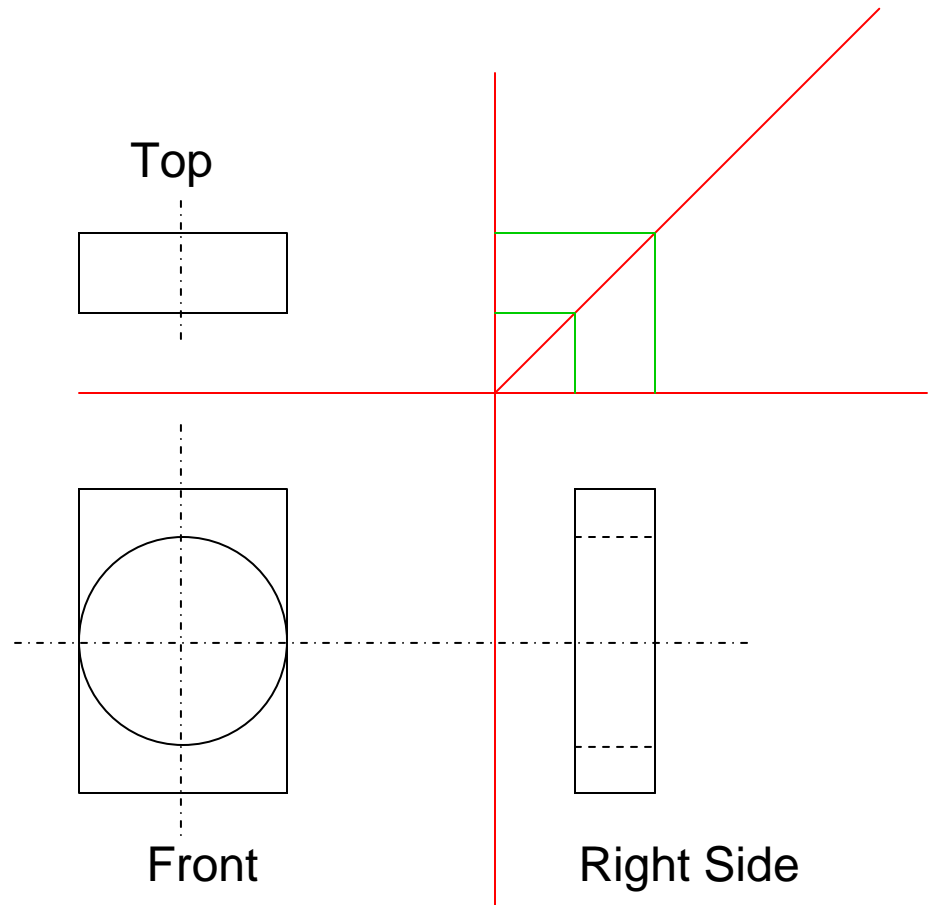
Now start drawing
Isometric

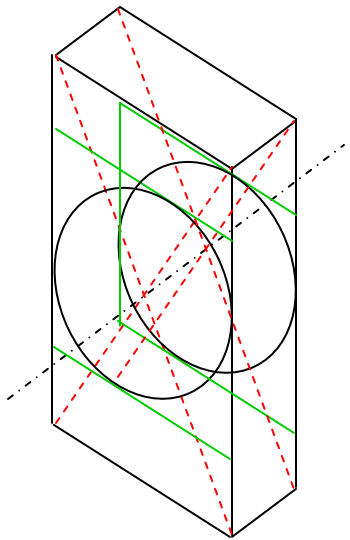




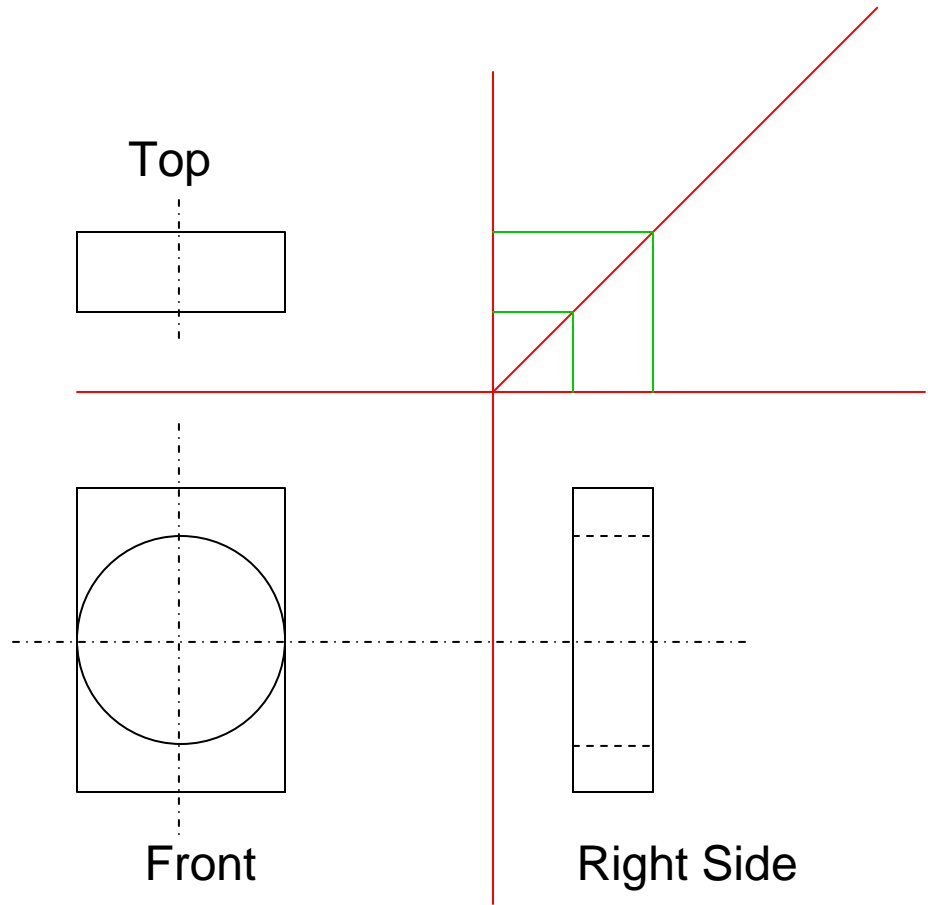
Identify hidden lines

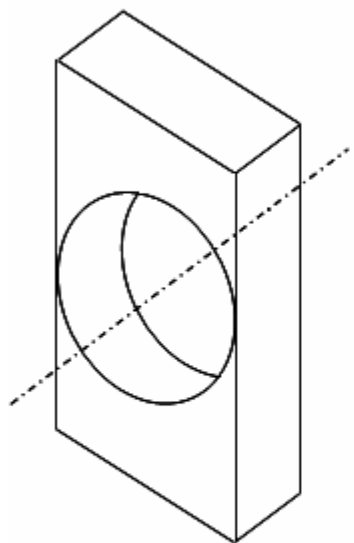
Now erase the hidden lines



