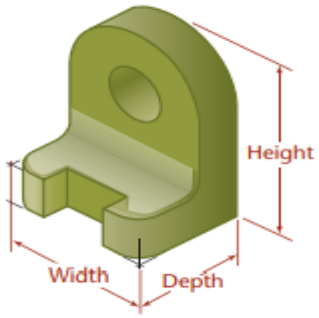
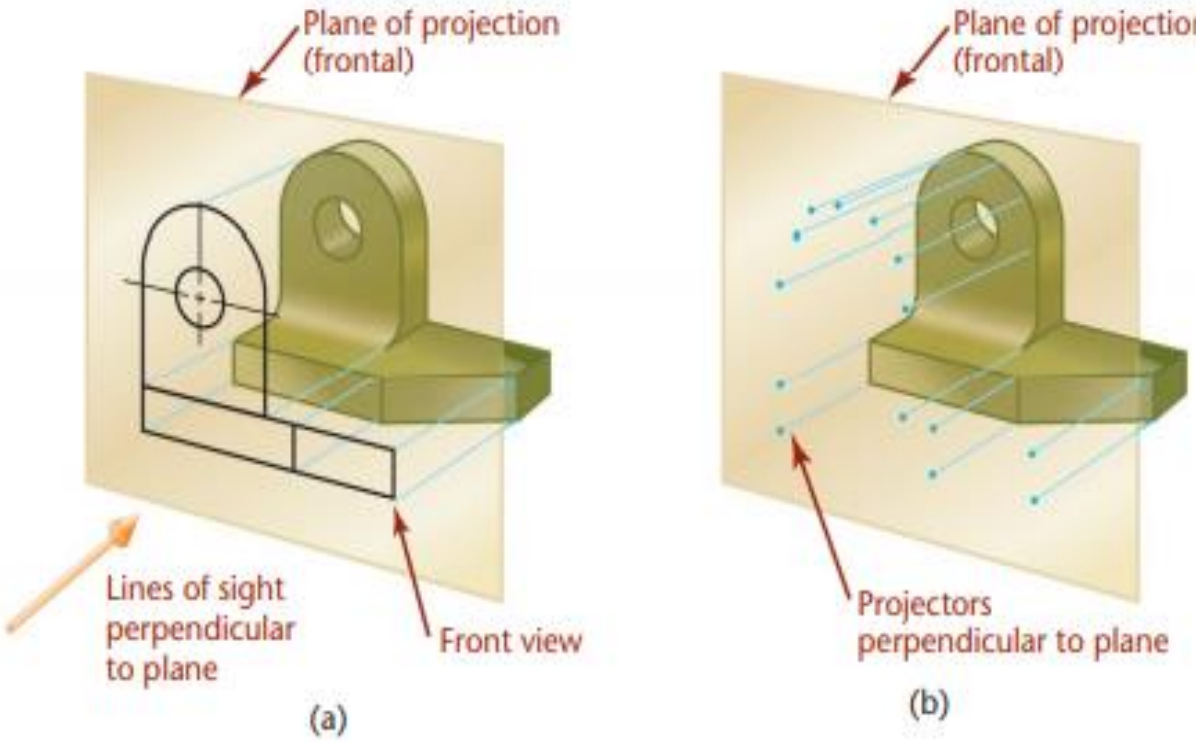
Orthographic projection

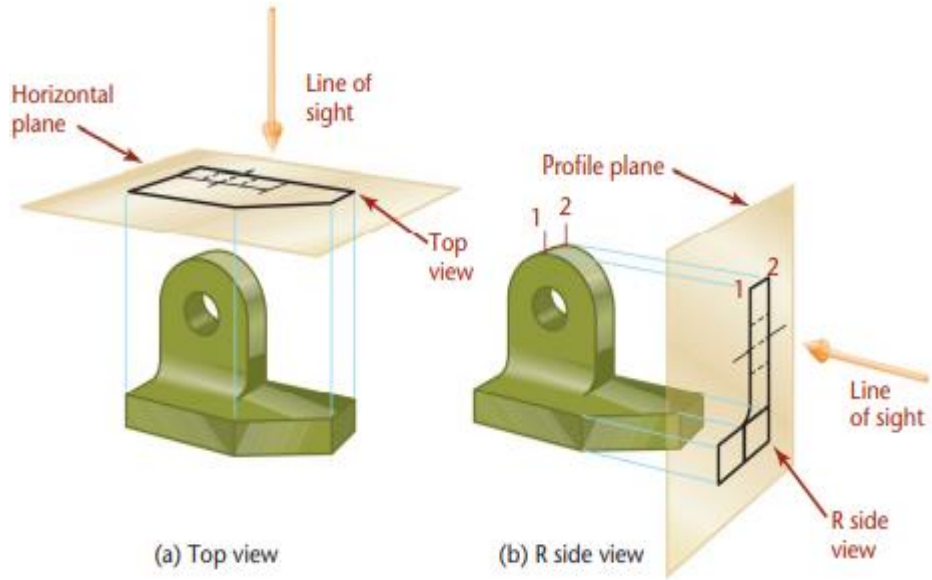
Introduction :

- Orthographic projection is a means of representing three-dimensional objects in two dimensions. It is a form of parallel projection, in which all the projection lines are orthogonal to the projection plane, resulting in every plane of the scene appearing in affine transformation on the viewing surface.
- Orthographic drawings are also known as Multiview.
- surfaces of the object positioned so that they are parallel to the sides of the box, six sides of the box become projection planes, showing the six views – front, top, left, right, bottom and rear.
- The most commonly used views are top, front, and side (Right or left).
- First angle projections and third angle projections are the two main types of orthographic drawing, also referred to as 'working drawings'.

