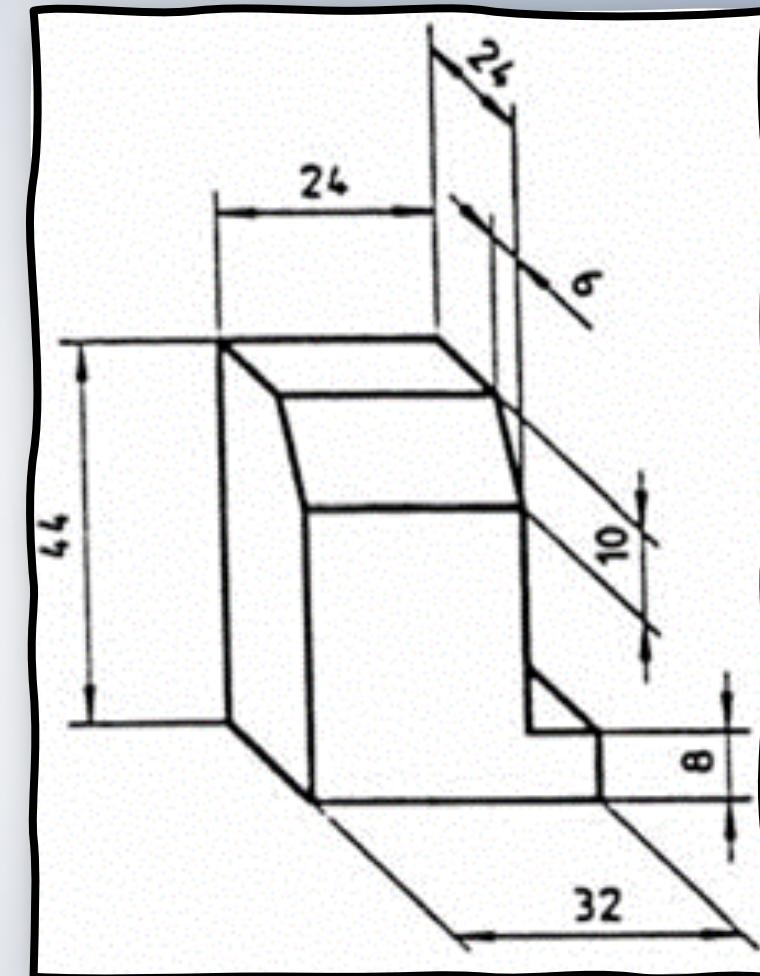
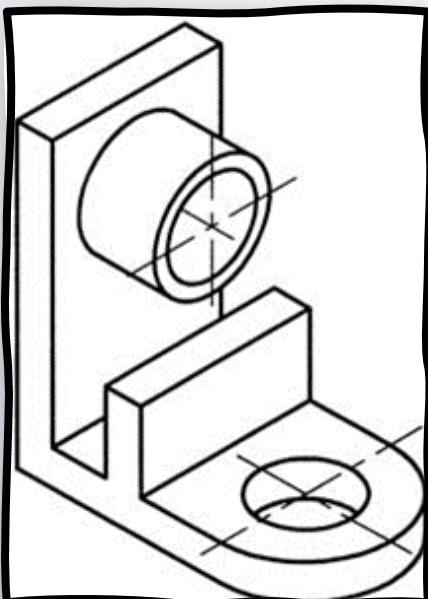


Computer-Aided Design

Perspective Views |

PERSPECTIVE DRAWING

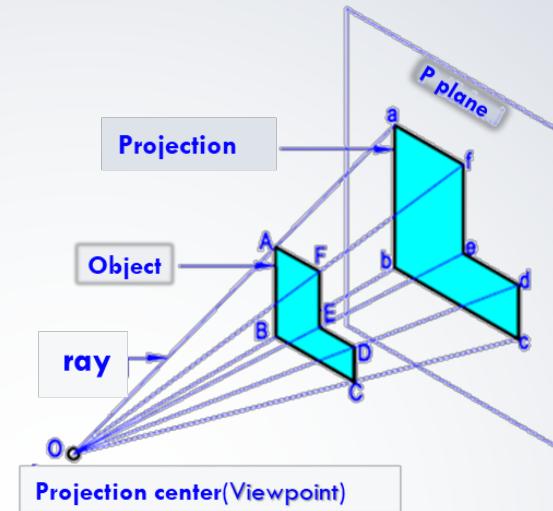
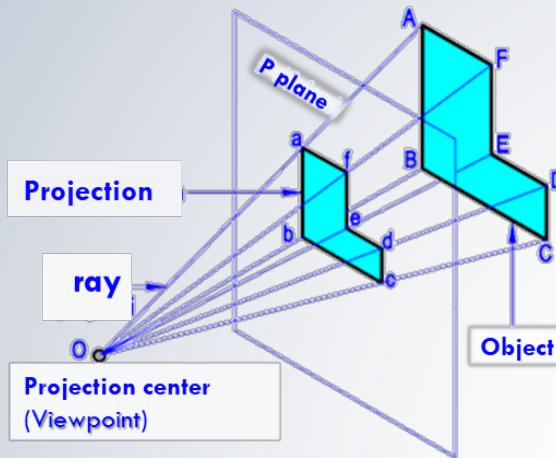
- The appearance of three sides of a part is given in a single view.
- Makes the part easier to understand and grip.
- Provides convenience for those who do not have technical drawing knowledge.



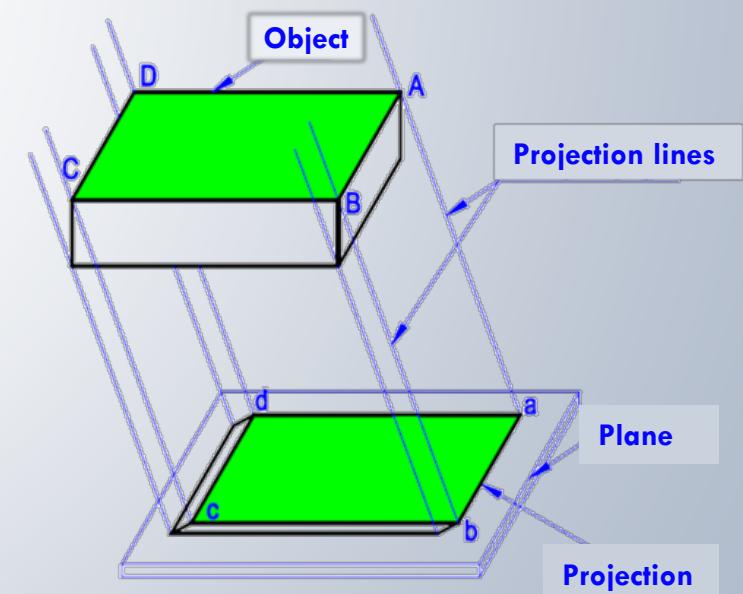
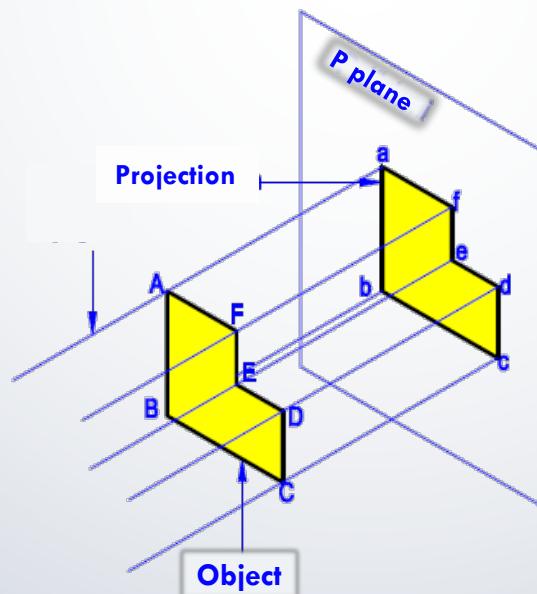
PROJECTION METHODS

<https://depositphotos.com/vector/view-of-the-city-with-houses-and-shops-built-in-central-perspective-96035652.html>

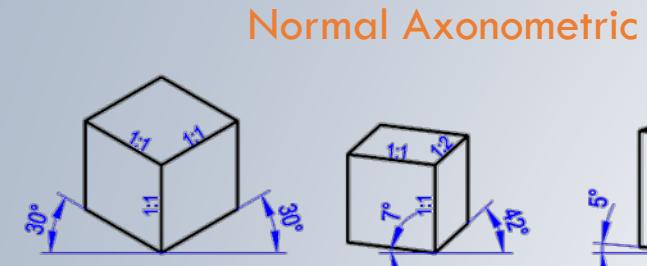
Central (conical)
projection
(smaller - larger)



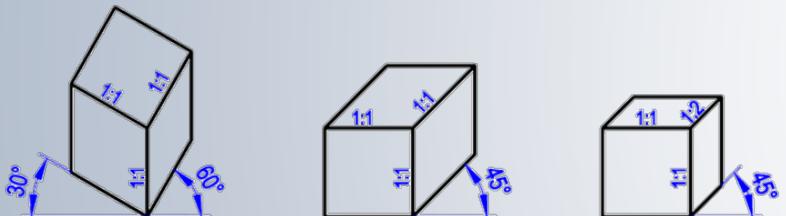
Parallel projection
(orthogonal - inclined)



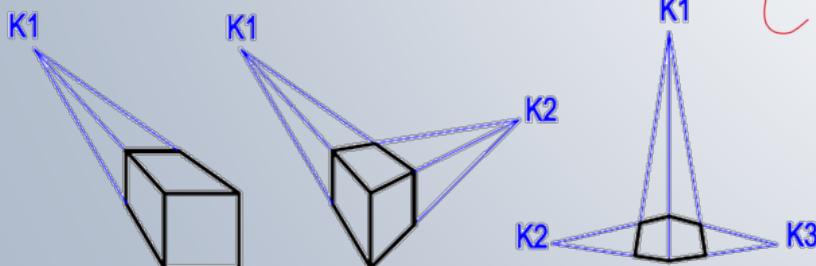
PERSPECTIVE METHODS



Normal Axonometric
military



Central Perspective



give photo
say with perspective

Perspective

Parallel
Perspective

Normal
Axonometric

Oblique
Perspective

Central
Perspective

One Point

most common
Isometric

manually
drawing
Cavalier

Dimetric

Cabinet

Trimetric

Military (Planometric)