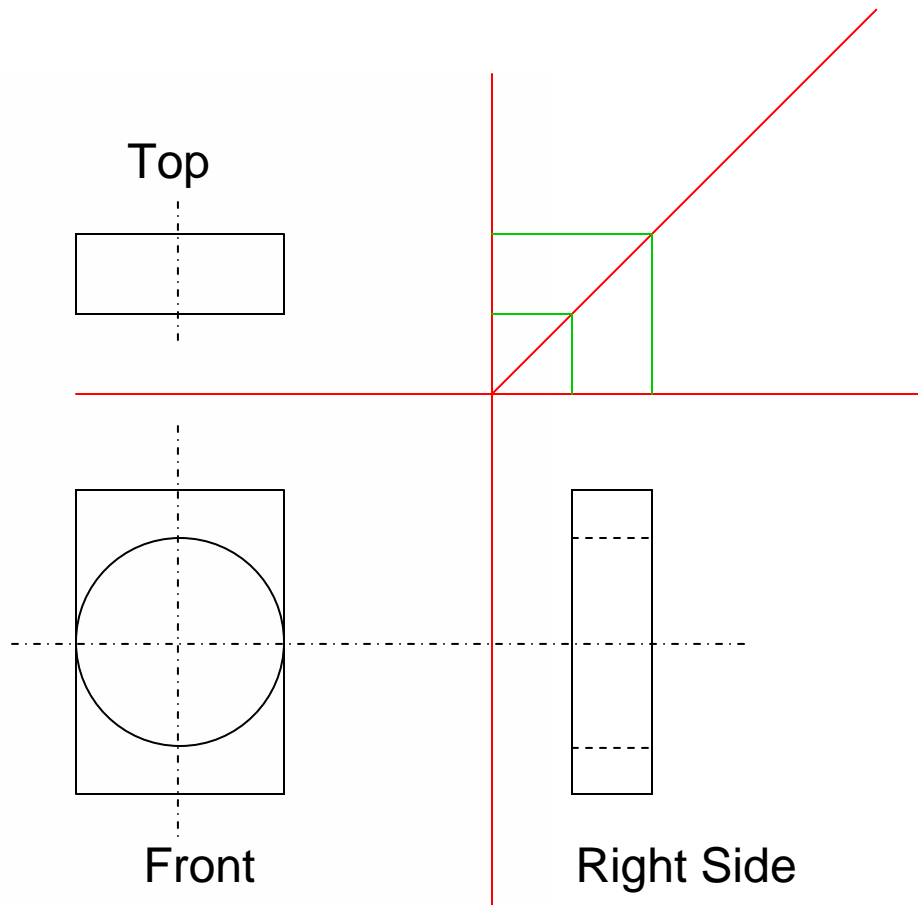


Now erase hidden portion of ellipse





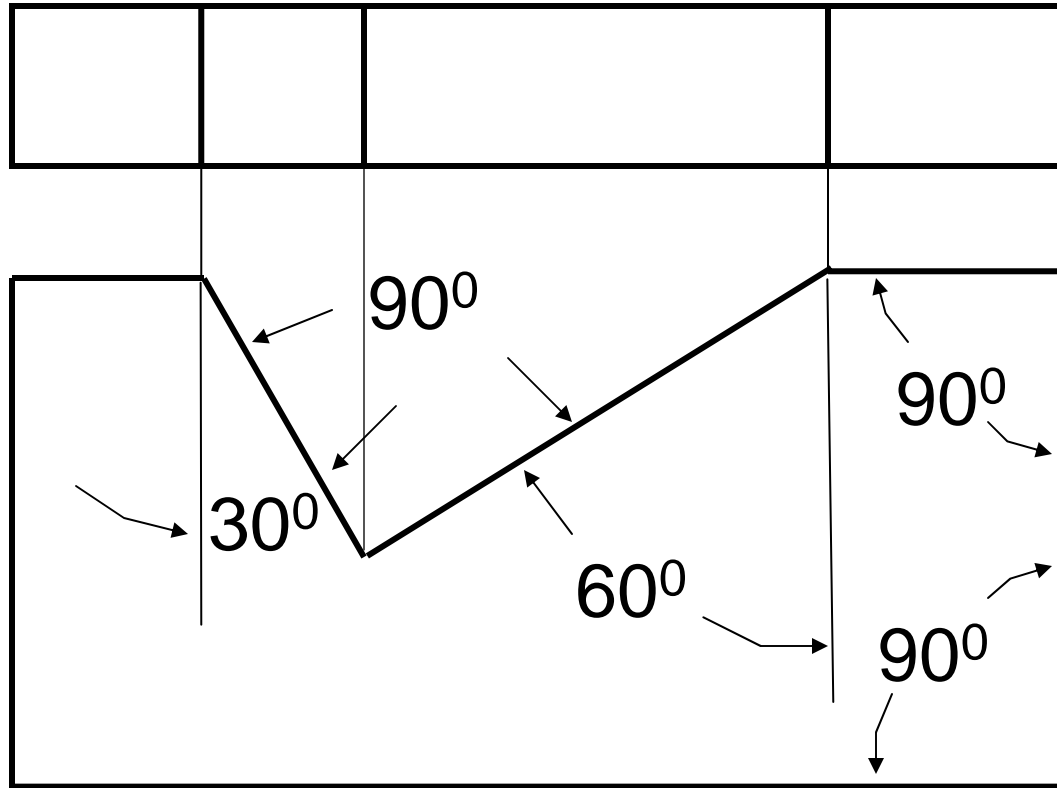
Isometric



Top

Front

Right Side

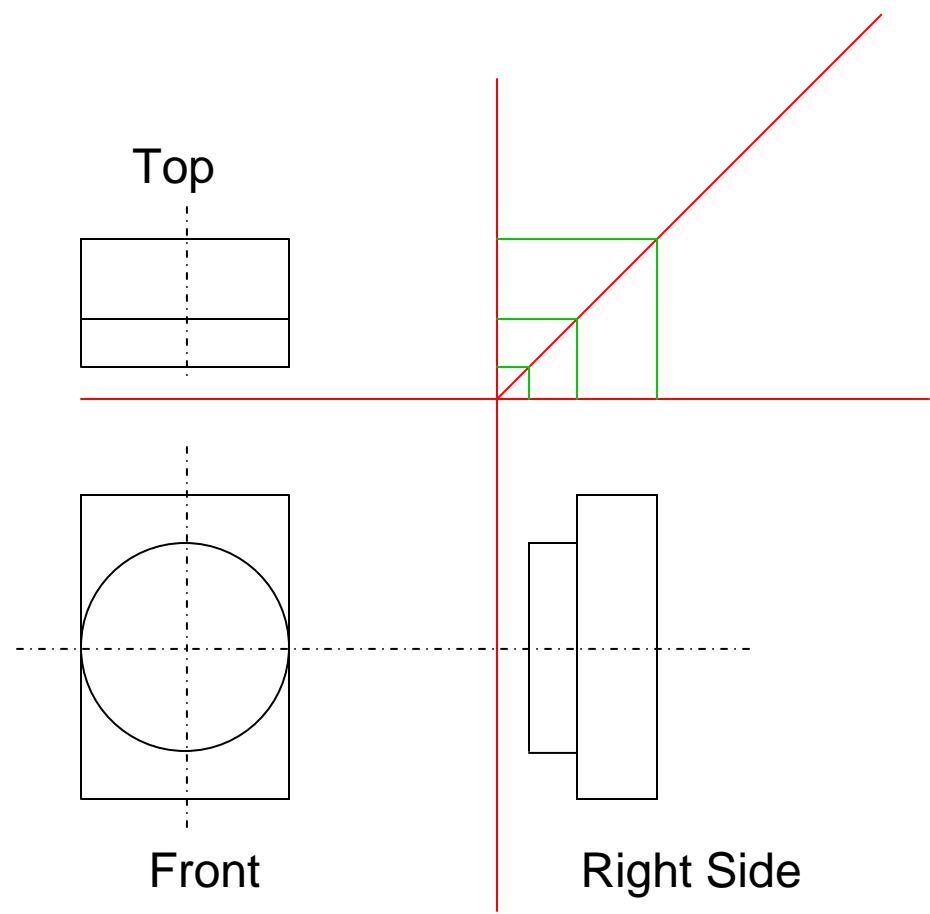


Angles in isometric?