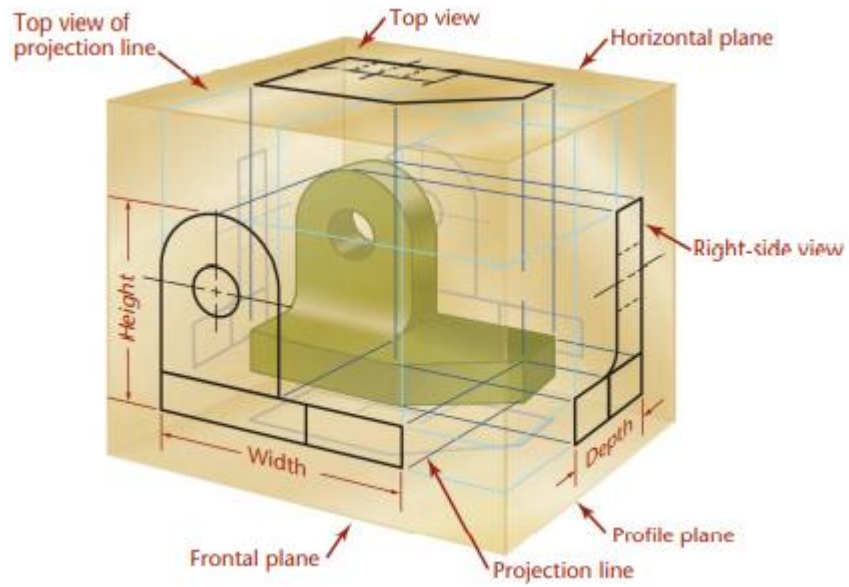




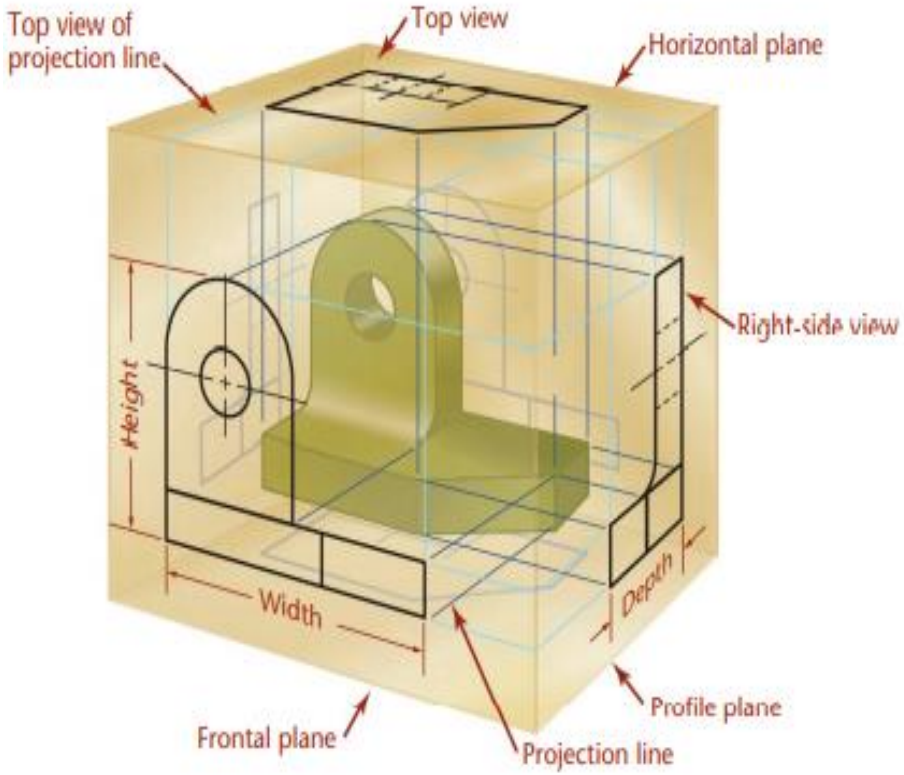
6.6 Projection of an Object



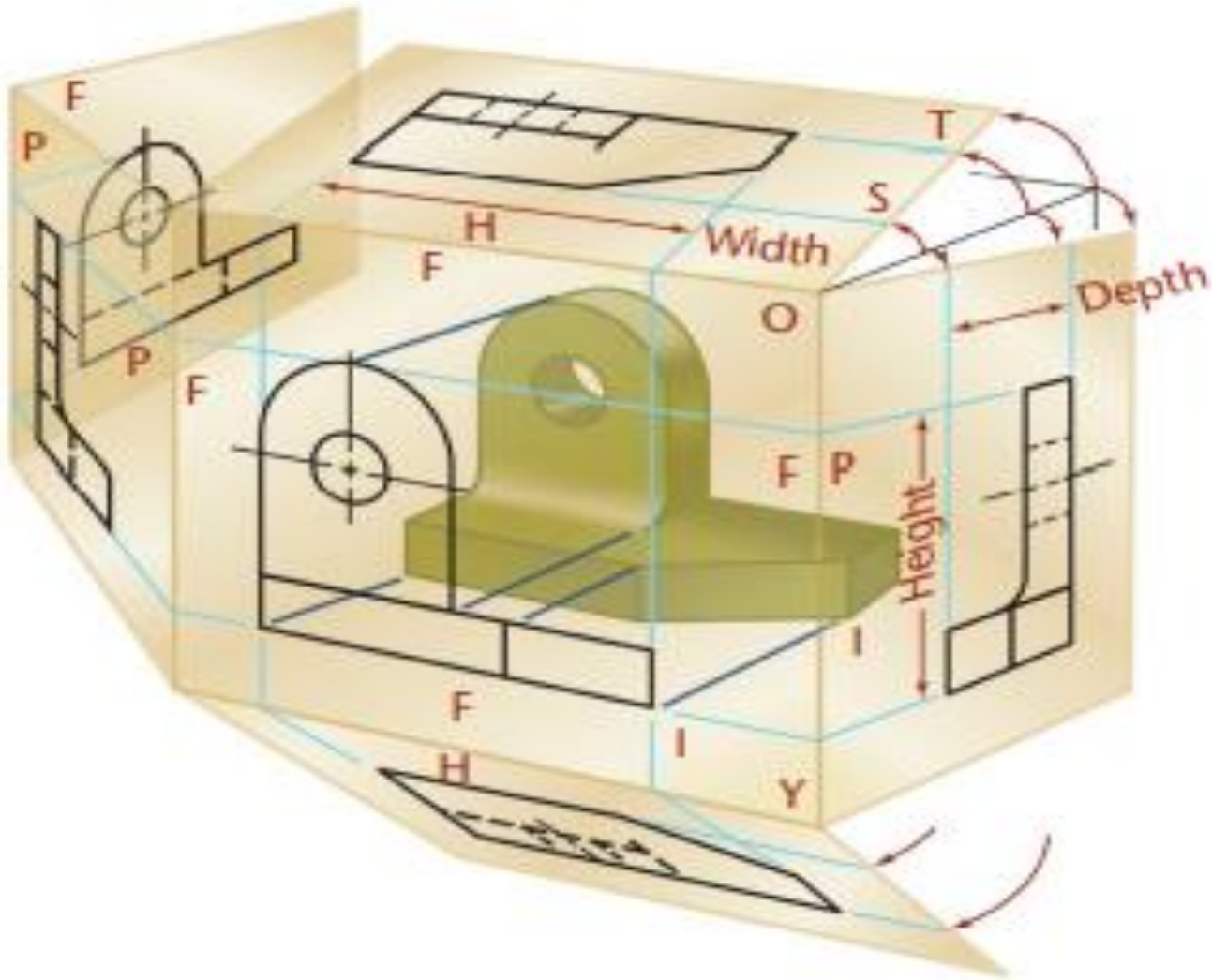
6.7 Horizontal and Profile Projection Planes