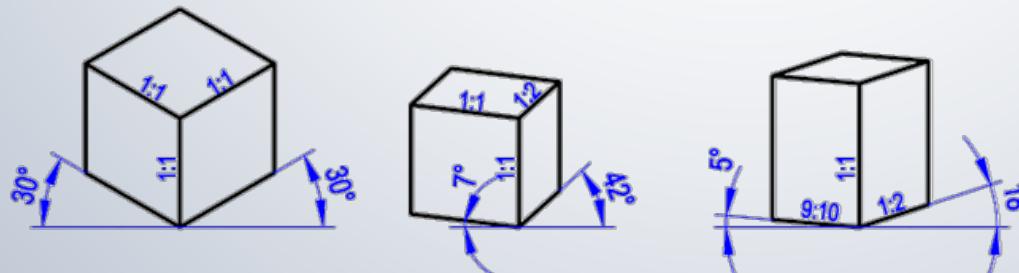
Two Point

Three Point

CP

NORMAL AXONOMETRIC PERSPECTIVE

- By using the parallel orthogonal projection method, perspective drawn by **changing the position of the object** relative to the projection planes.
- Divided into three:
 - Isometric perspective
 - Dimetric perspective
 - Trimetric perspective



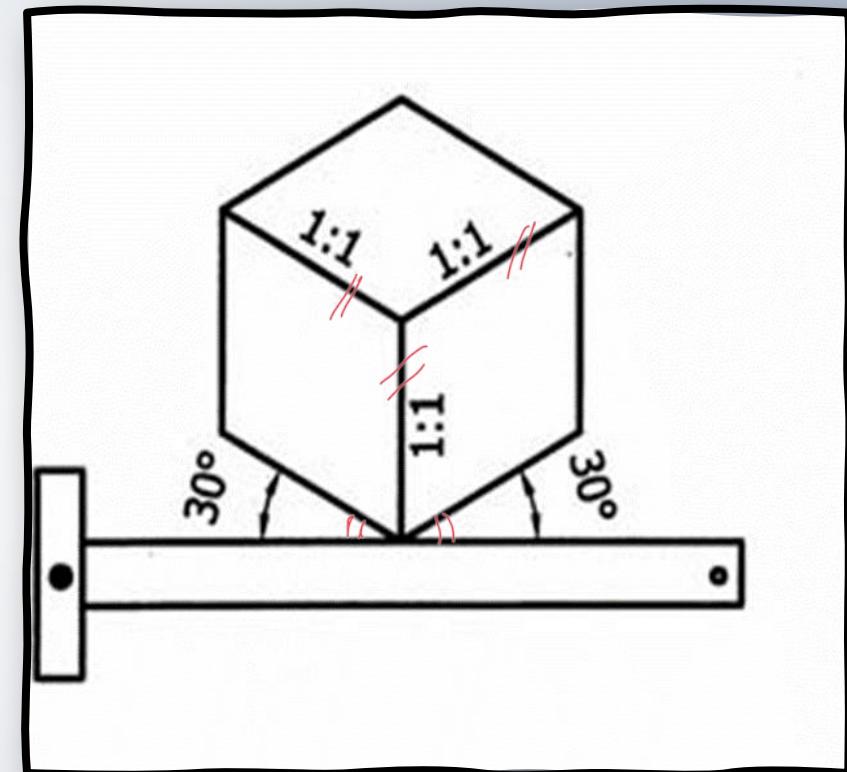
ISOMETRIC PERSPECTIVE

- It is located with 3 equal angles to the projection plane with 3 coordinate axes.

Show all sides equally

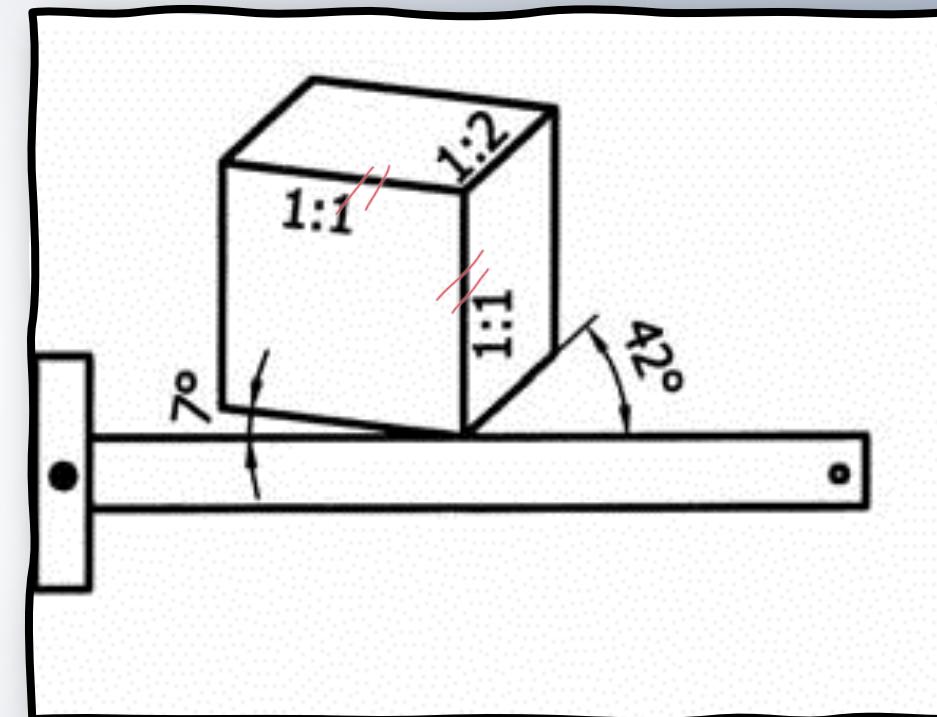
*not ask to draw
merely by color in imitation*

Same scale



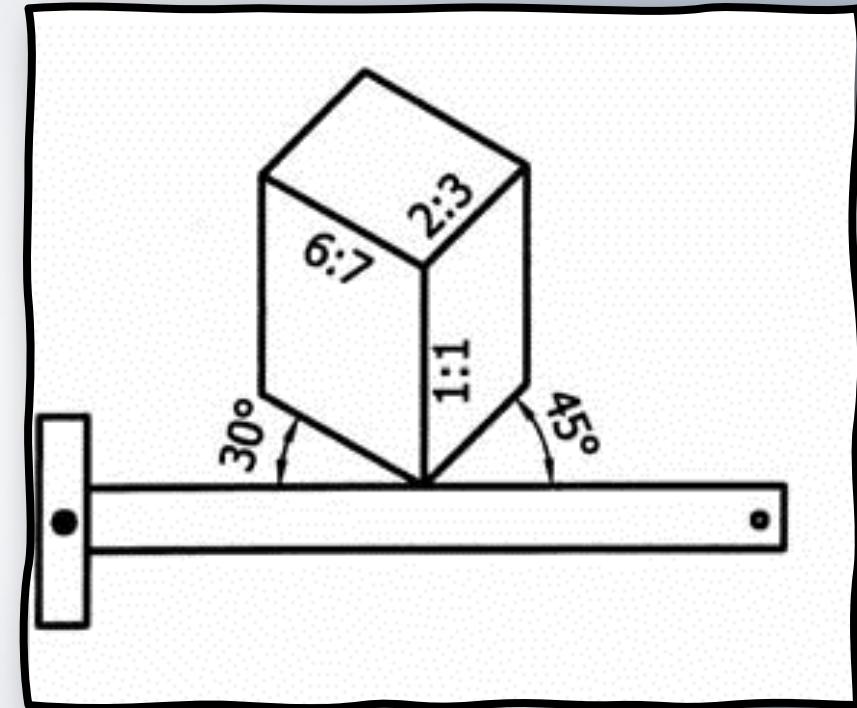
DIMETRIC PERSPECTIVE

- Used when a view of the part is particularly important.
- Since the object is kept oblique at the same angle, there is equal shortening in two dimensions and different shortening on the deep edges. So, it is necessary to use **two different scales** in its drawing.



TRIMETRIC PERSPECTIVE

- It consists of intersections formed by three adjacent surfaces, whose surfaces are oblique to the projection plane and perpendicular to each other.



Not much usefull

OBLIQUE PERSPECTIVE

- Drawing is easier than other perspective drawing methods.
- The surface parallel to the projection plane is taken as basis and the axis that defines the depth according to the drawing method is drawn with an angle of 30° , 45° or 60° .

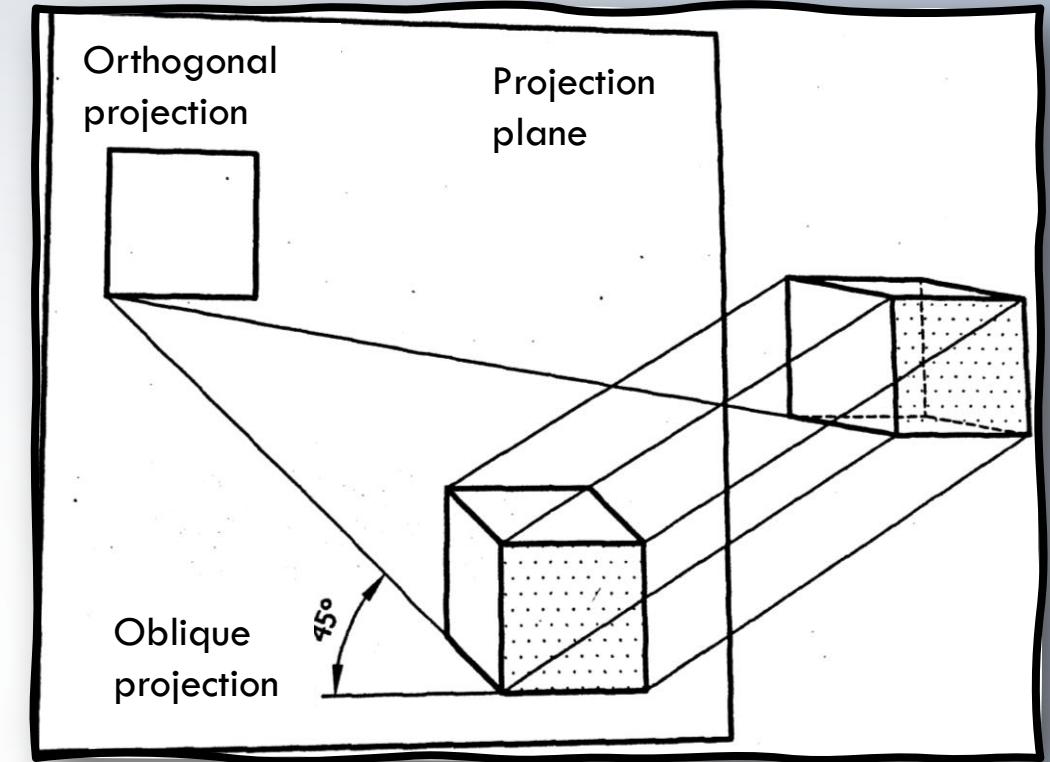
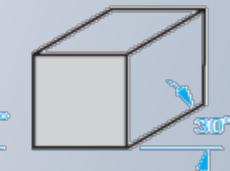
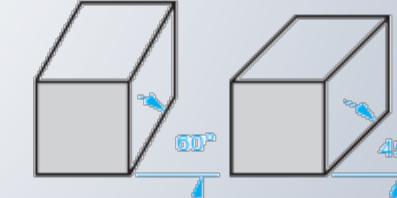
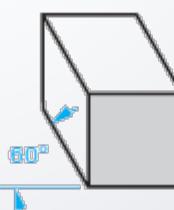
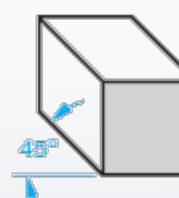
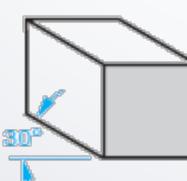


FIGURE 7-7 Typical positions of receding axes for oblique projection.