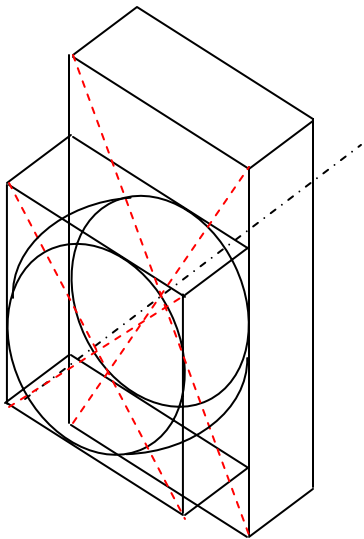
Do not appear as true angles

See V-notch above

Now start drawing
Isometric

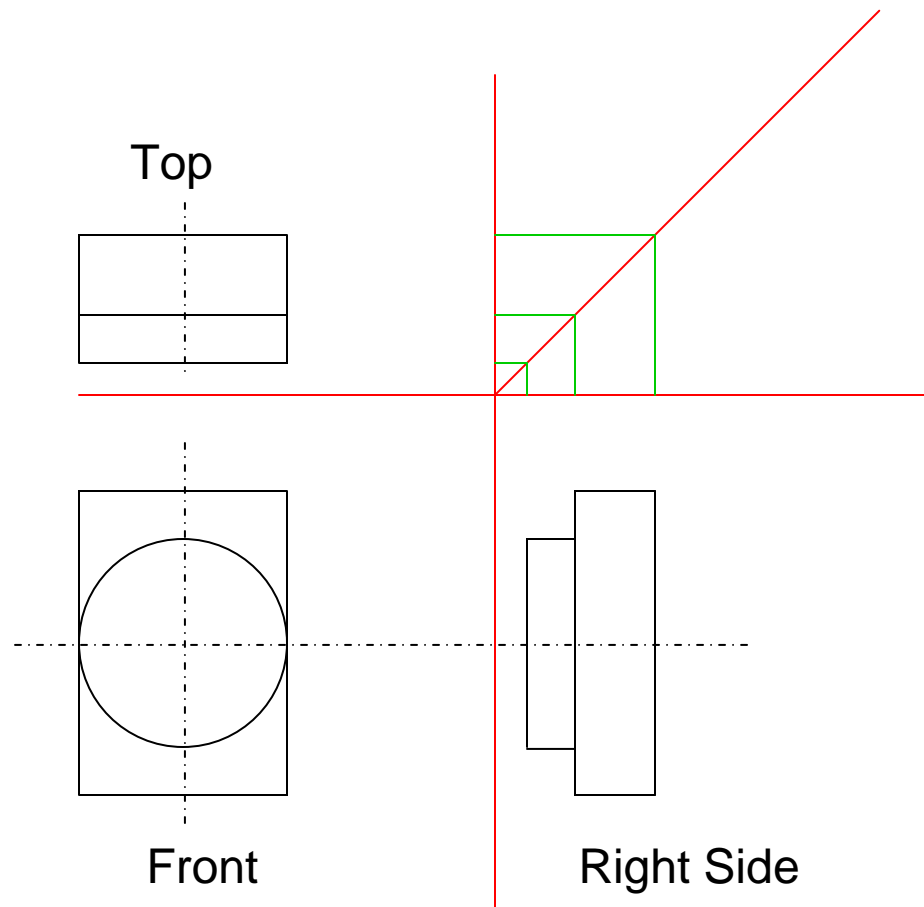


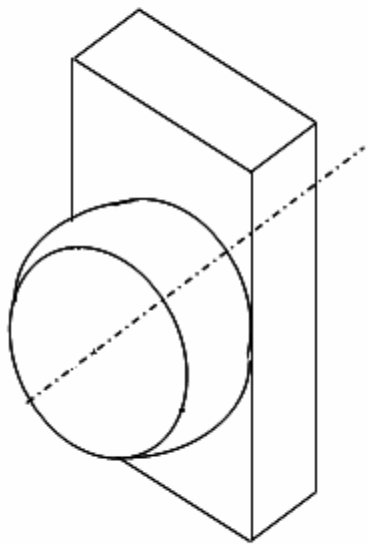
Draw base as in previous isometric
Now draw the additional surface