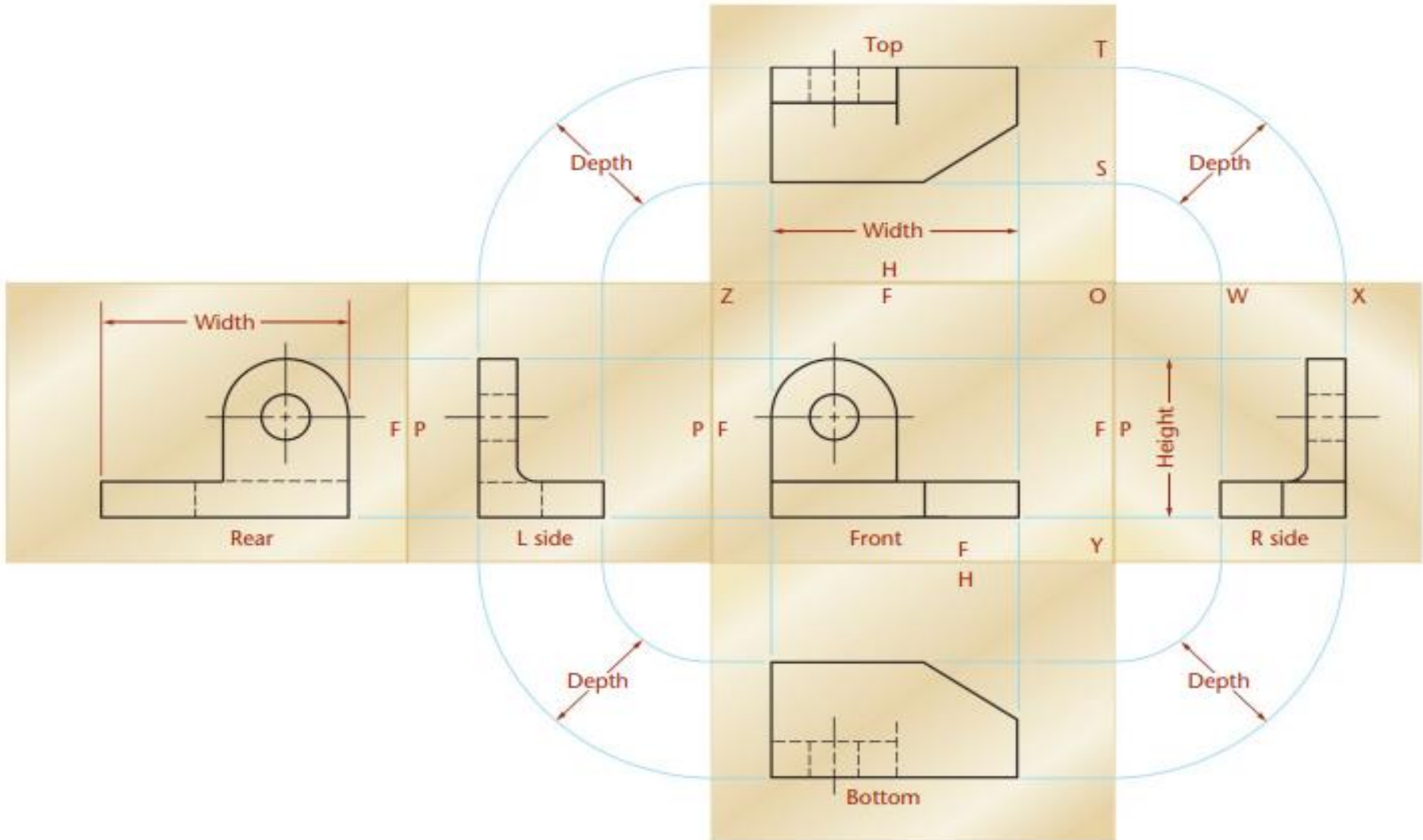
6.8 The Glass Box



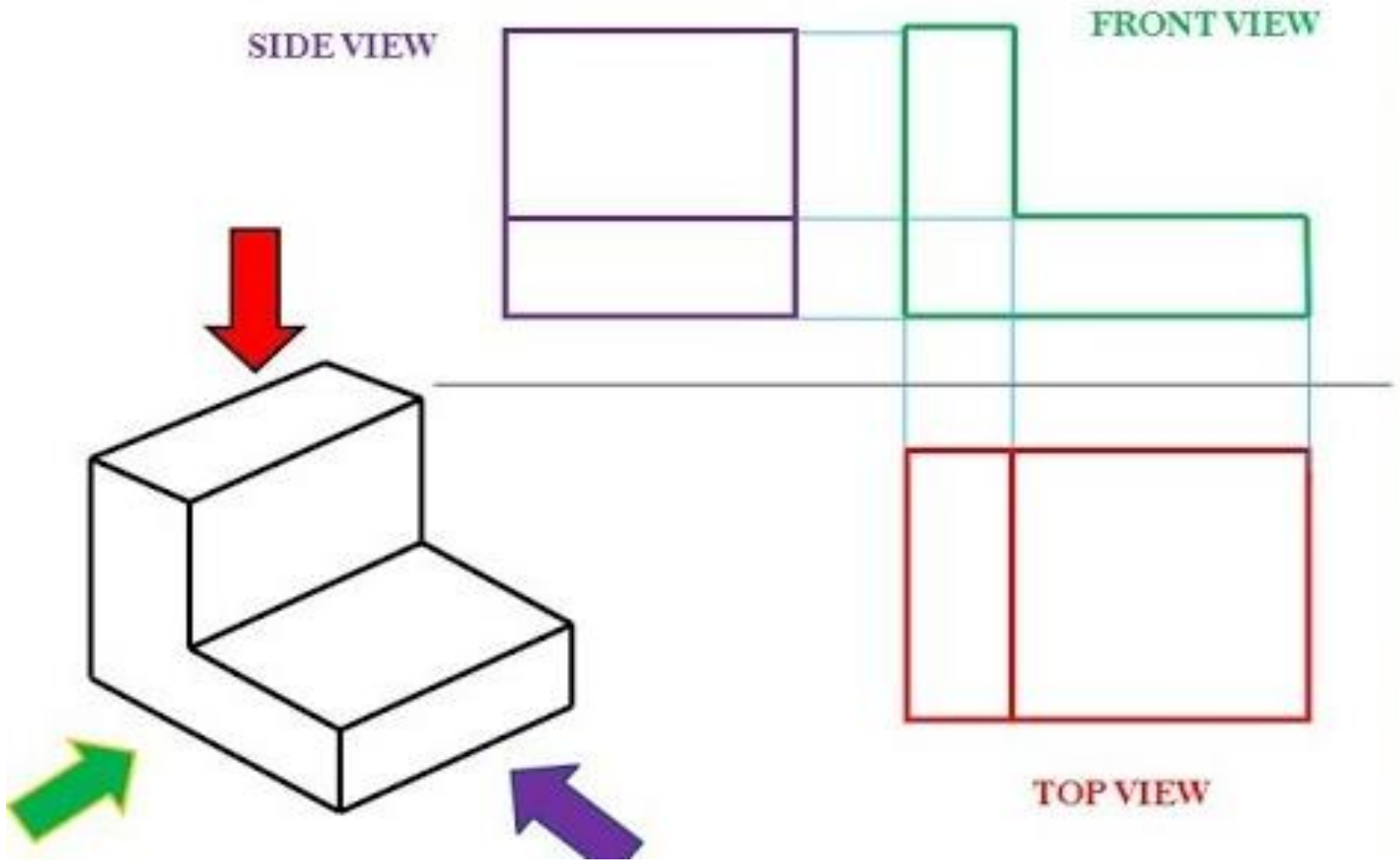
6.8 The Glass Box

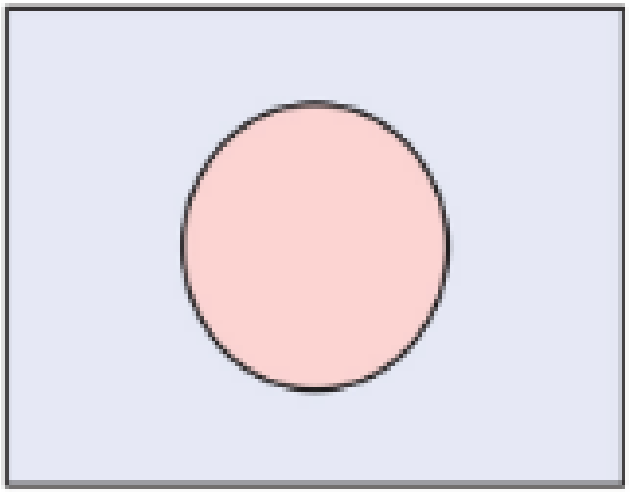


6.9 Unfolding the Glass Box

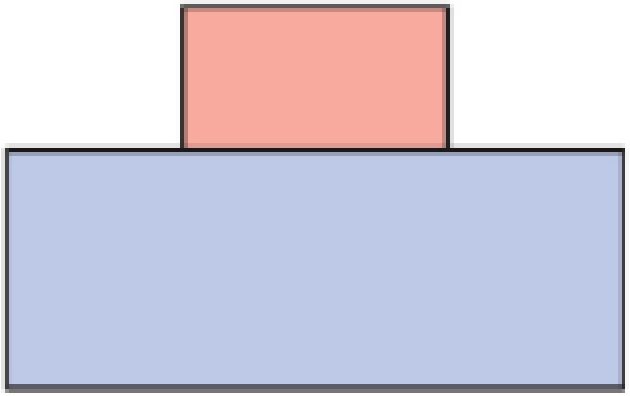


6.10 The Glass Box Unfolded

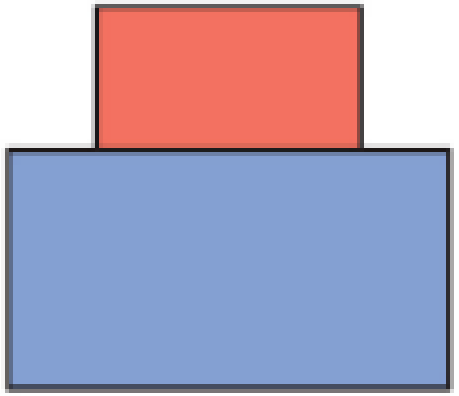

SIDE VIEW
FRONT VIEW
TOP VIEW



top view

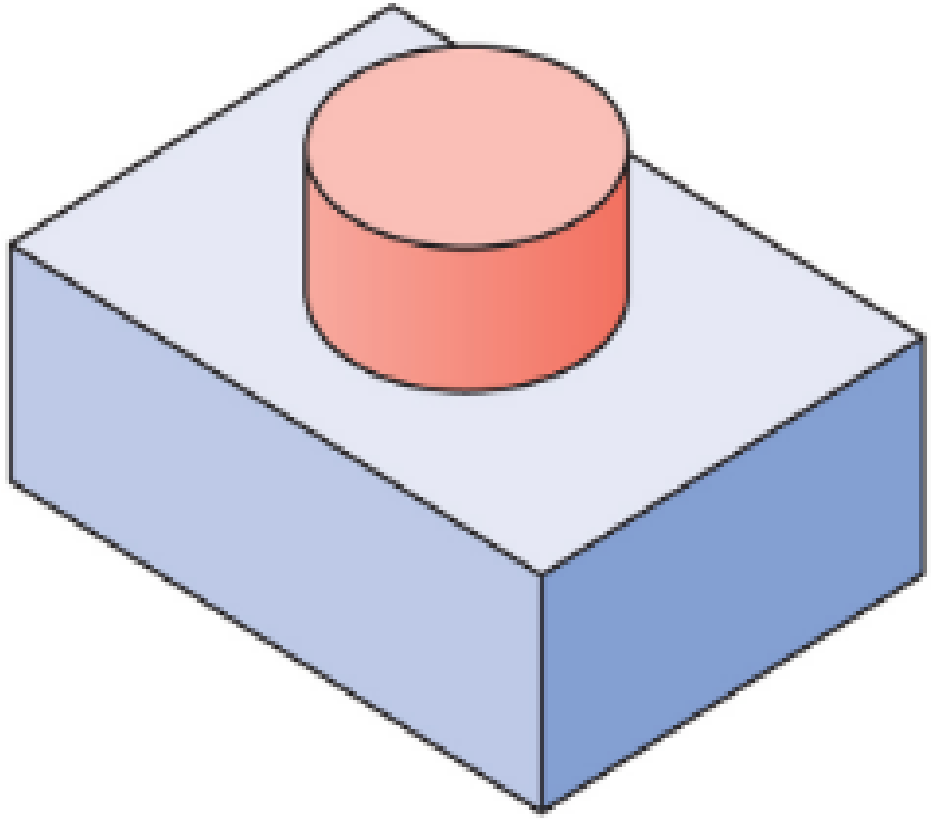


front view

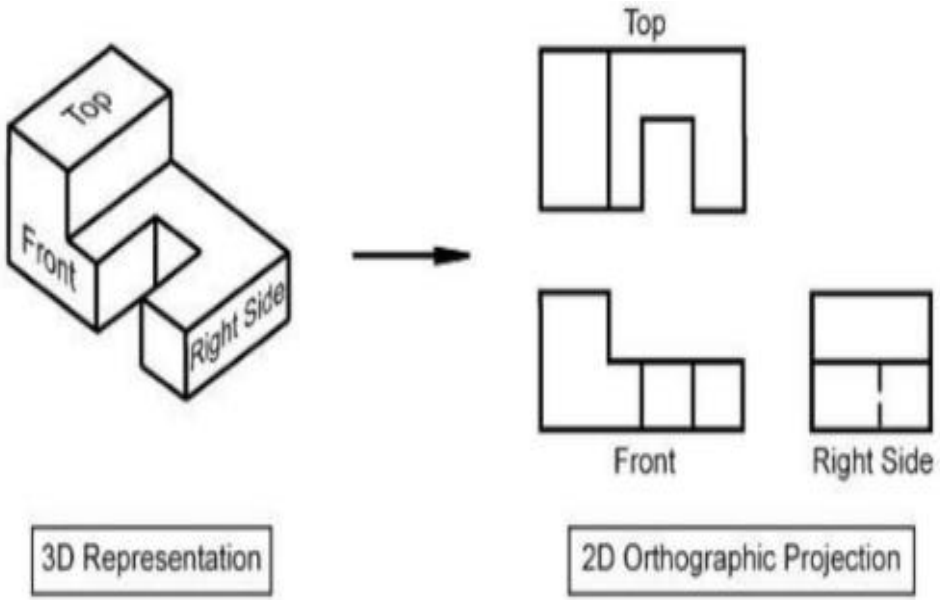


side view

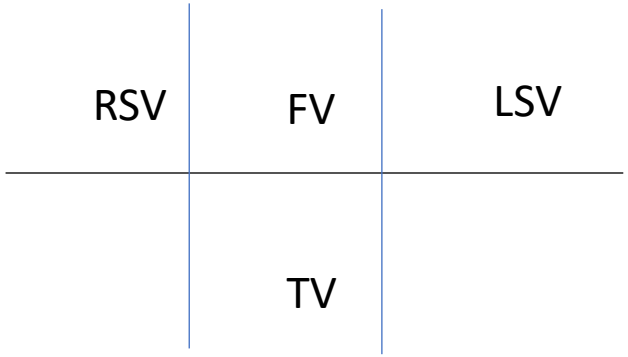
2-dimensional orthographic projection



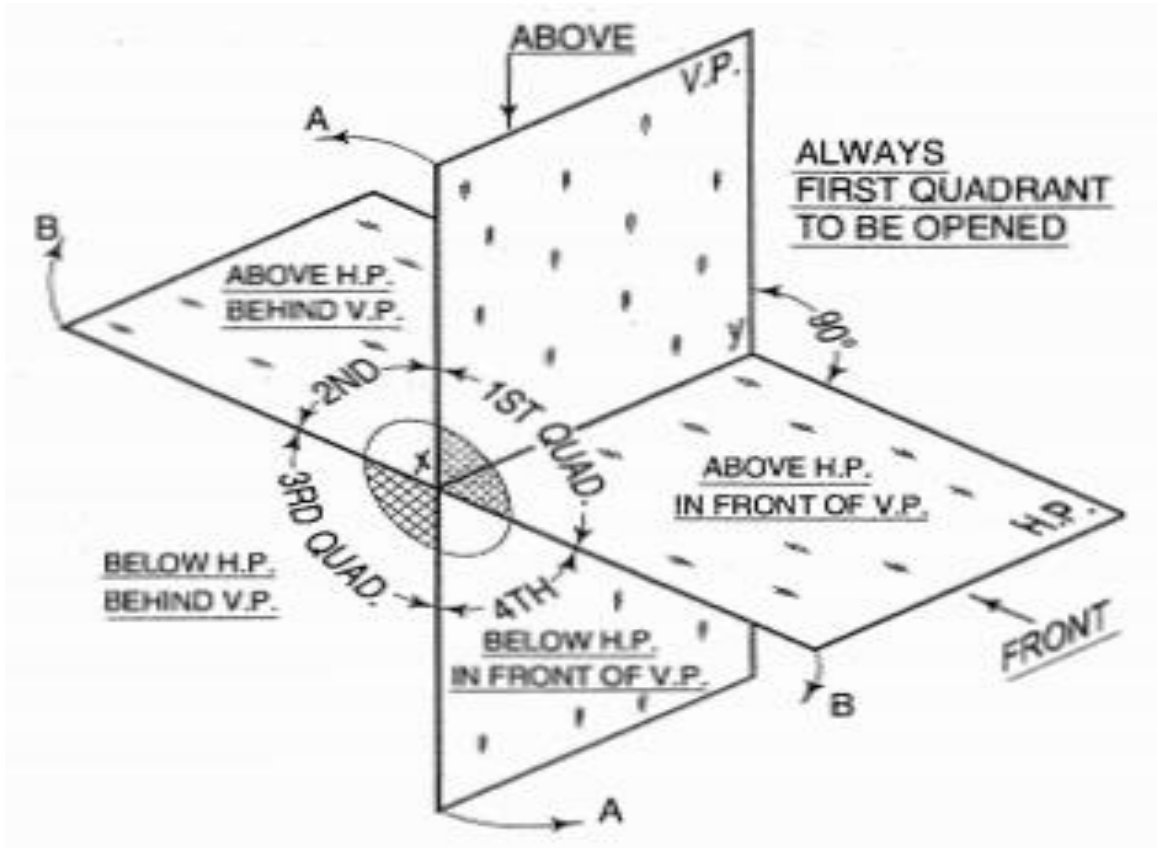