- Divided into three:

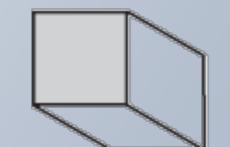
1.1 • Cavalier

make sure front is horizontal



1.2 • Cabinet

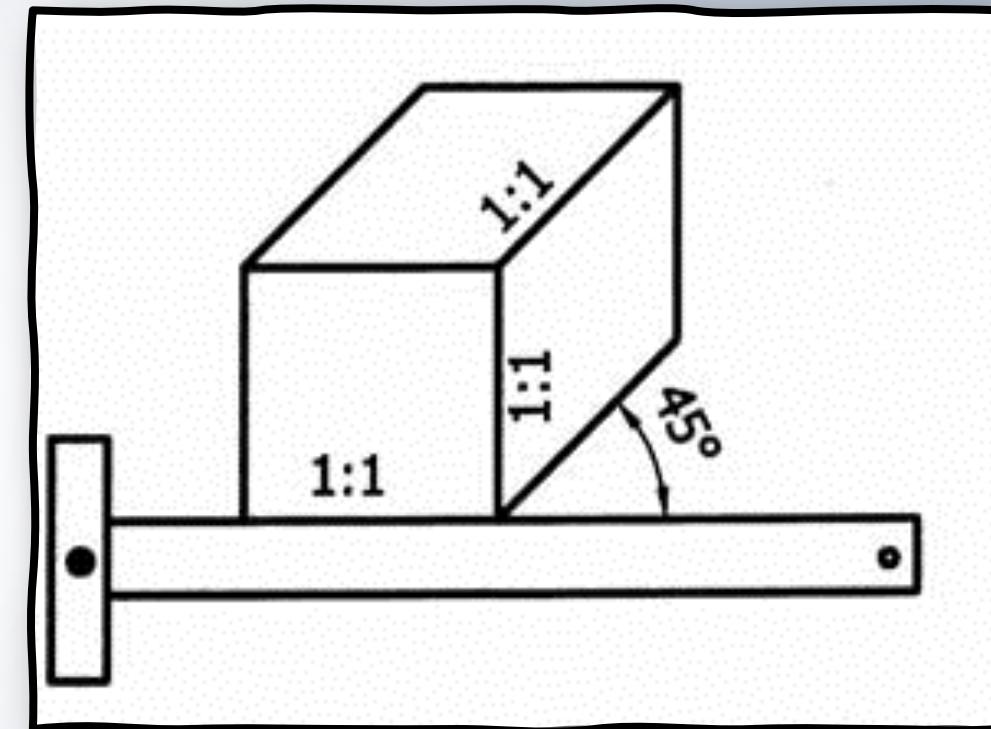
top parallel to front



CAVALIER PERSPECTIVE

- It is very easy to draw
- It is possible to dimension as a technical drawing
- Presents an unrealistic drawing due to its ratio along the 3rd coordinate axis, which gives depth
- Generally used for quick sketches.

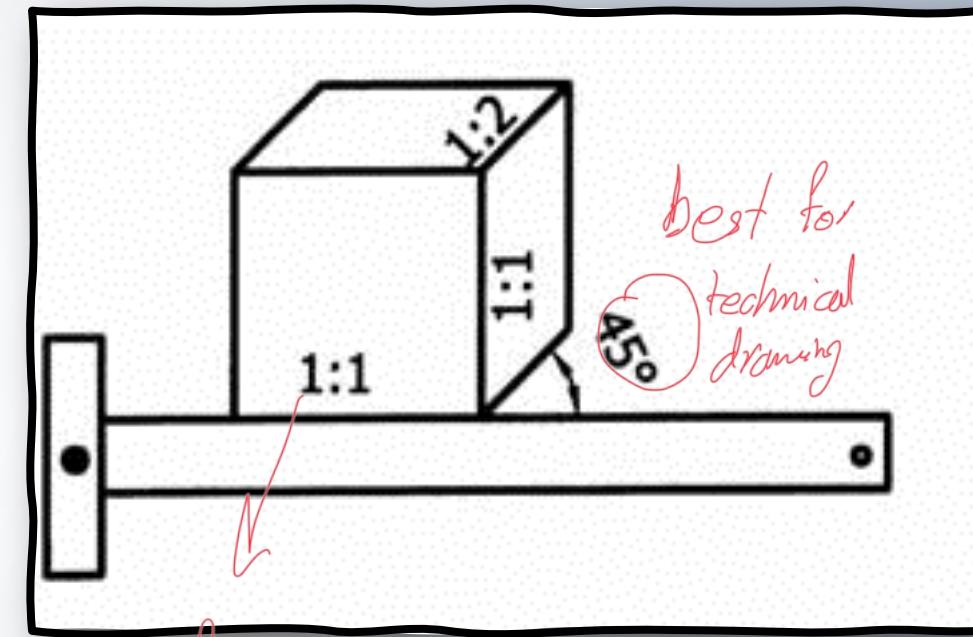
not recommend for professional



CABINET PERSPECTIVE

- The object is kept uniformly to be parallel to the projection plane
- Scale of the projected third axis as 1:2
- It offers a more attractive drawing in terms of technical drawing.
- Primarily used in furniture design, technical illustrations and educational materials

Looking from front



frontal horizontal projection
top plane projection

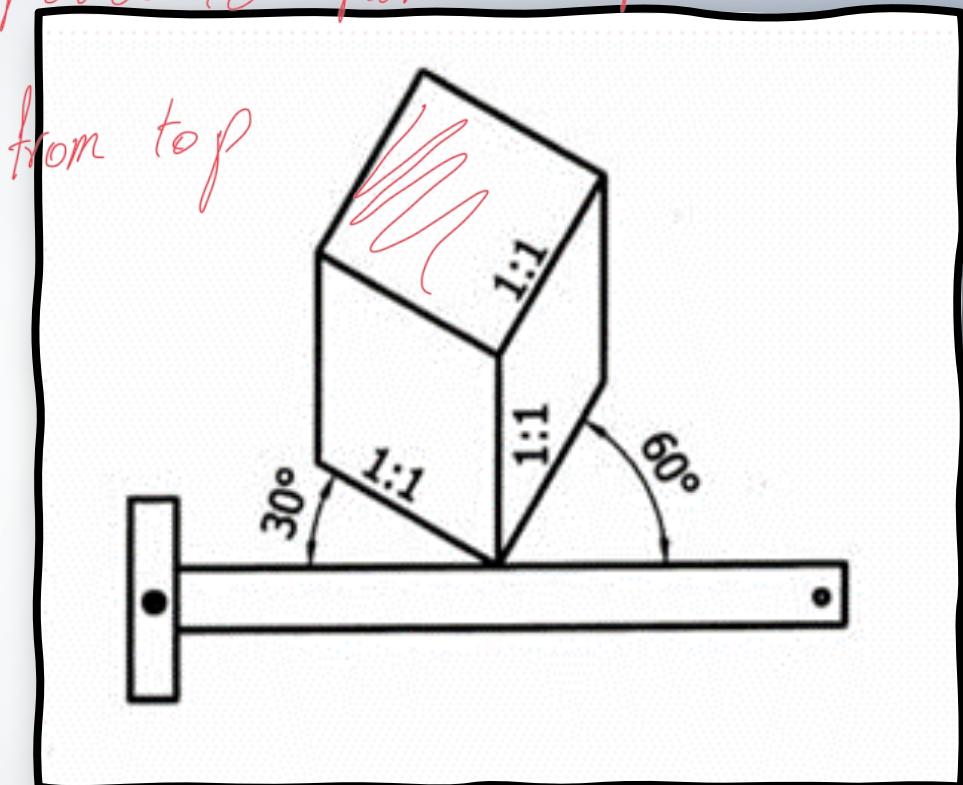
MILITARY (PLANOMETRIC) PERSPECTIVE

- The projection plane is parallel to the horizontal coordinate plane and shows all important information about the part.