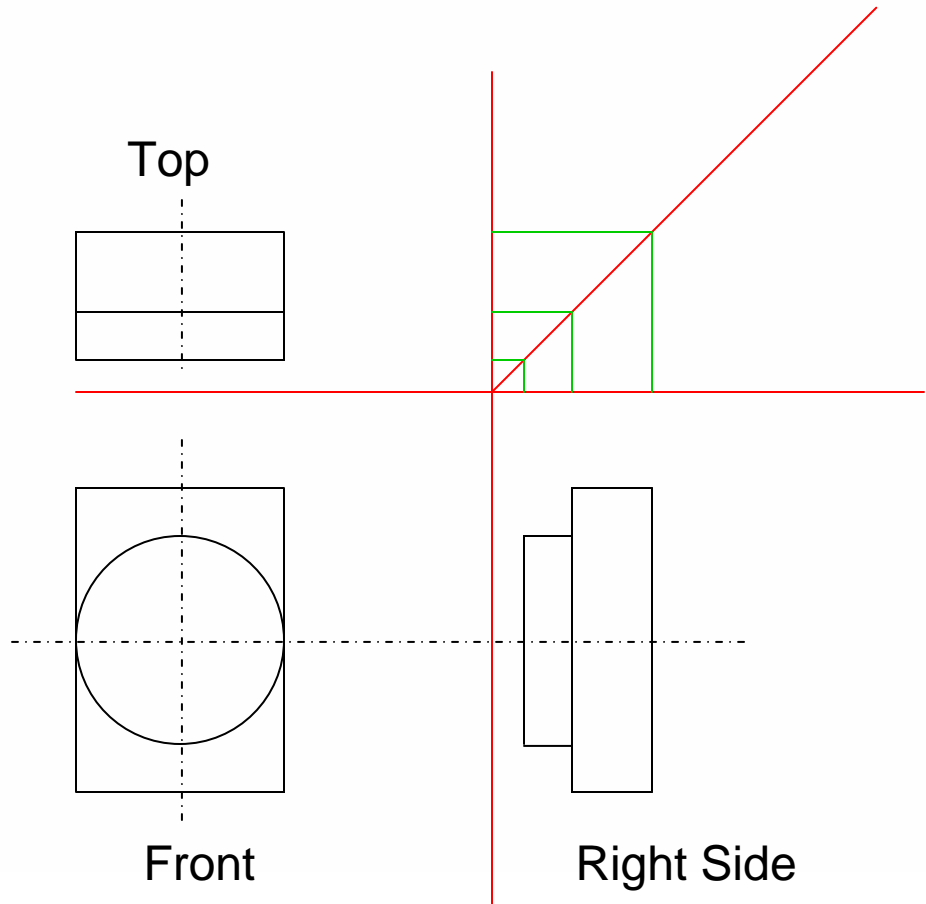
Smoothly join both circles

Identify hidden lines and erase





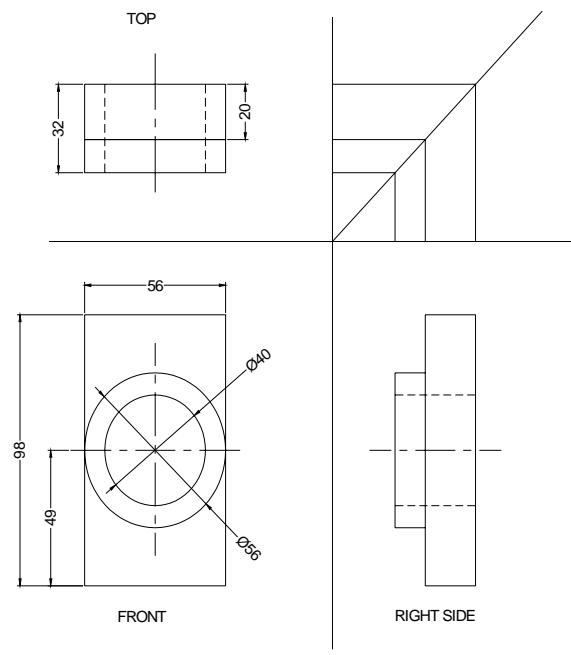
Isometric



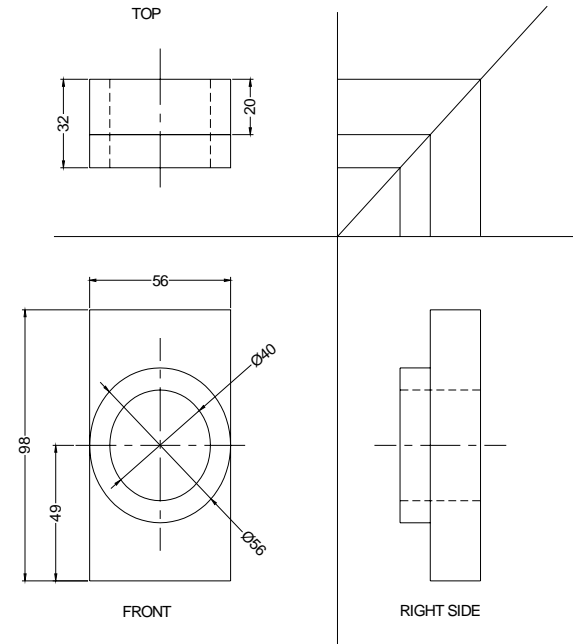
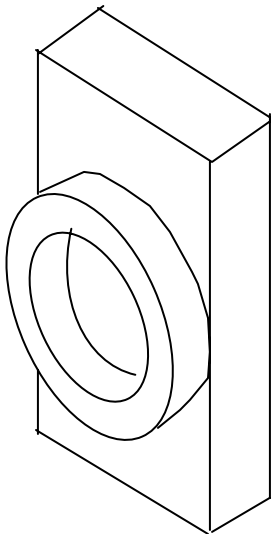
Top