3-dimensional isometric projection

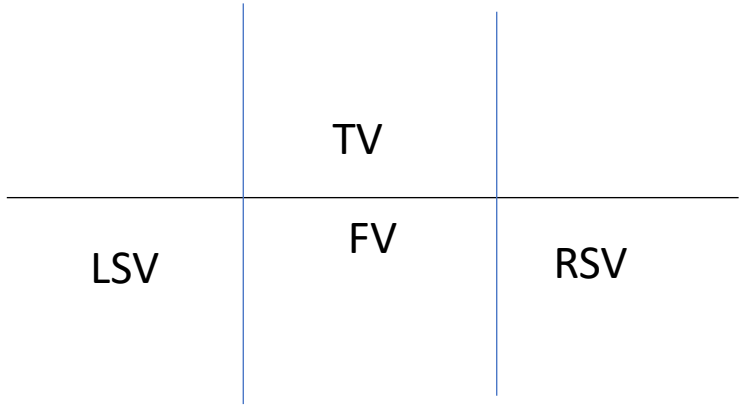


Projection	Symbol
First angle	
Third angle	



First angle

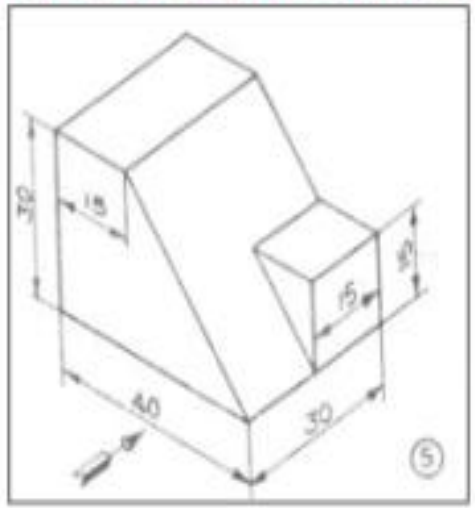


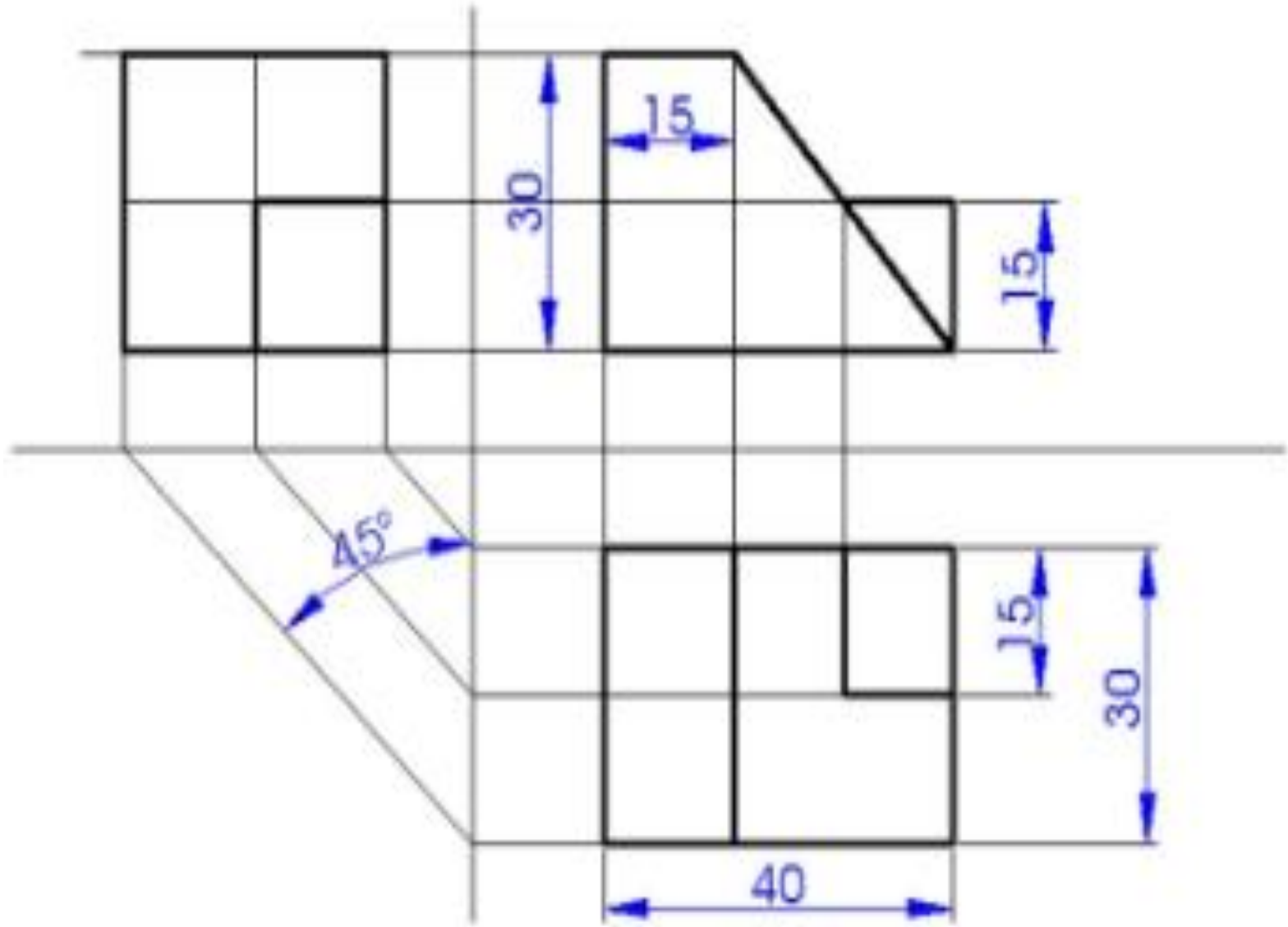


Third angle

Orthographic Projection (I Angle)

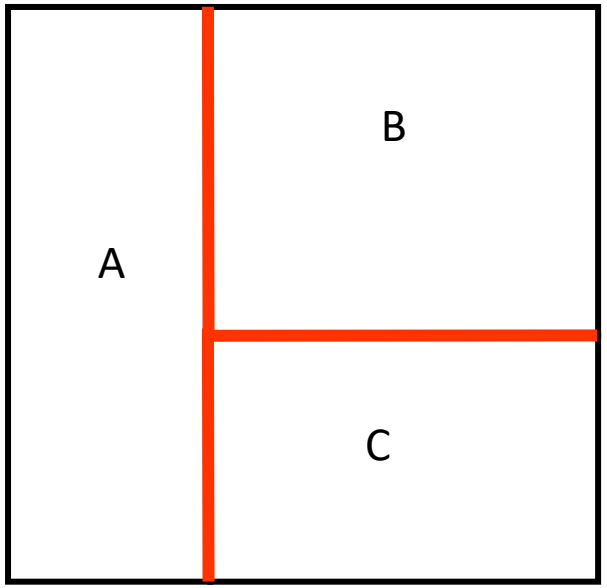
Pictorial Representation





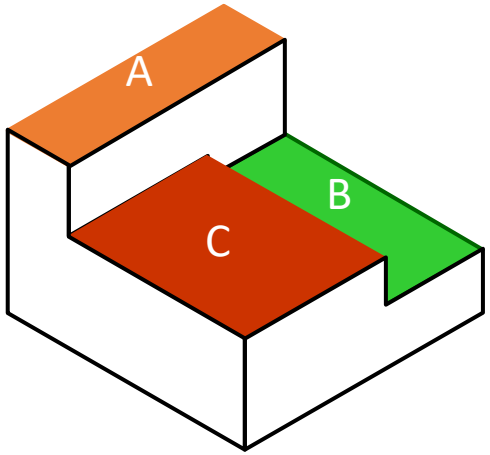
EXAMPLE

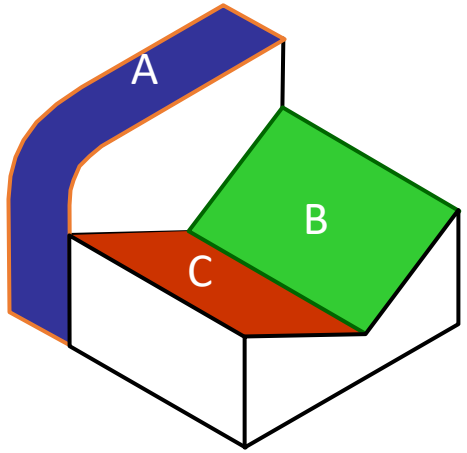
Top view

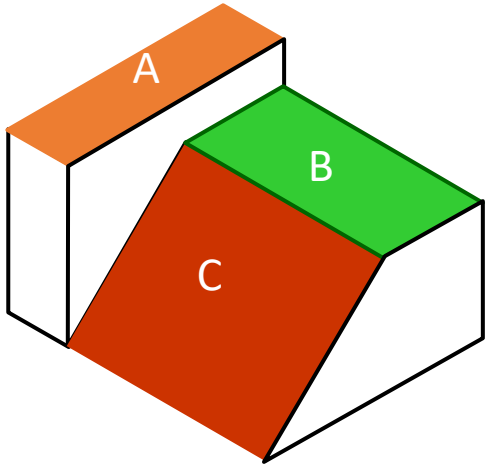


All surfaces A, B and C are **not** in the same plane.

Some of possible objects' shape.