- Primarily used in:

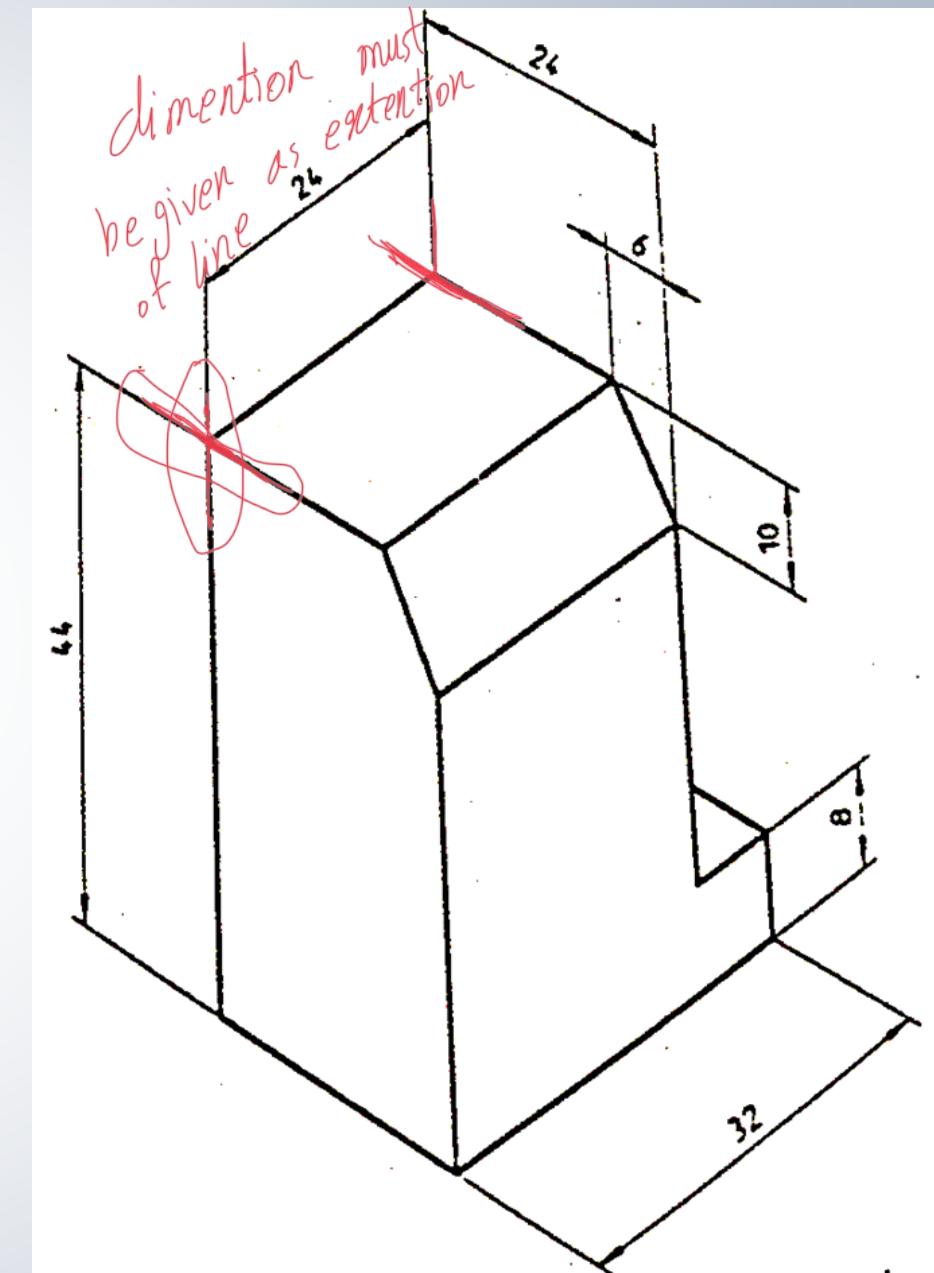
- Military and urban mapping and planning
- Architectural site plans
- Urban planning and development
- Landscape design
- Building layouts and floor plans

top is parallel to horizontal plane
looking from top



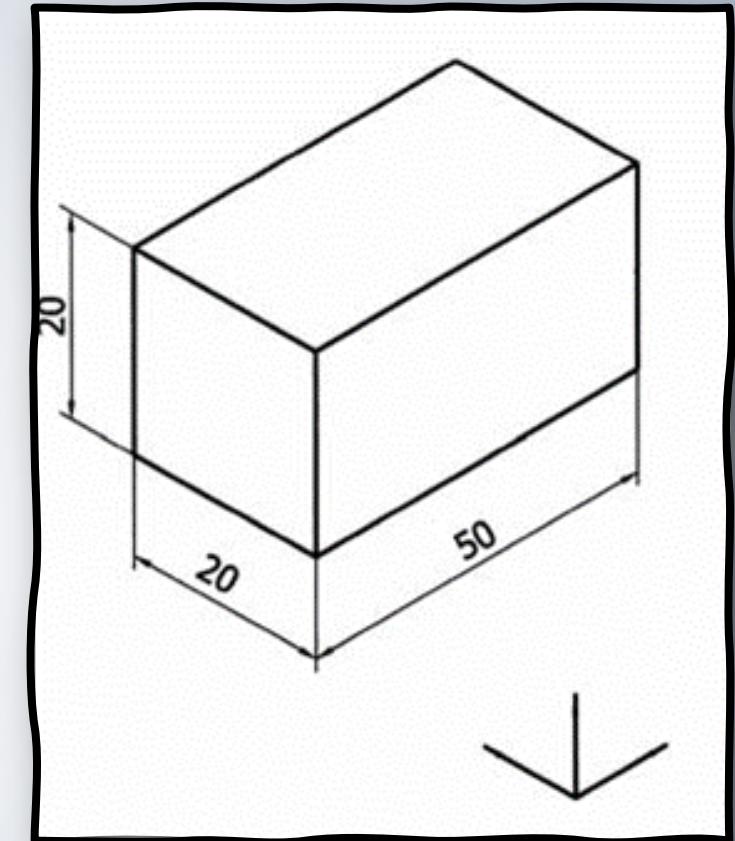
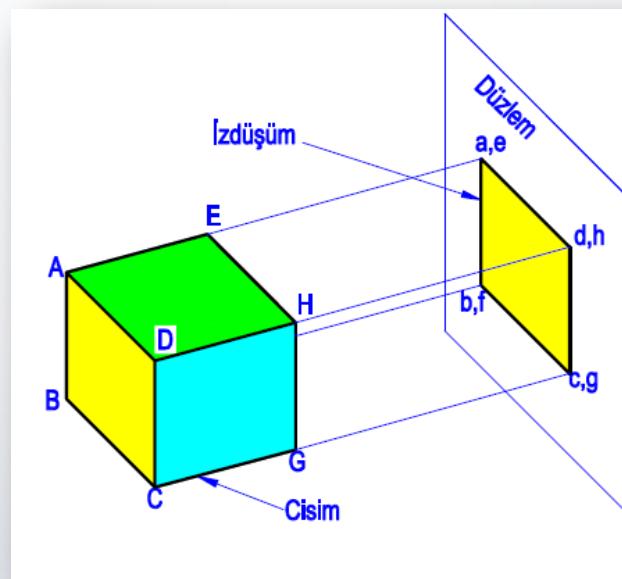
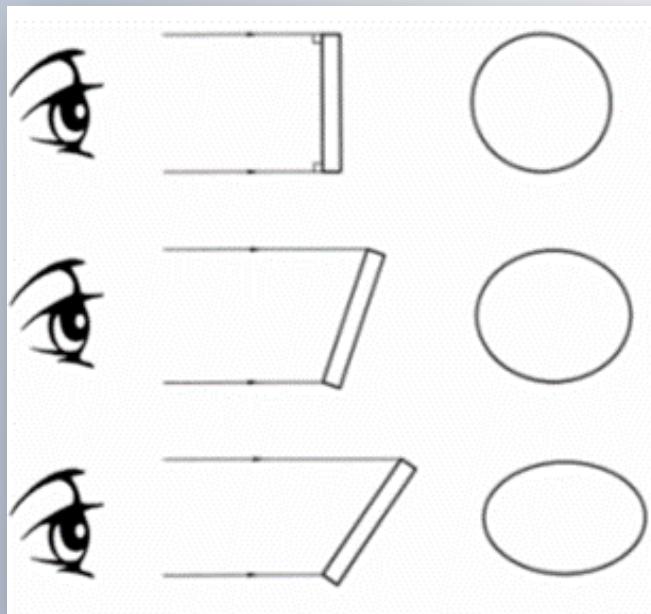
DIMENSIONING IN PERSPECTIVE

- Perspectives are difficult to dimension as it is a single view
- Dimensioning should be avoided.
- When dimensioning is required for special reasons, the orthogonal projection principle is applied.



DIMENSIONING IN PERSPECTIVE

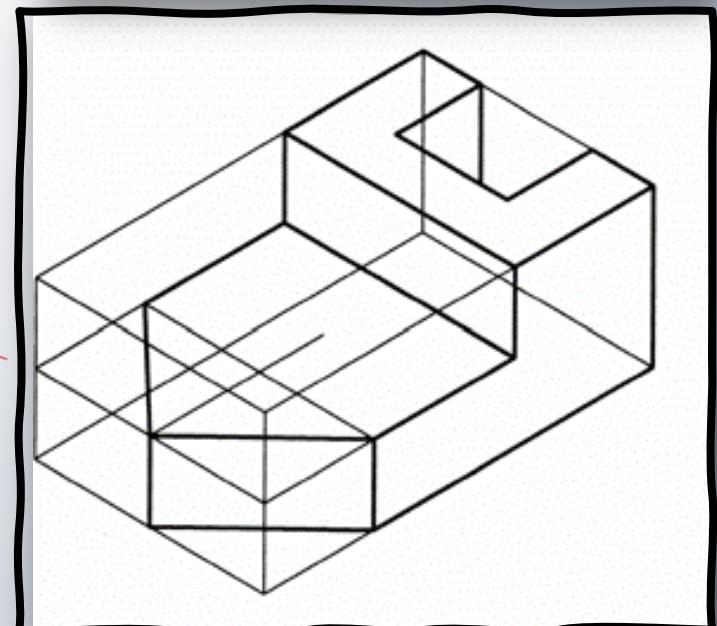
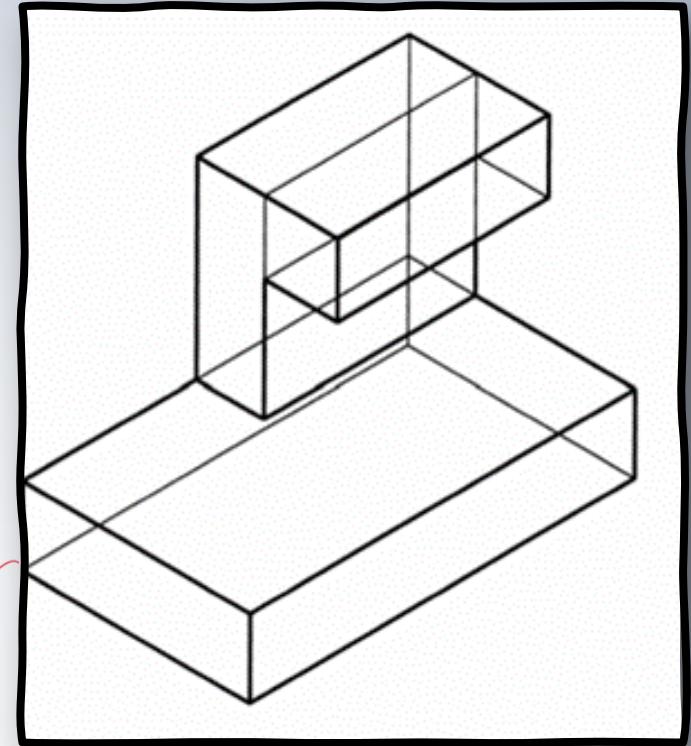
- Circular holes, which look like ellipses in perspectives, should be marked with a diameter symbol.