Front

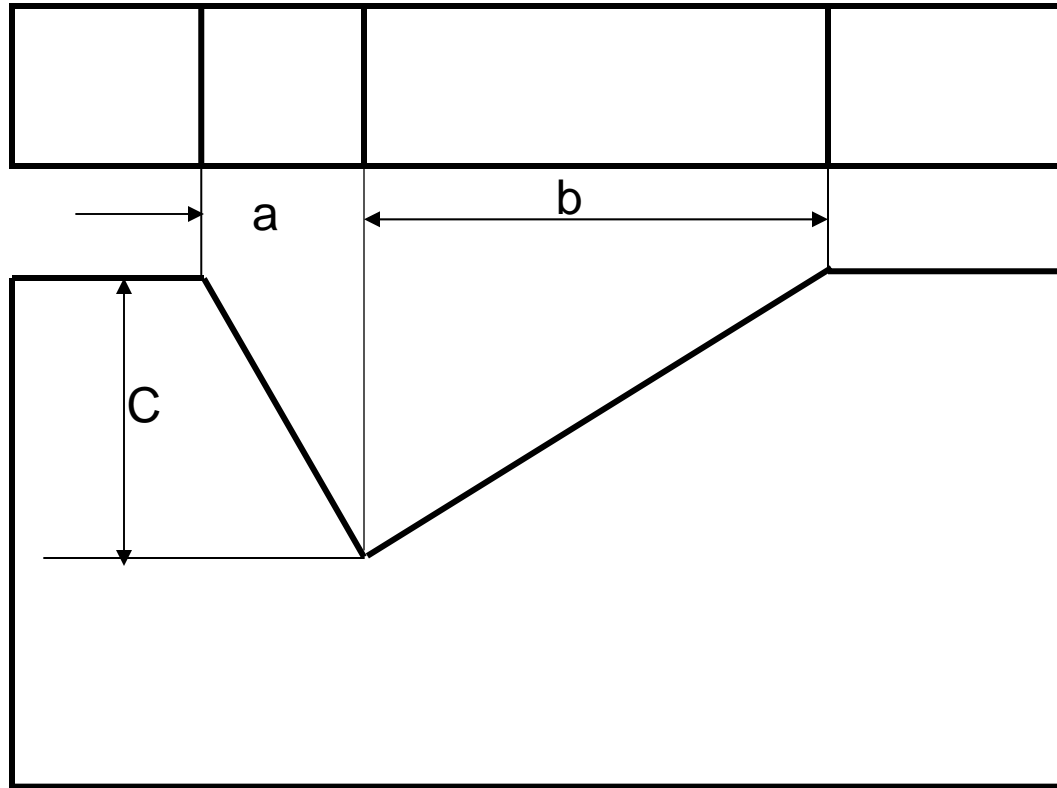
Right Side



L3 - 3.1

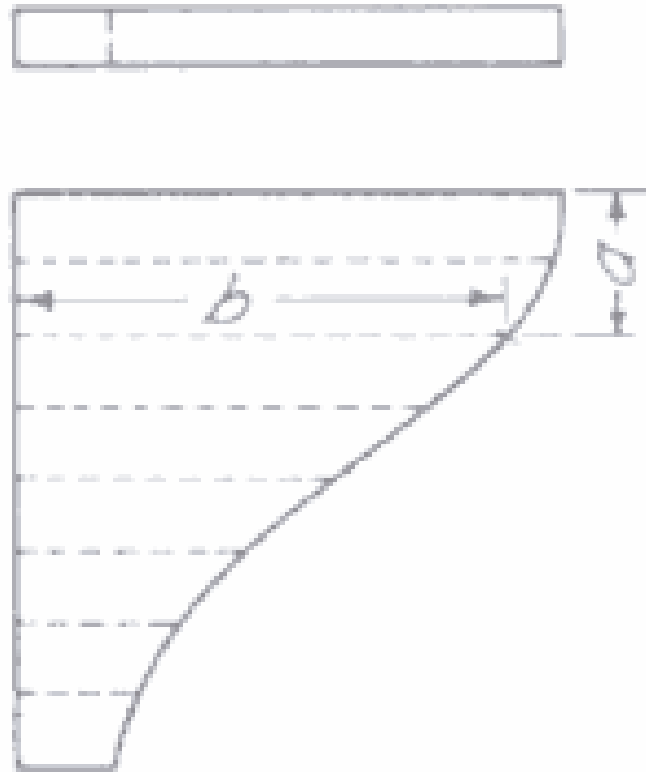


L3 - 3.1



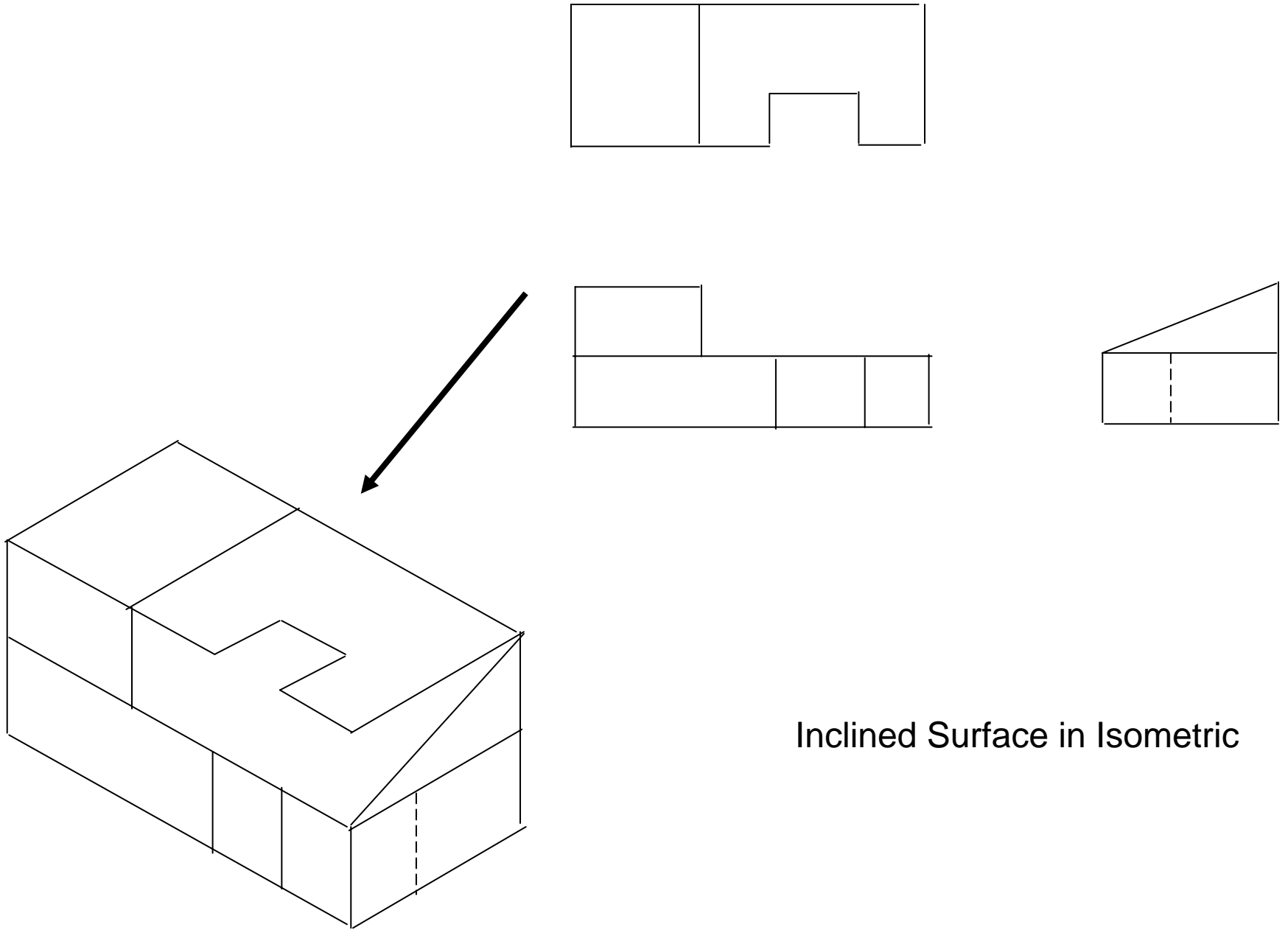
Angles in isometric

Do not measure angles; use isometric lengths to locate the point

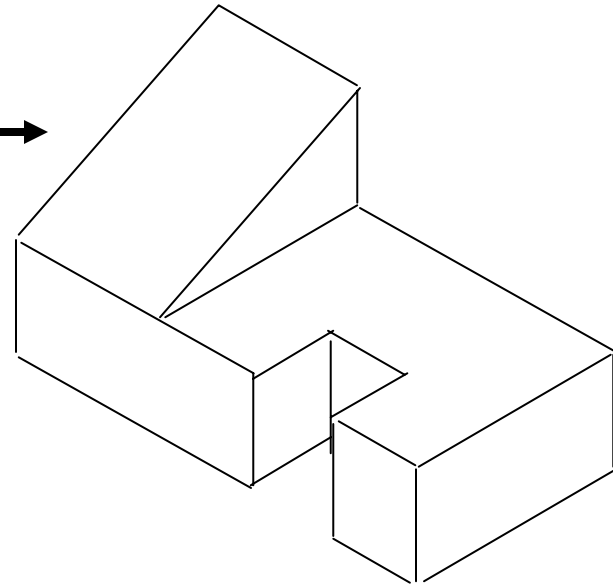
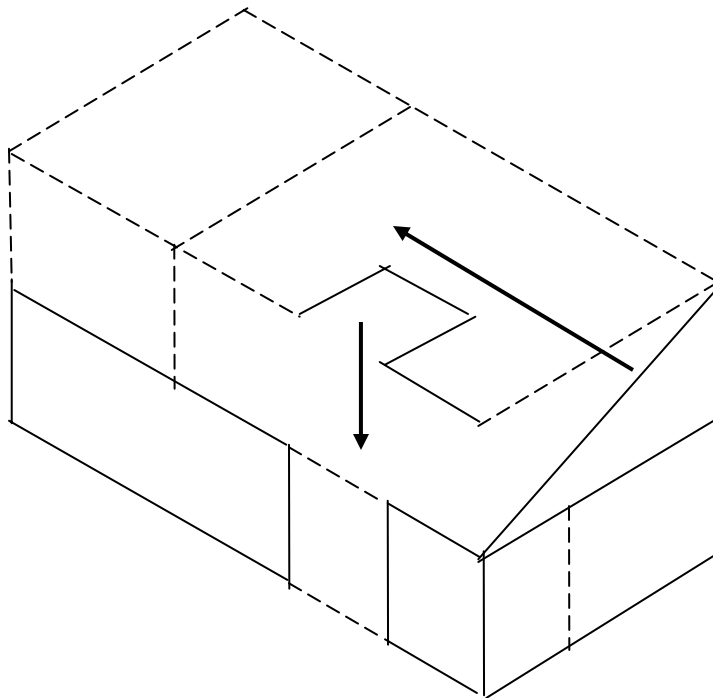