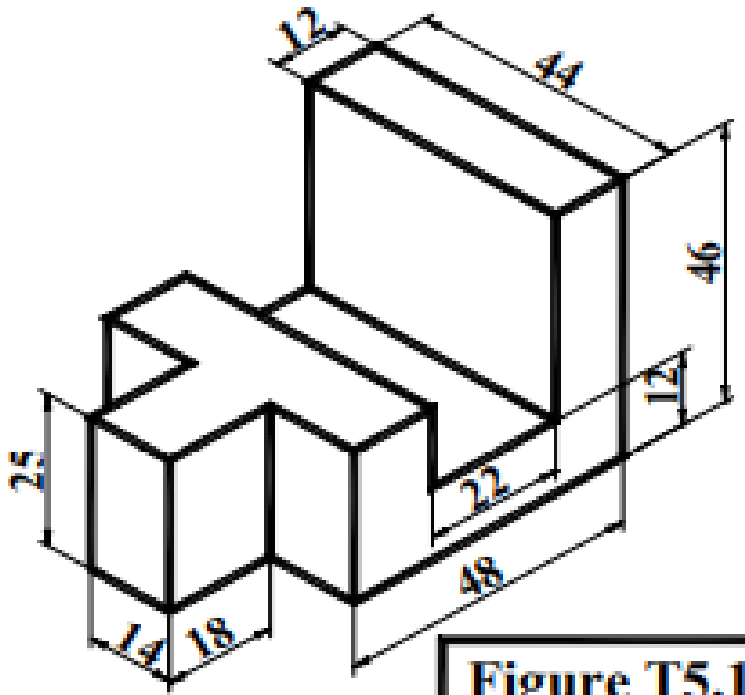
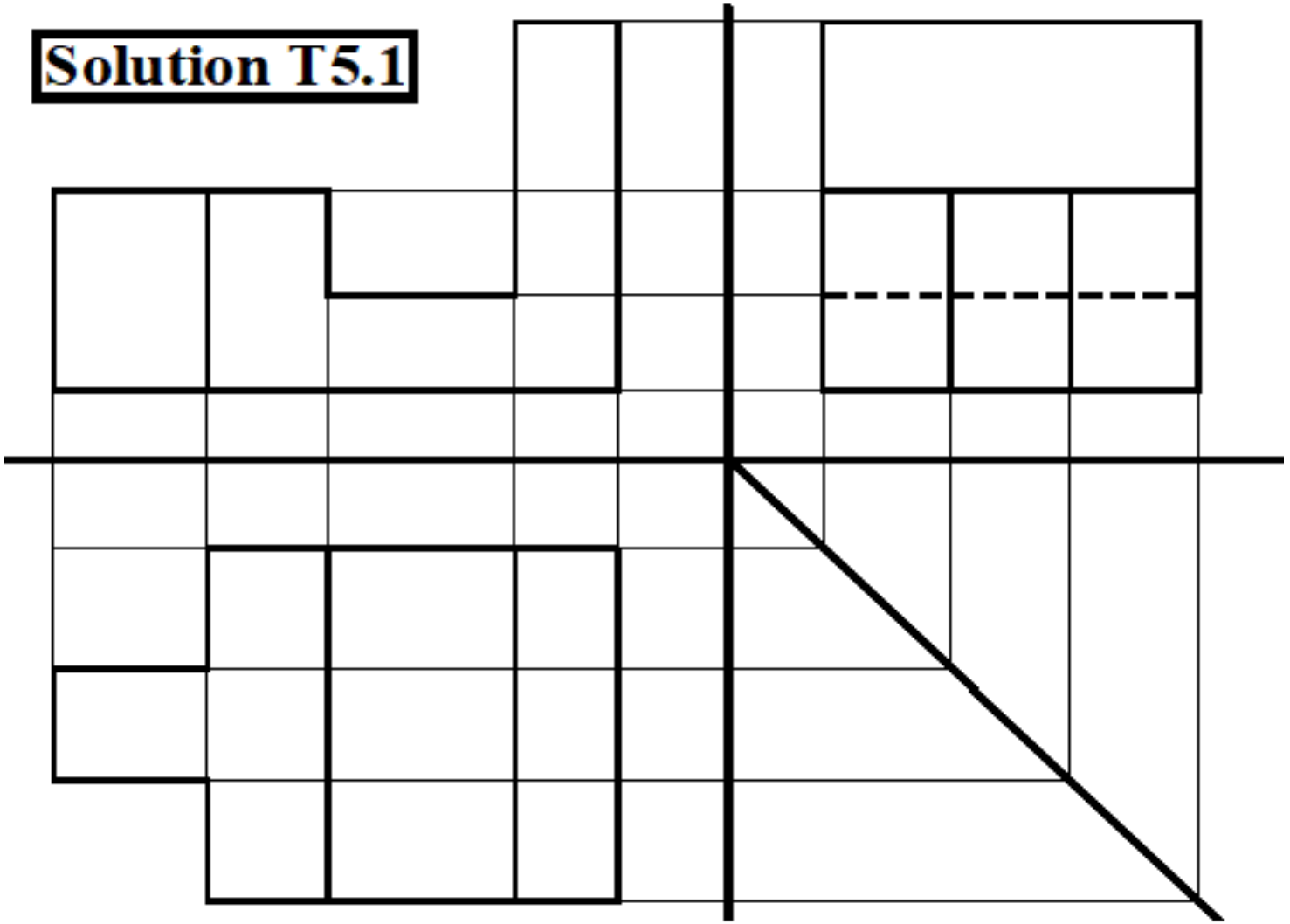


Figure T5.1

Solution T5.1



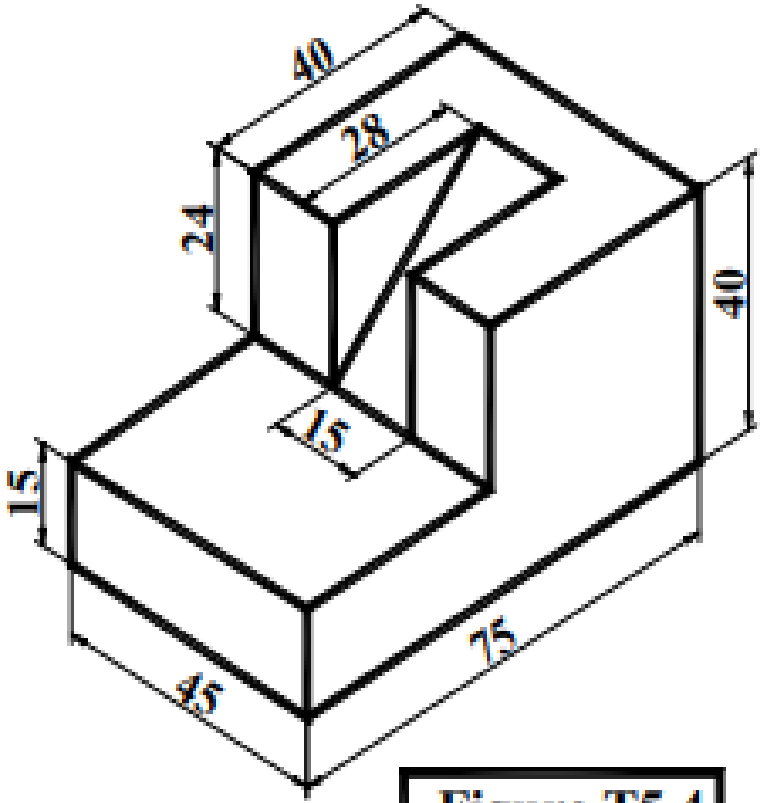
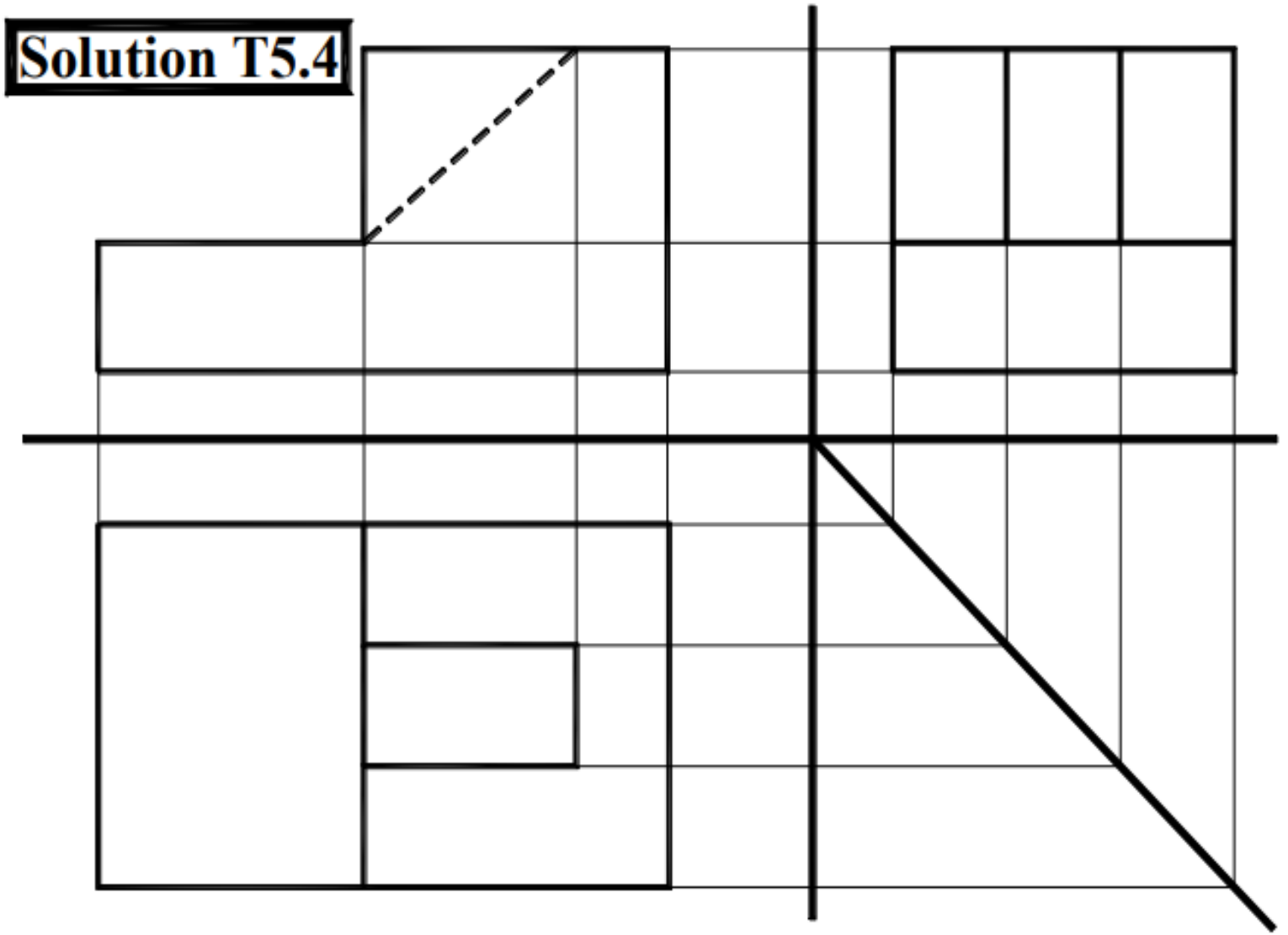