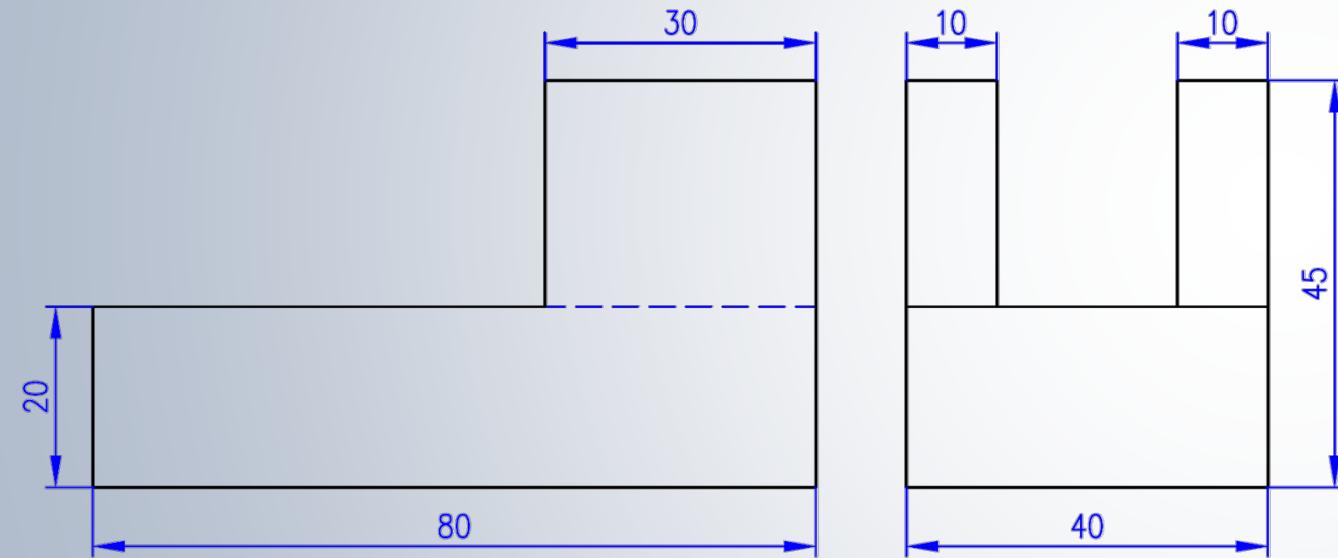
DRAWING METHODS

- Drawing the perspectives of geometric objects by assembling surfaces
- Drawing the perspectives of the parts by assembling or carving geometric objects

no matter
only check the final
product



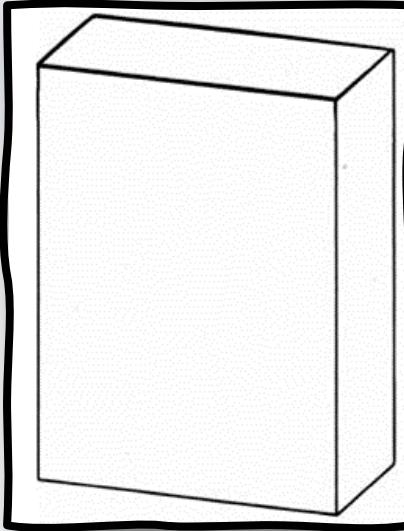
EXAMPLE



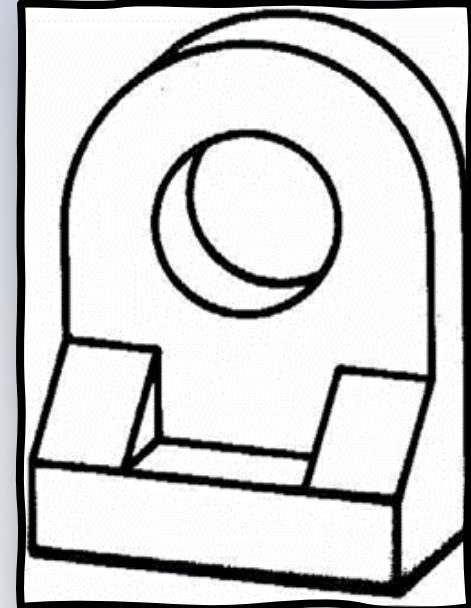
PERSPECTIVE DRAWING TECHNIQUE

GOAL

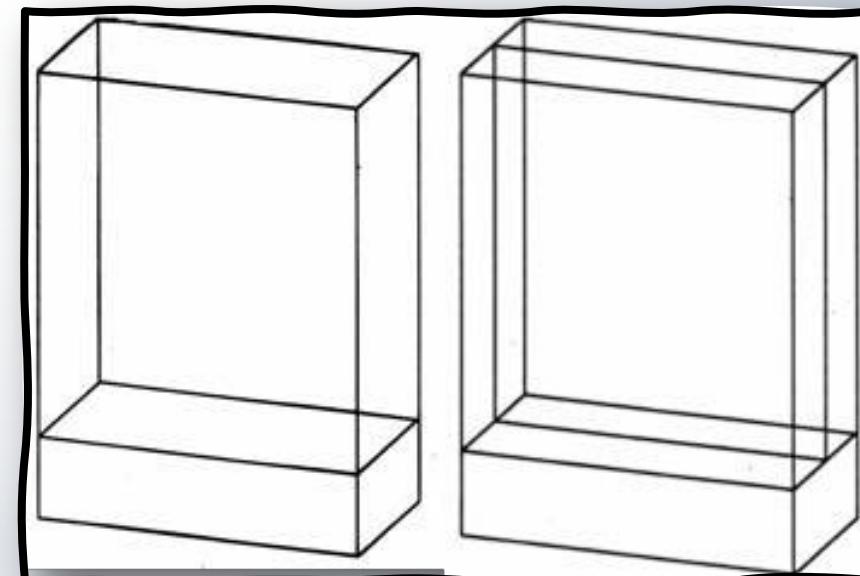
- It starts with drawing the basic prisms.



No
need

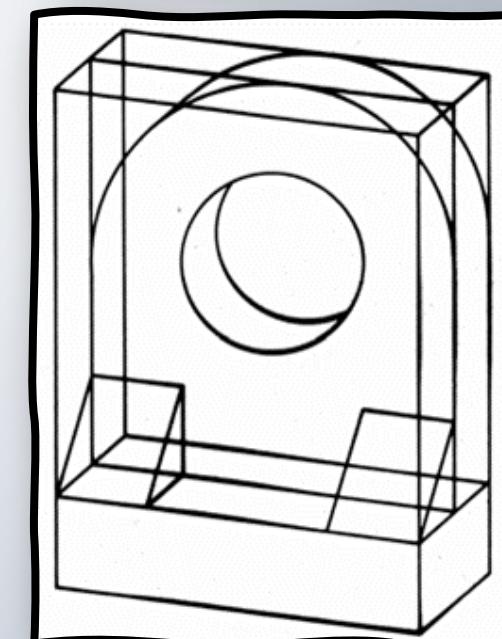
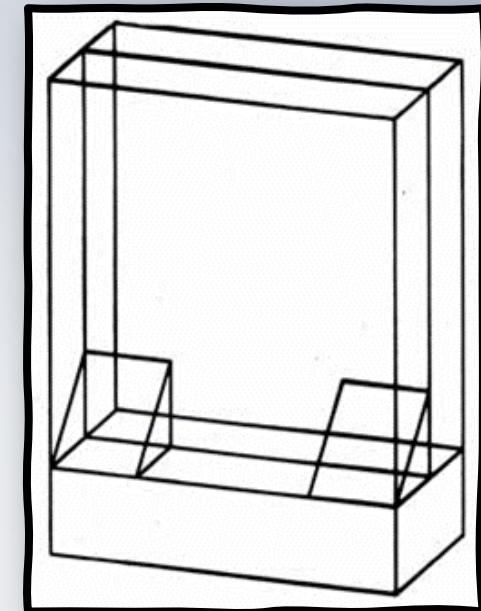


- After the prismatic base is created, the mid-plane is marked, and its height is drawn.



PERSPECTIVE DRAWING TECHNIQUE

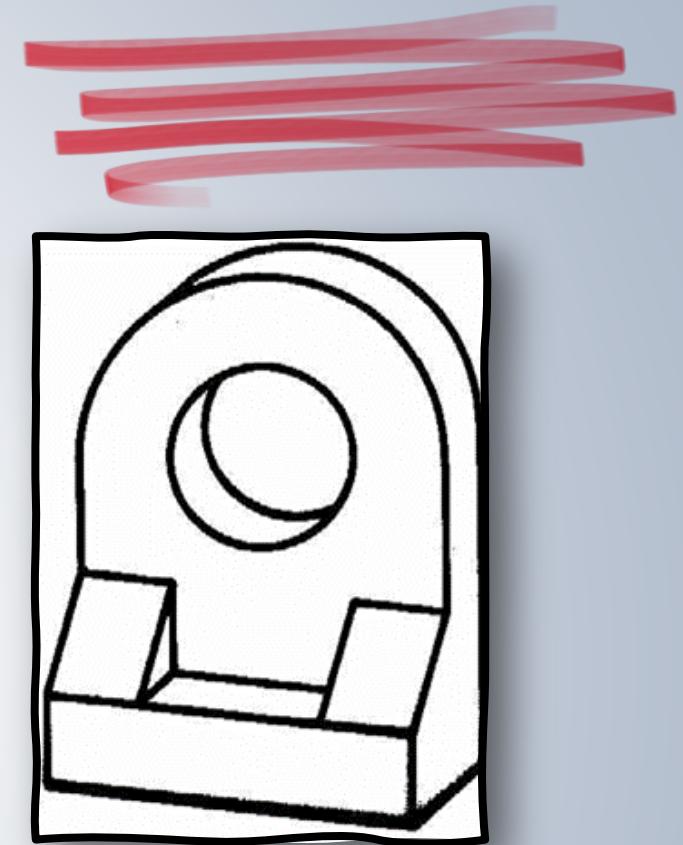
- After the sloping protrusions on the sides are created, the hole in the face plane is drawn.