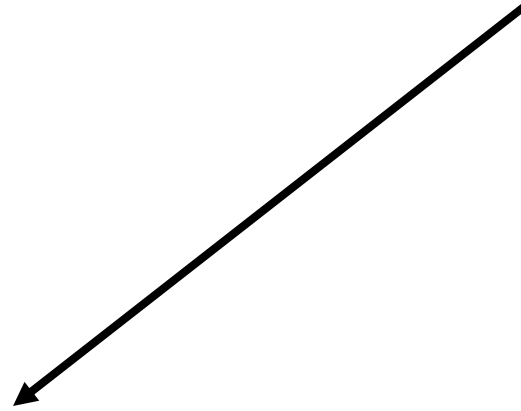
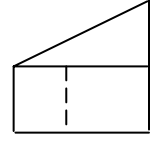
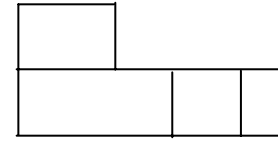
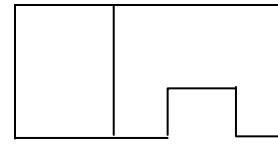


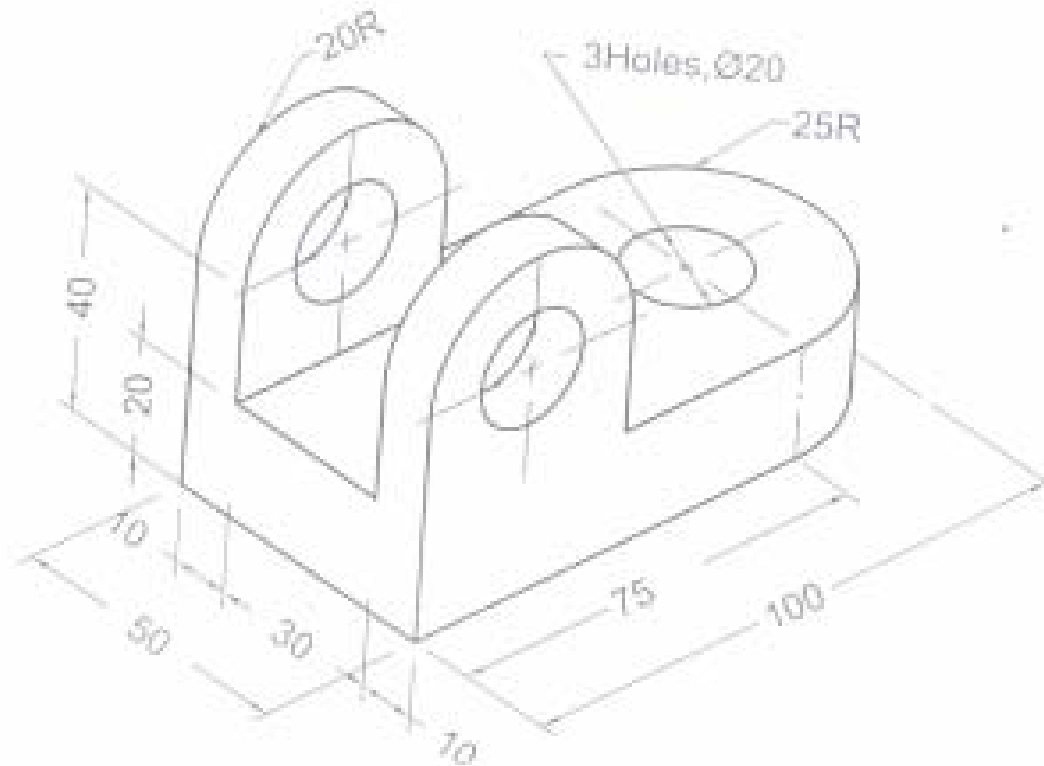
Curves in Isometric drawing

use isometric lengths to locate the points on the curve



Inclined Surface in Isometric





Dimensioning in Isometric drawing

Horizontal and Vertical Dimensions:

Both extension and dimension lines are in respective isomeric planes and Numbers are perpendicular to the dimension line.

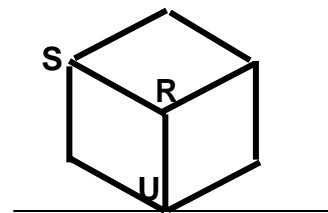
How do you know if your isometric drawing is correct?

It should yield exactly the same orthographic views from those isometric drawing was built.