Figure T5.4

Solution T5.4



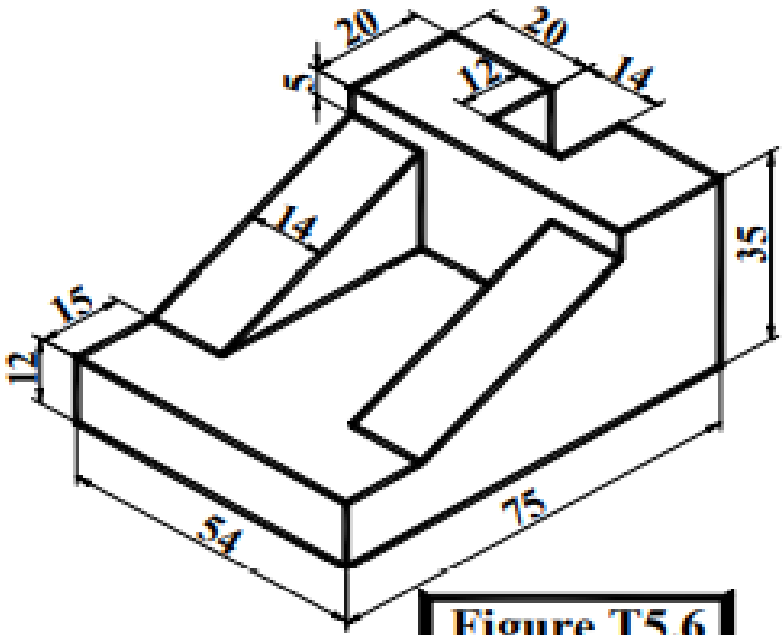
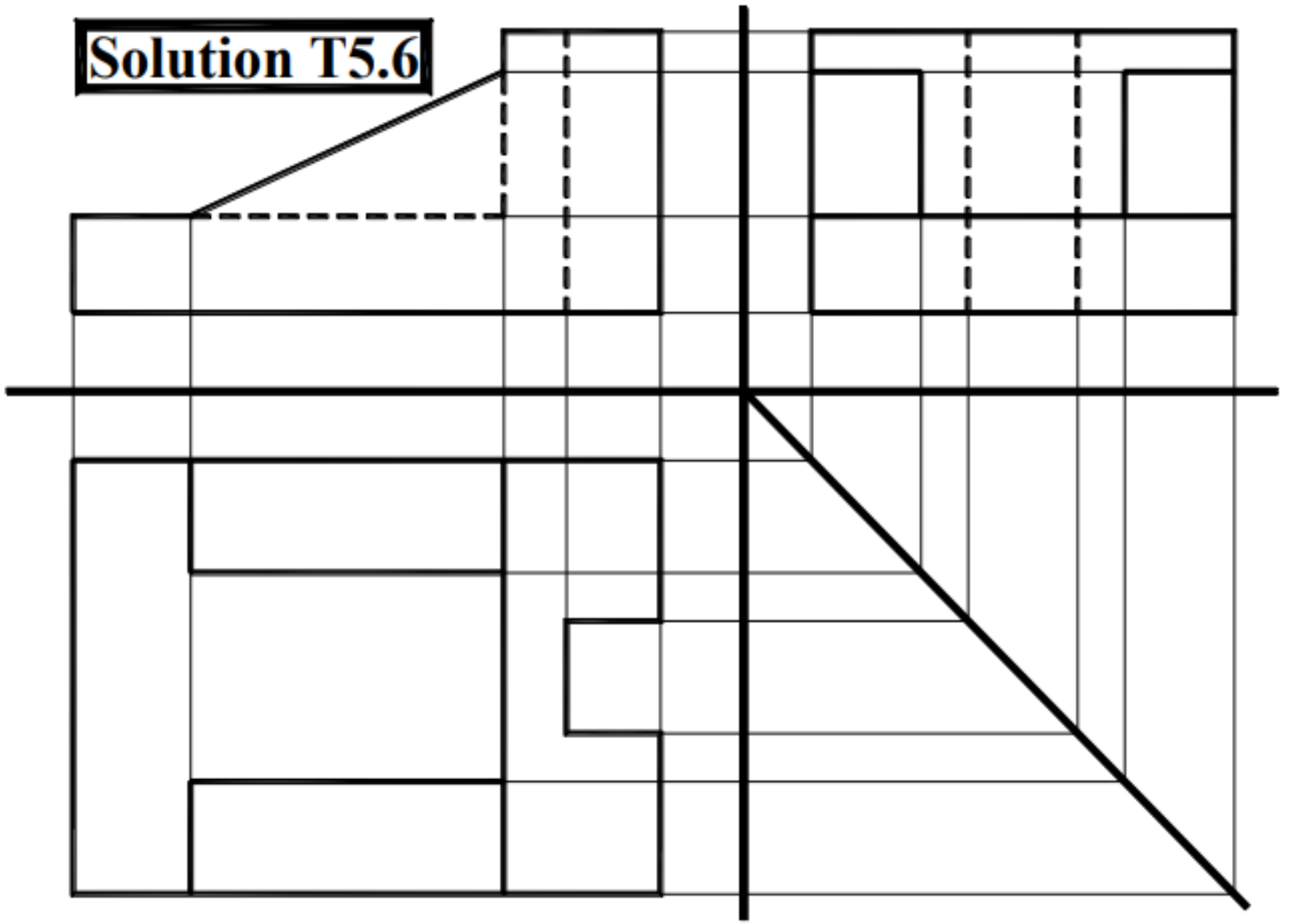


Figure T5.6

Solution T5.6



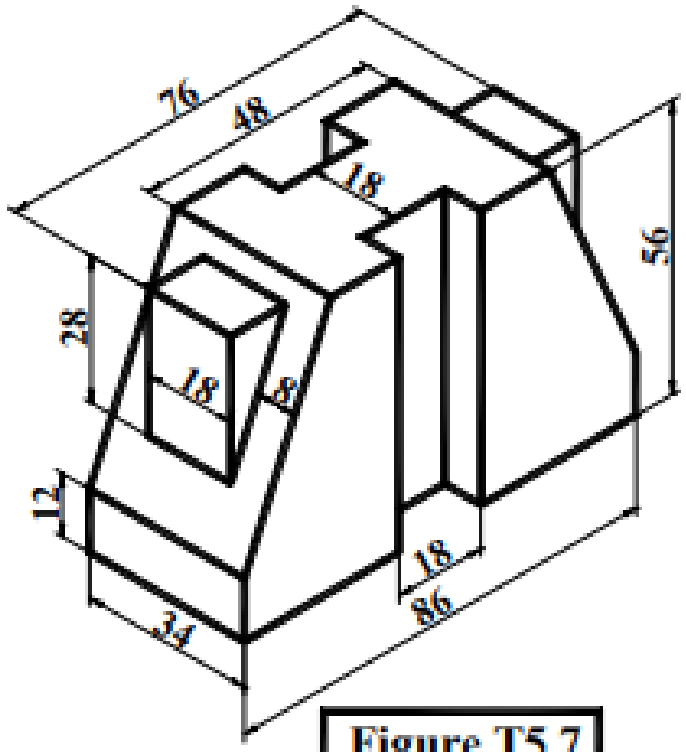
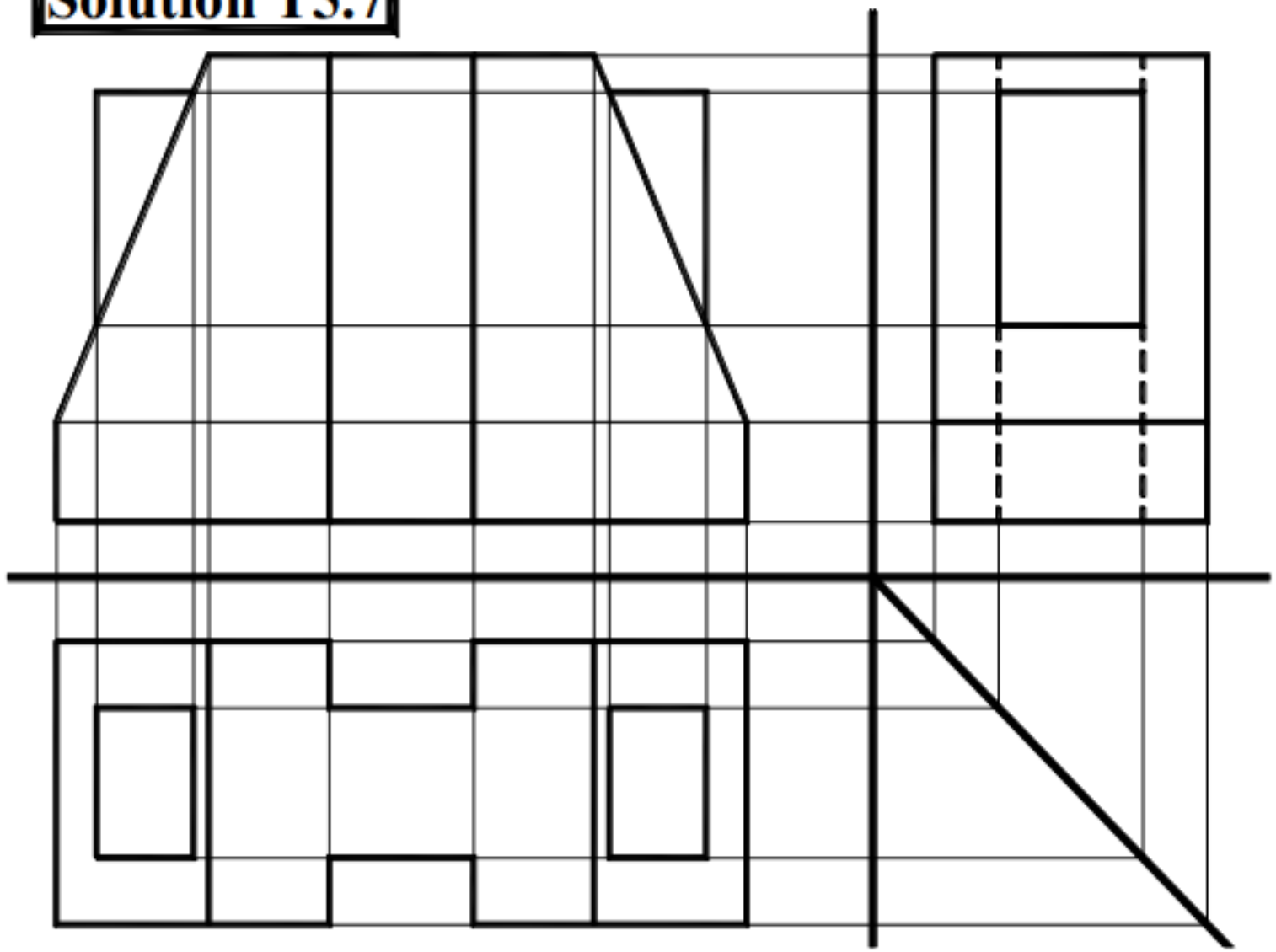