- Unnecessary lines are deleted after drawing the rest of the part

PERSPECTIVE DRAWING TECHNIQUE

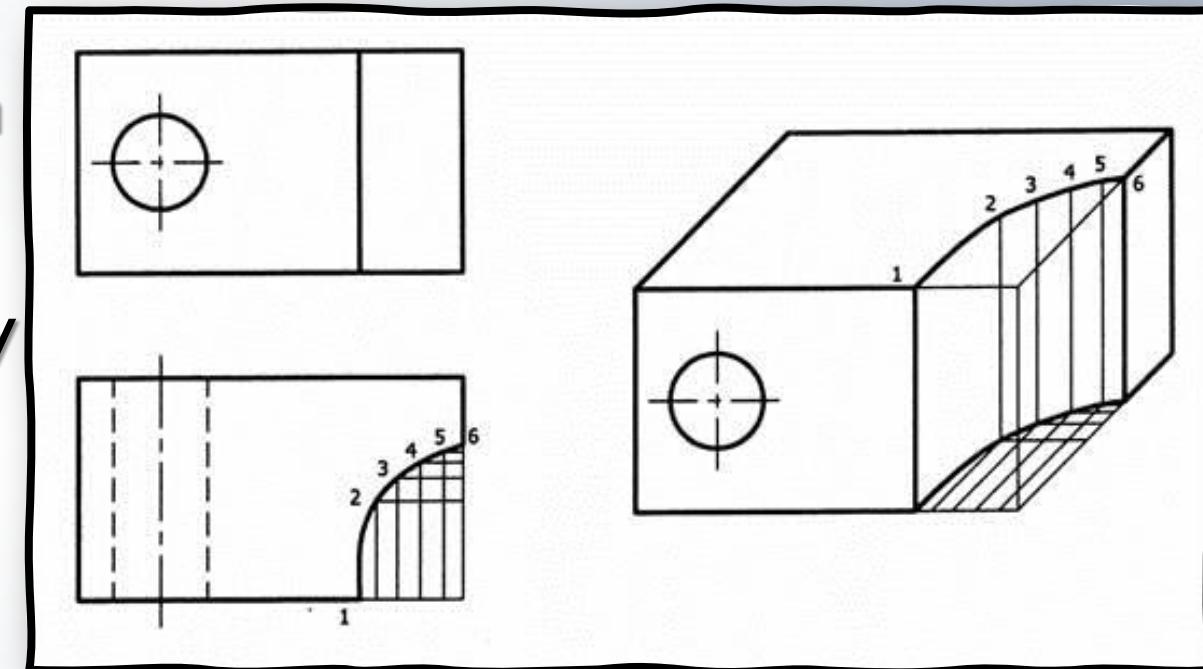
- The perspective drawing is completed by making the necessary darkening with the thick continuous type line.



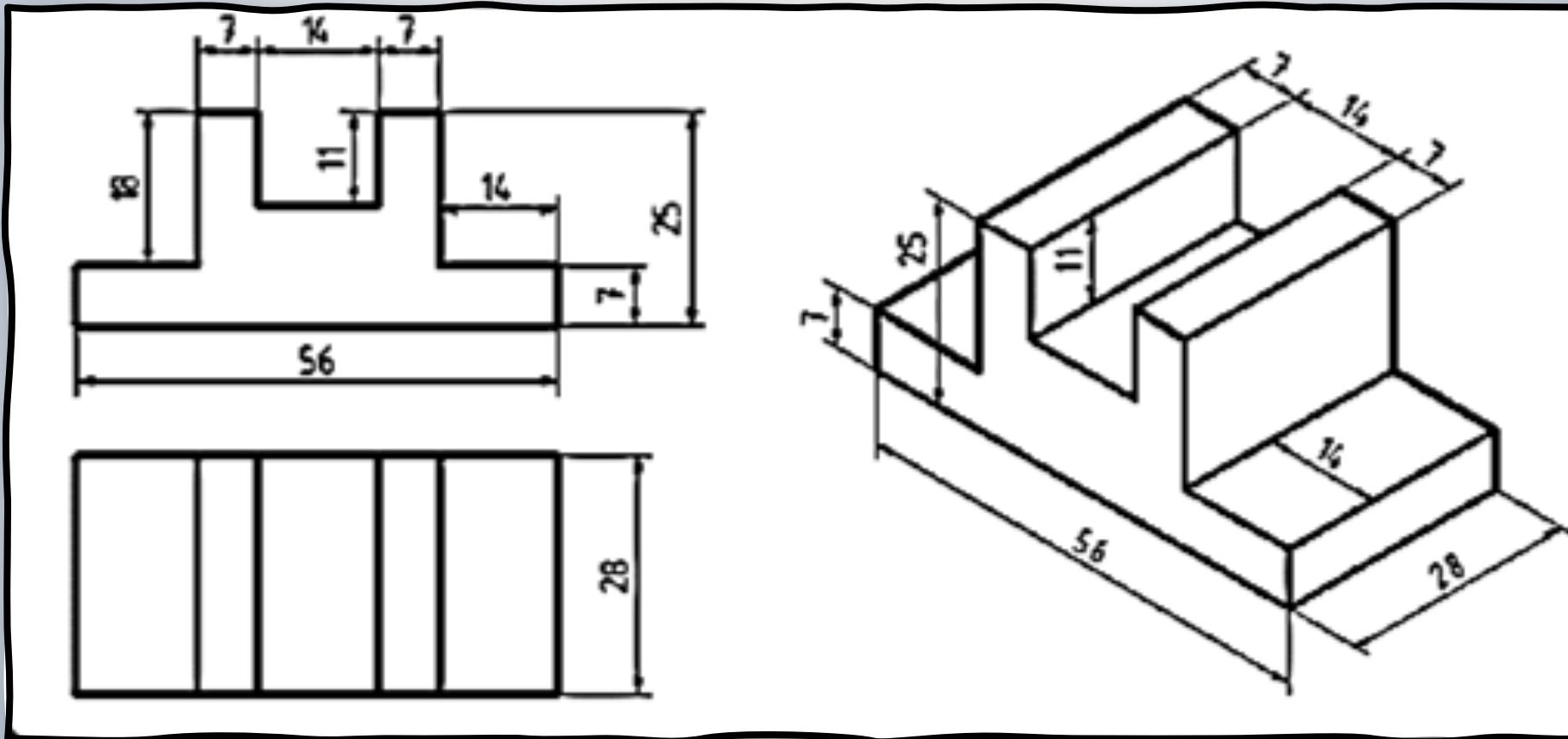
No need to
draw perspective images in the exam

PERSPECTIVES OF CURVED SURFACES

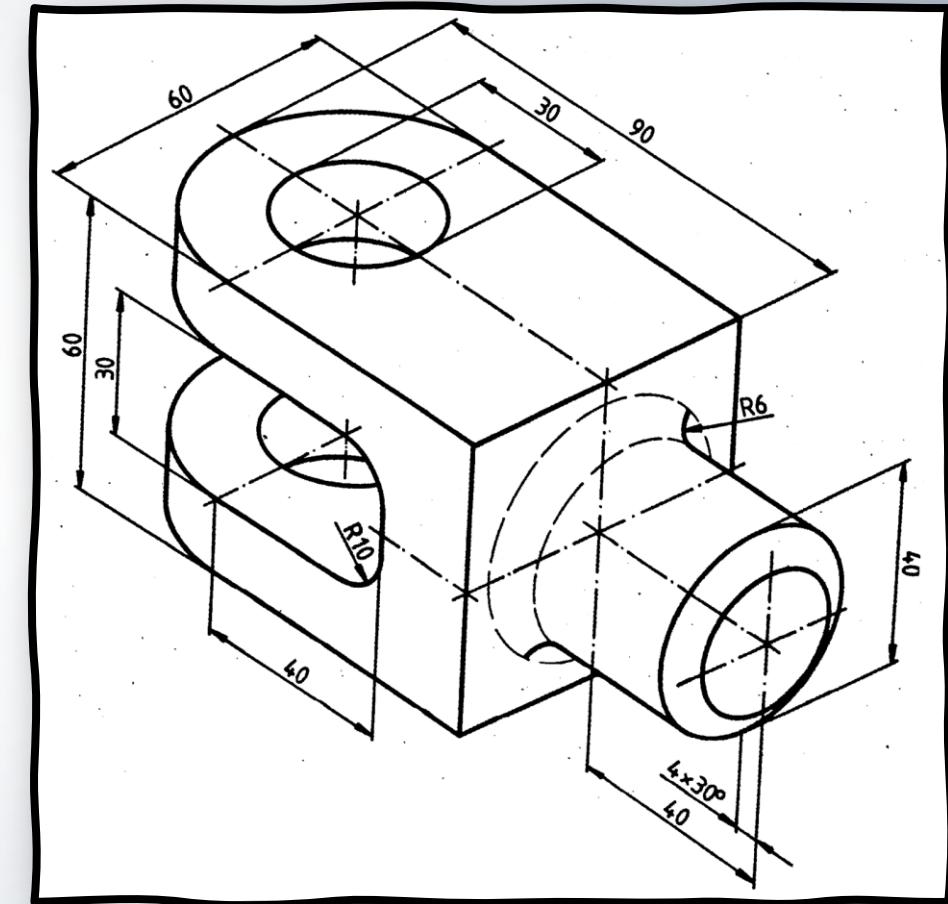
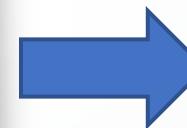
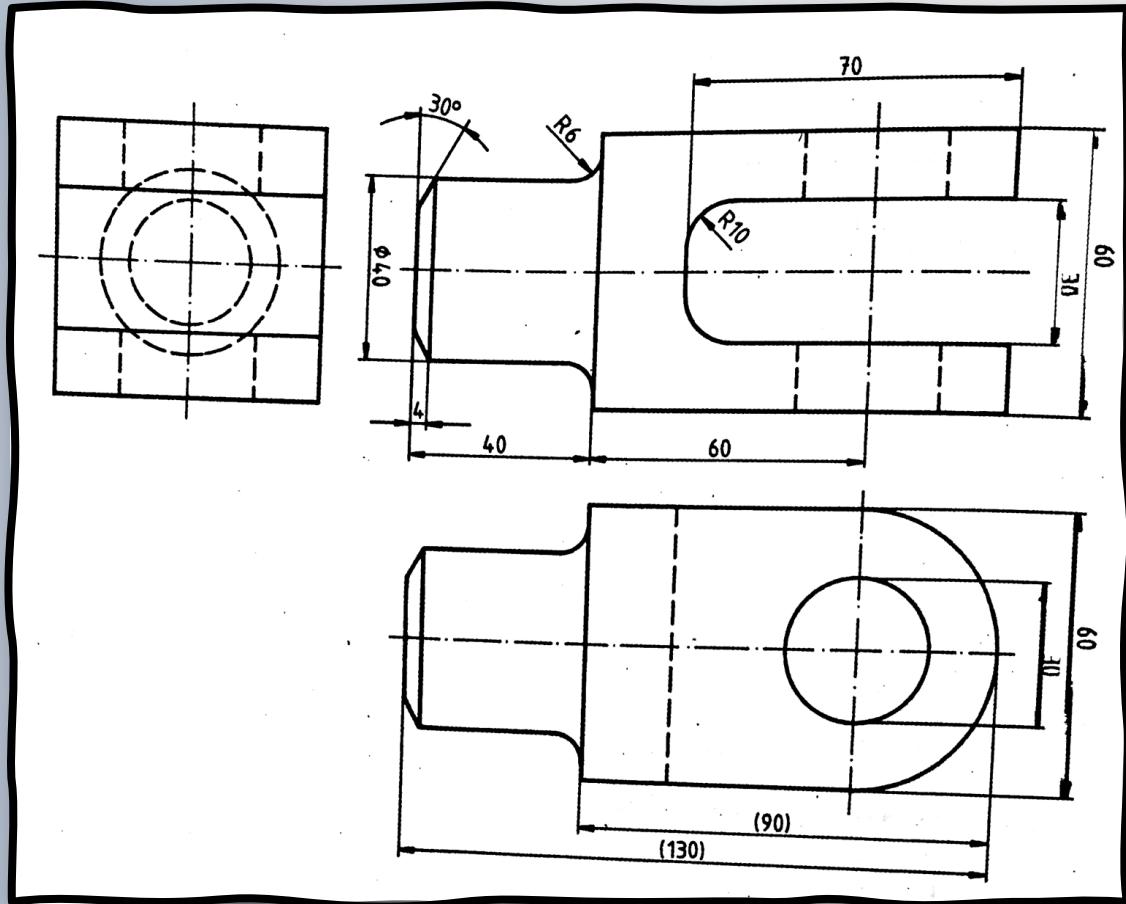
- Point-to-point drawing method is applied by using the points taken on the curve in perspective drawing.
- A perspective drawing is created by placing the points according to the coordinates.