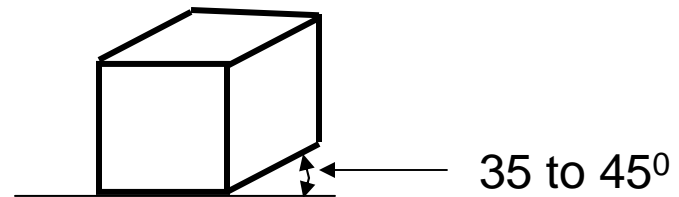
Oblique Projections

Produces 3-D views

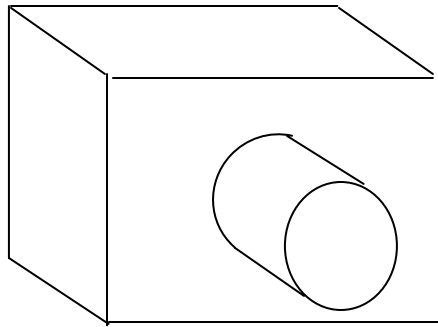
- Process virtually opposite to isometric view
- Do not look perpendicular through projection plane
- Object is not rotated
- Object remains with a major face parallel to projection plane
- Now one looks the projection plane with an oblique angle
- Axes of height and width remains at 90 degrees
- Axis of depth can vary in angle, ϕ
- What is specialty of oblique projection.



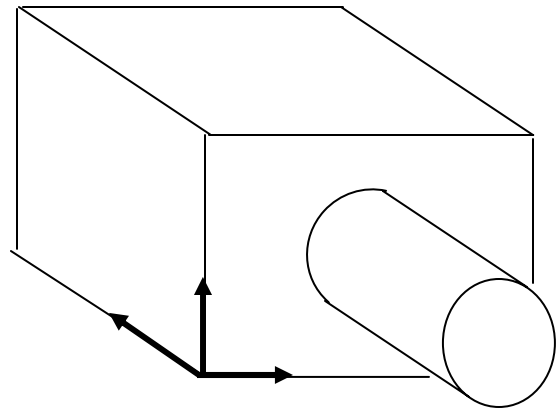
Isometric



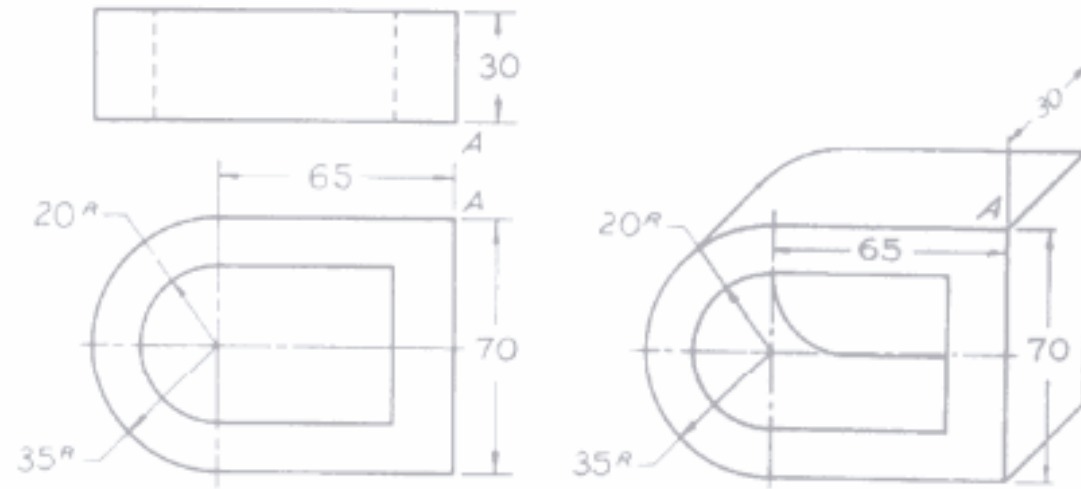
Oblique



(A) CABINET



(B) CAVALIER

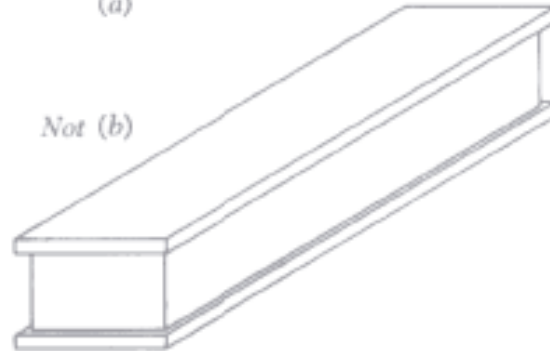


METRIC. Oblique drawing

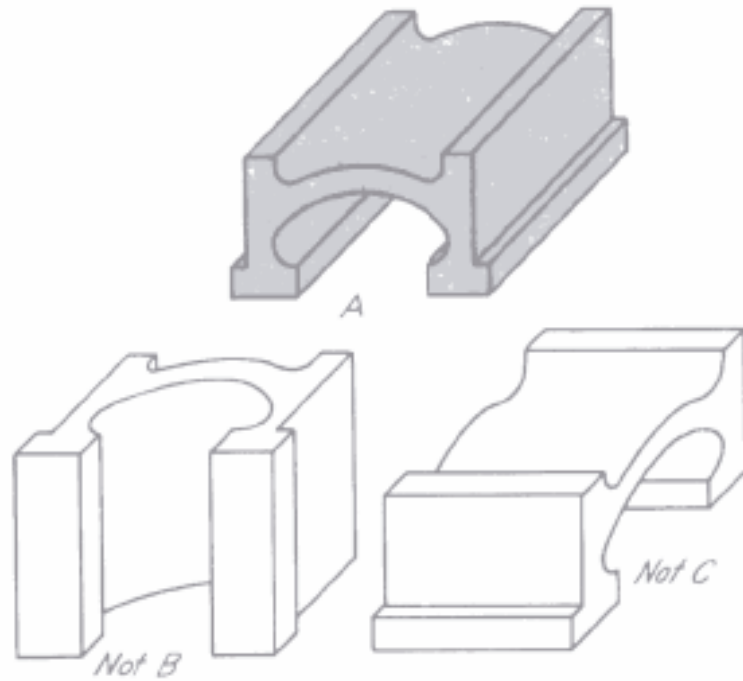


(a)

Not (b)



What depth?



Object orientation for oblique

Place the object with the irregular outline or contour parallel to the picture plane.