Figure T5.7

Solution T5.7



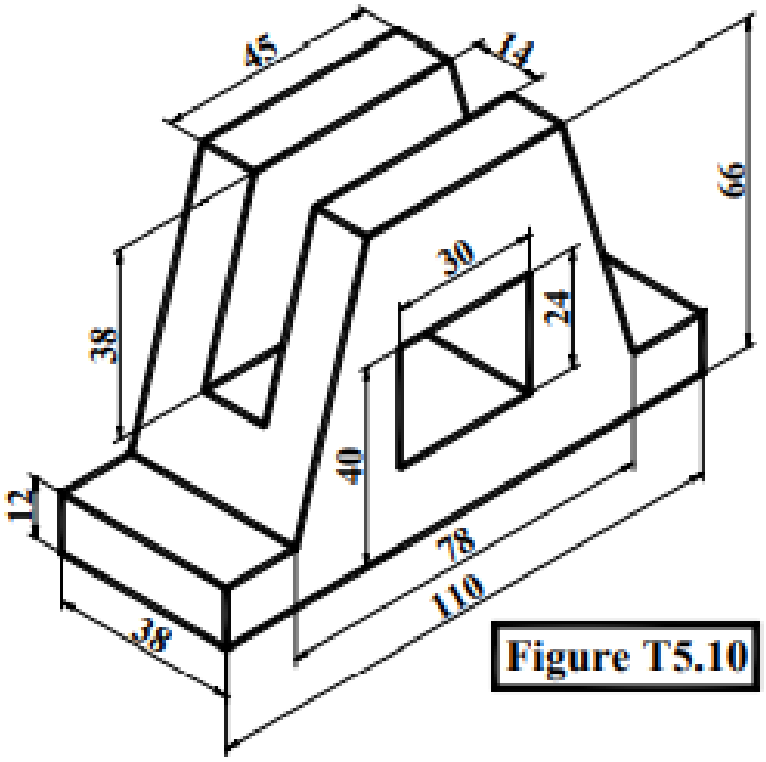
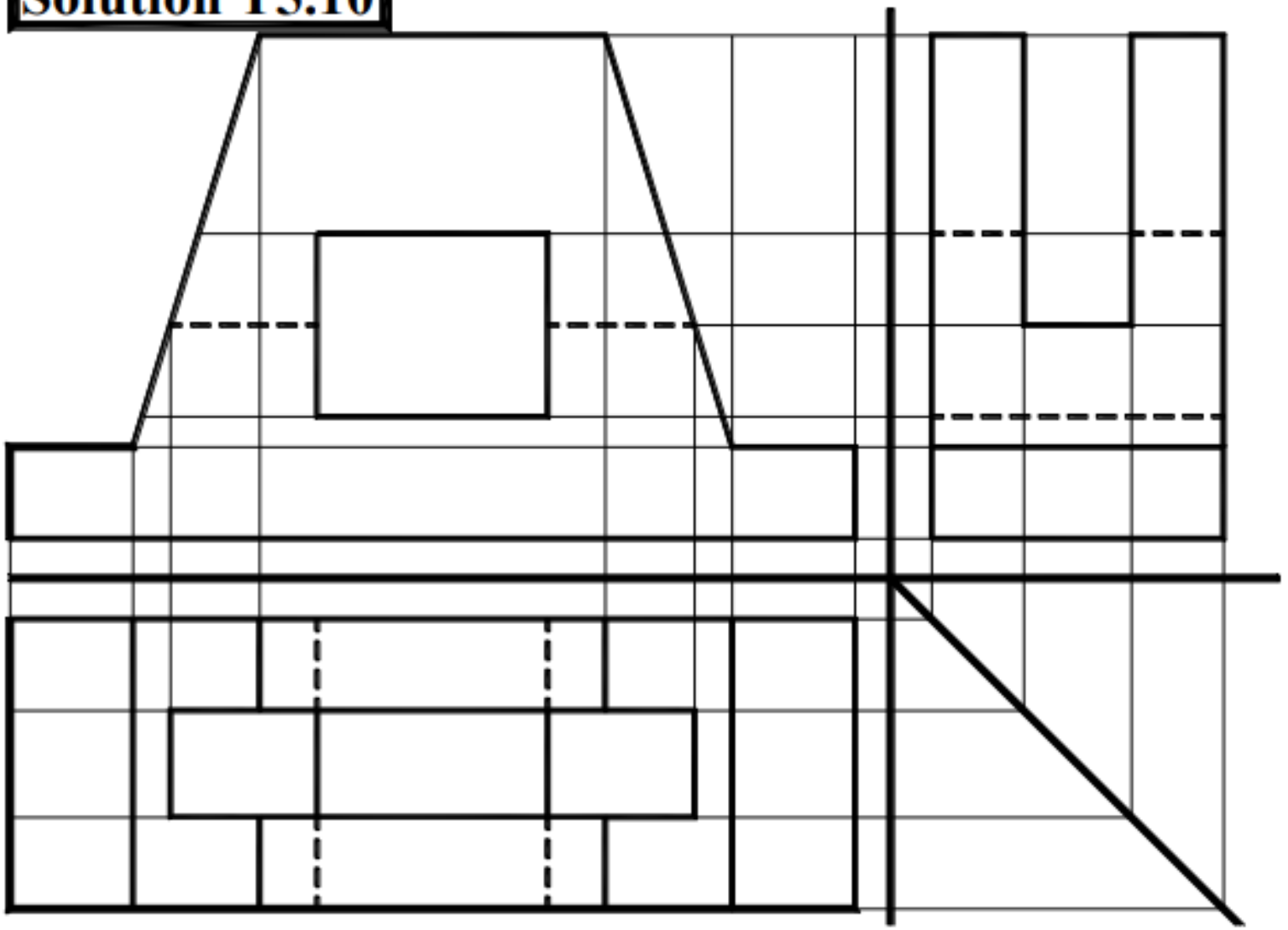


Figure T5.10

Solution T5.10



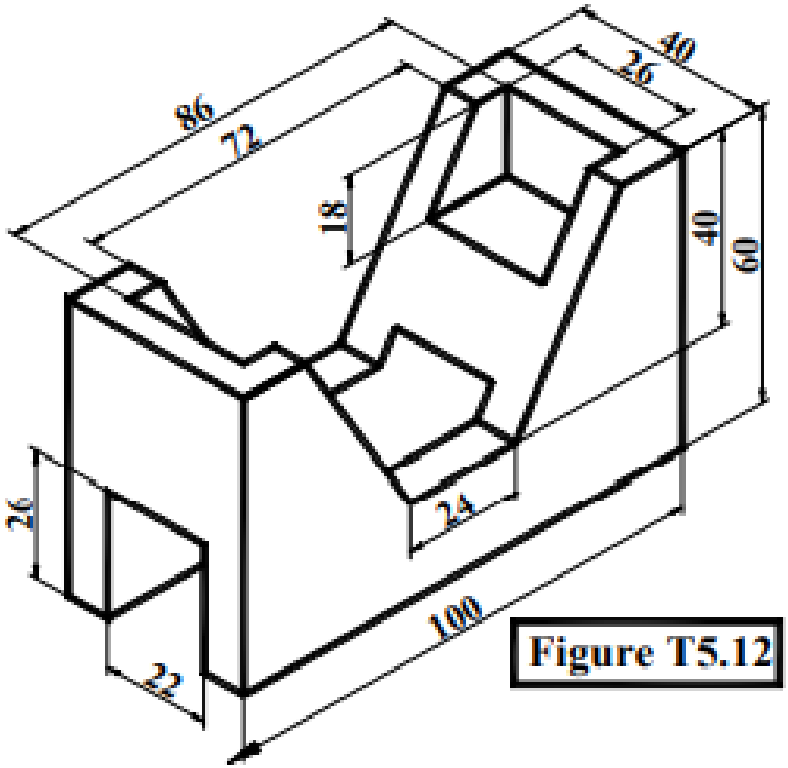
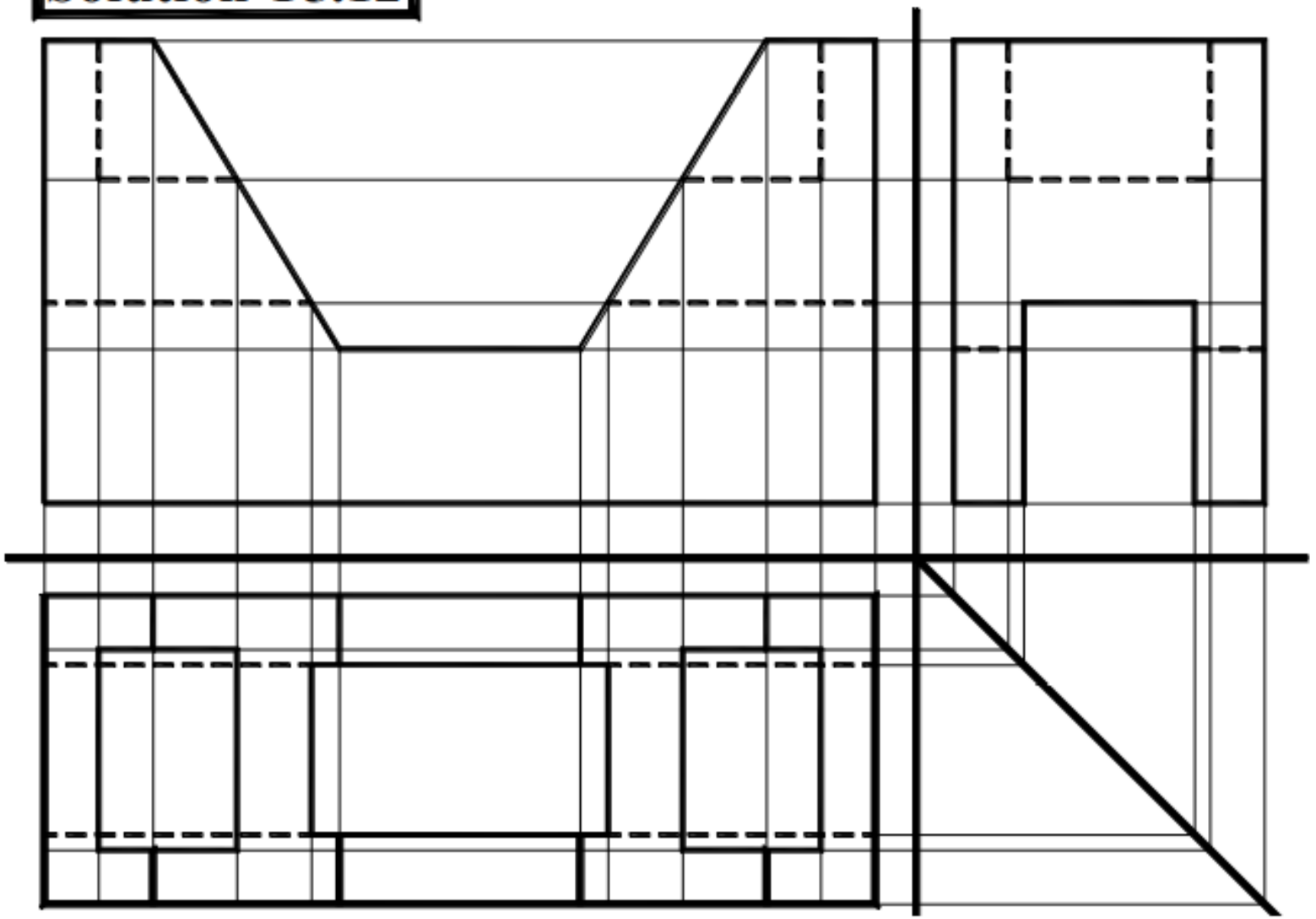
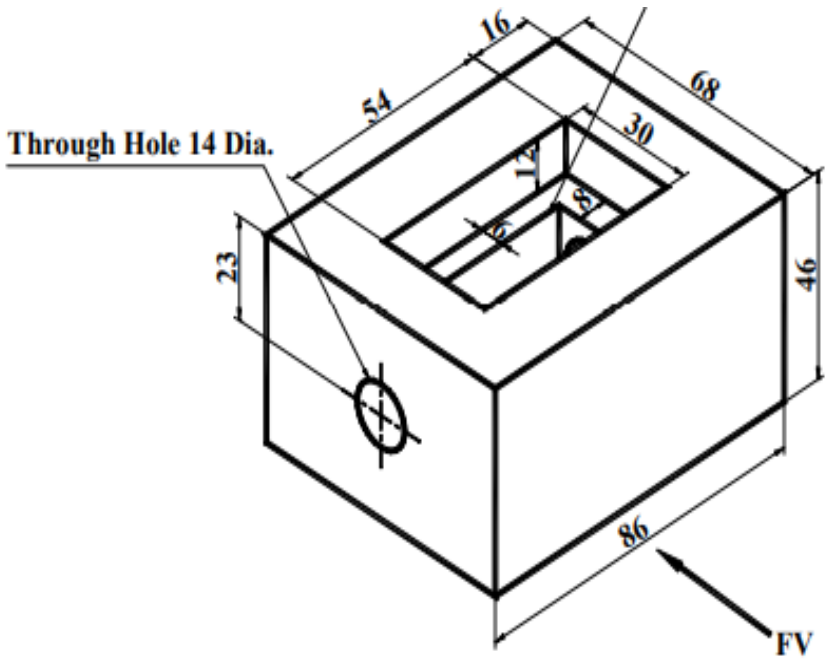