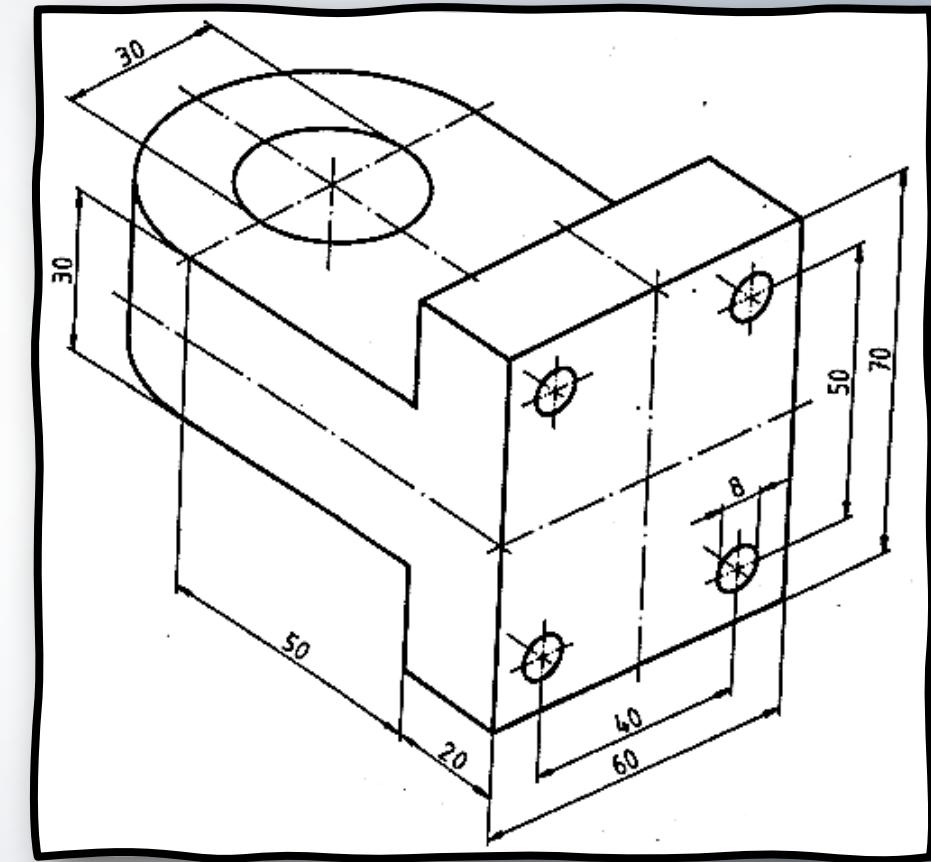
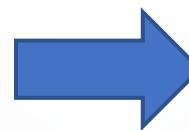
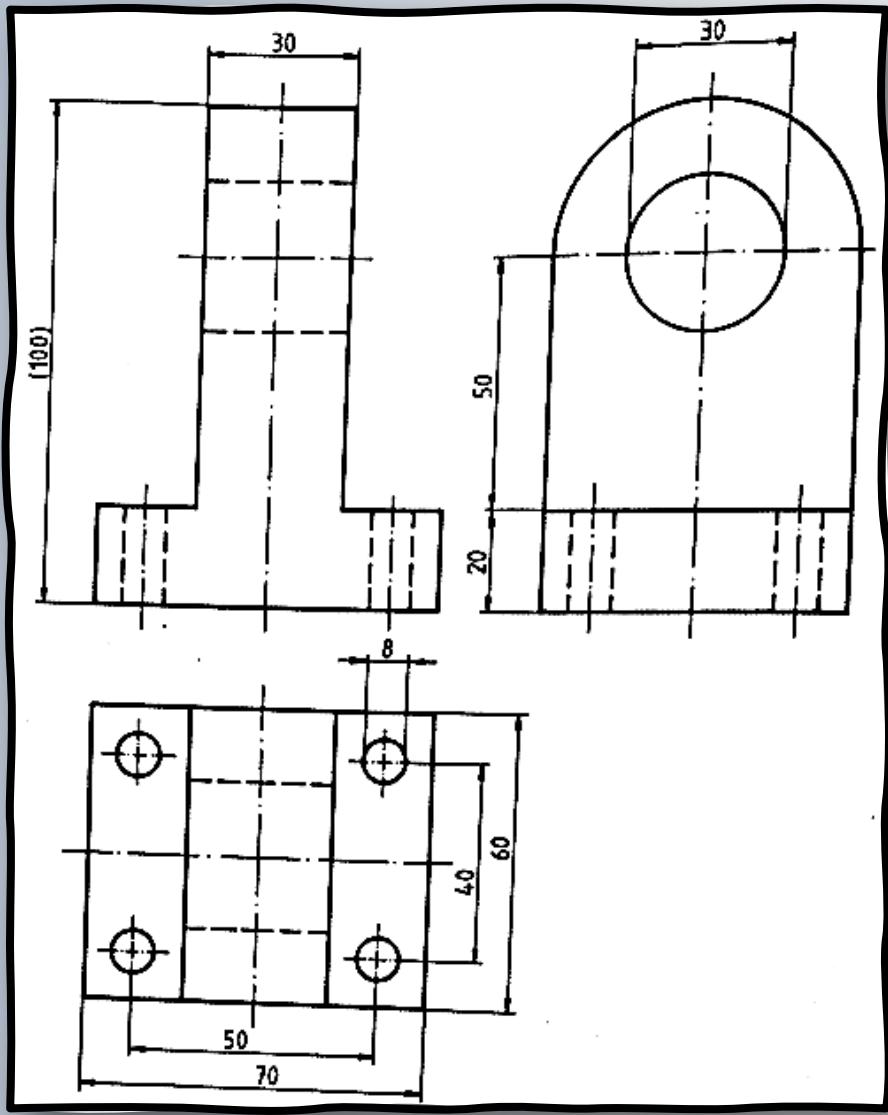
EXAMPLE



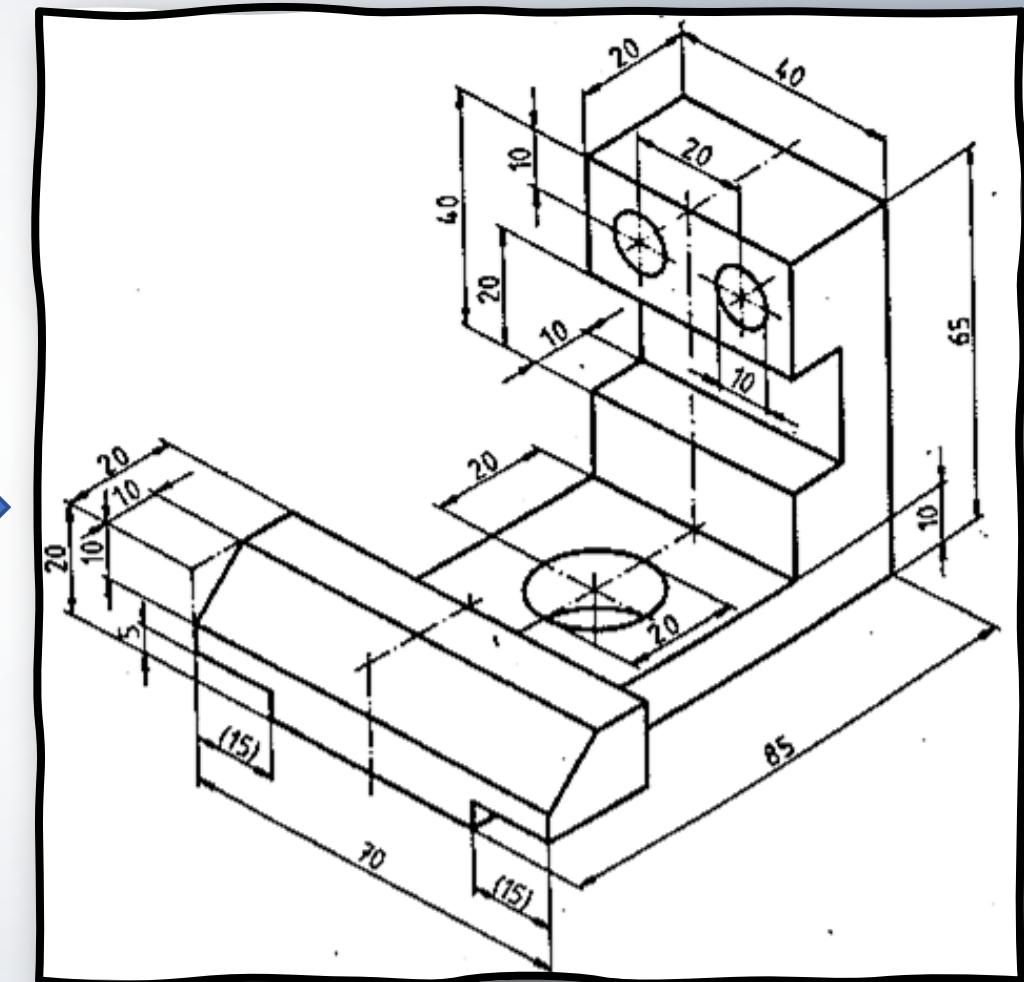
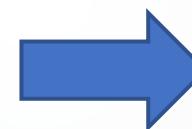
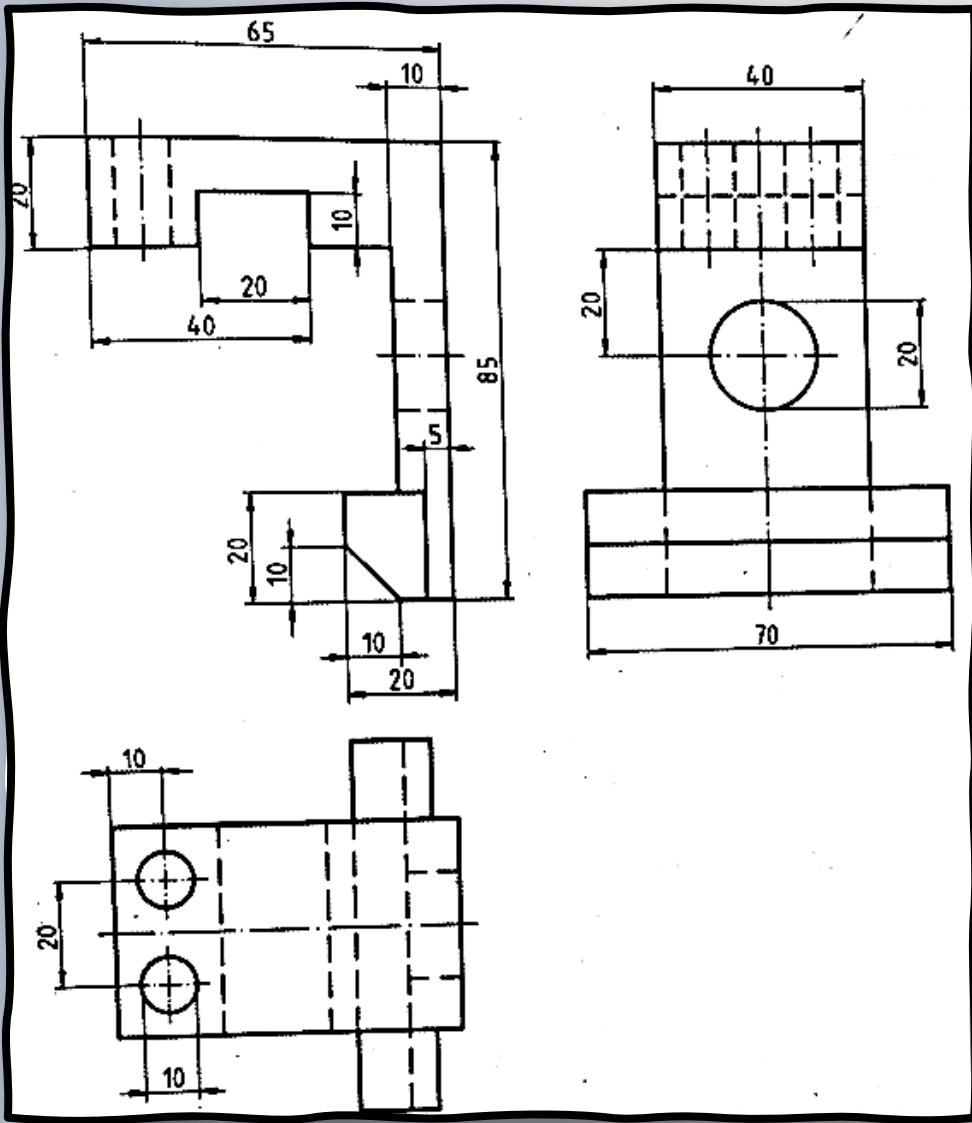
EXAMPLE

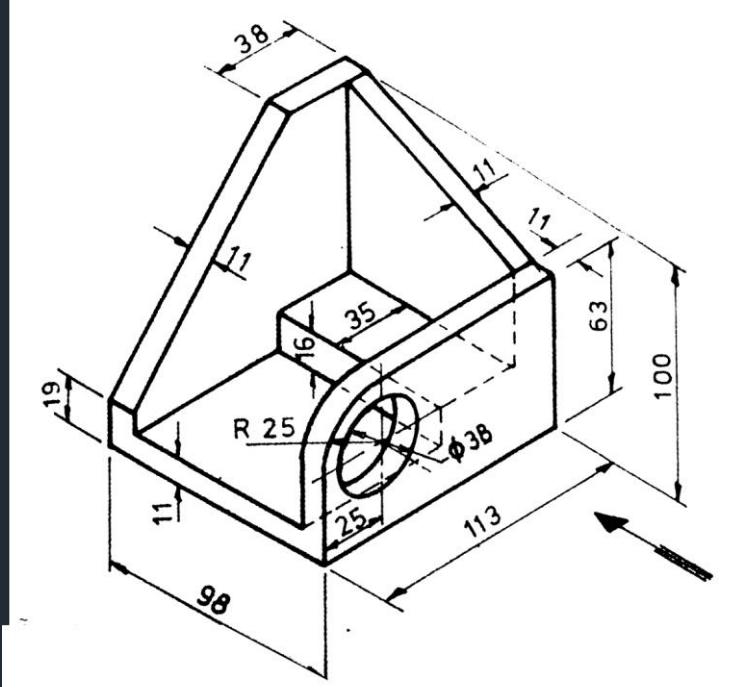
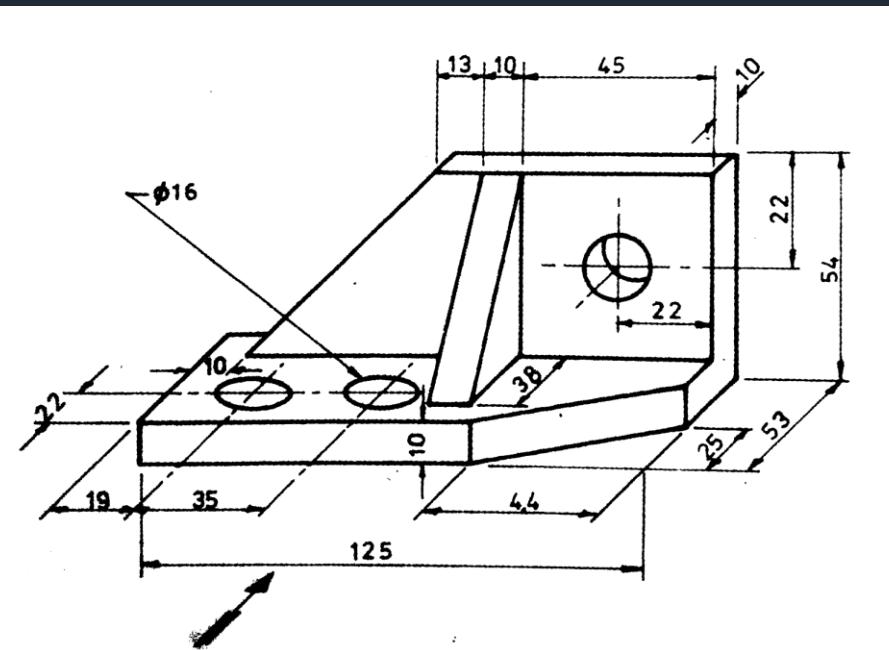
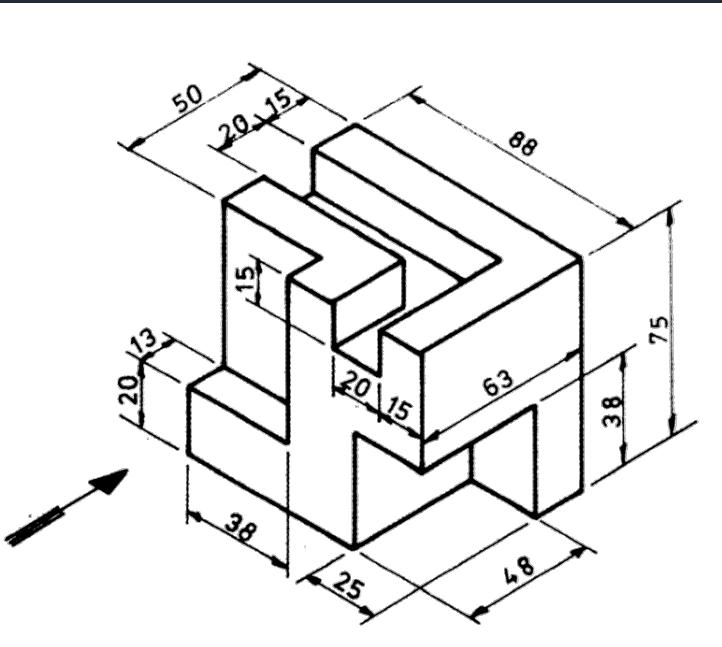


EXAMPLE



EXAMPLE





3D modeling