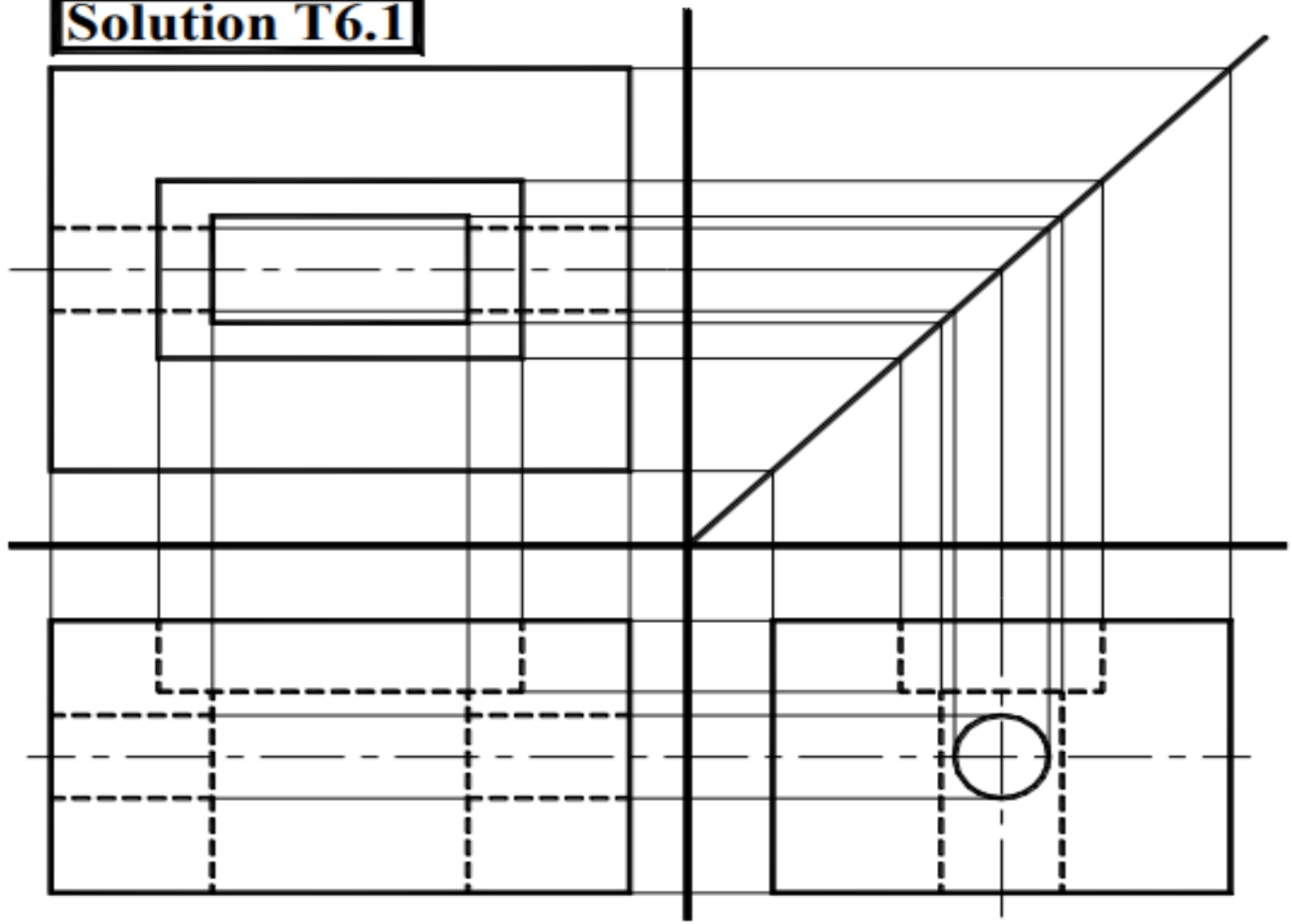
Figure T5.12

Solution T5.12





Solution T6.1



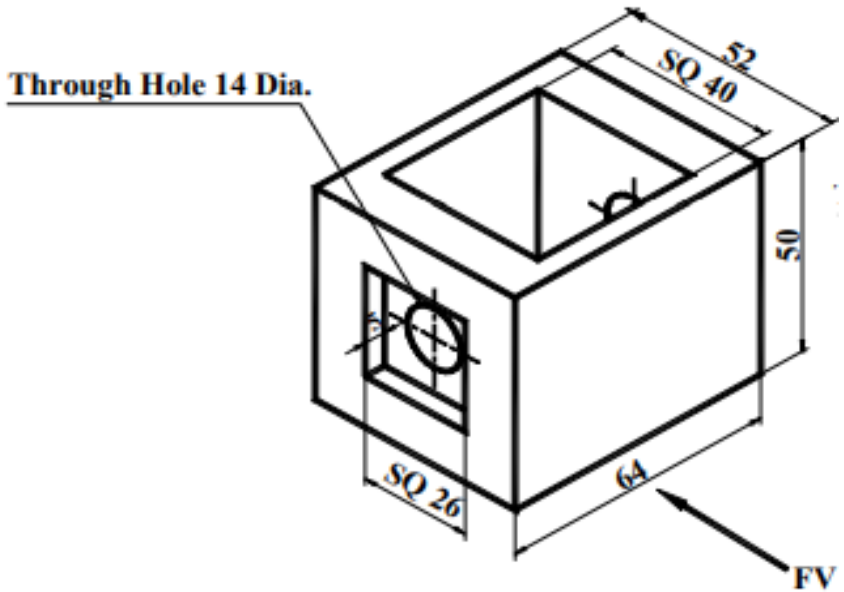
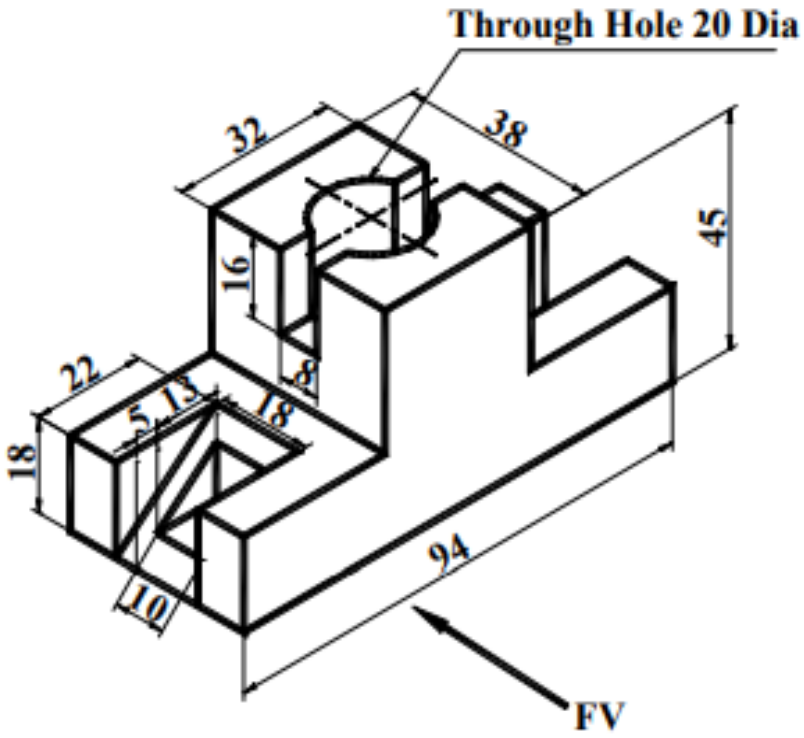
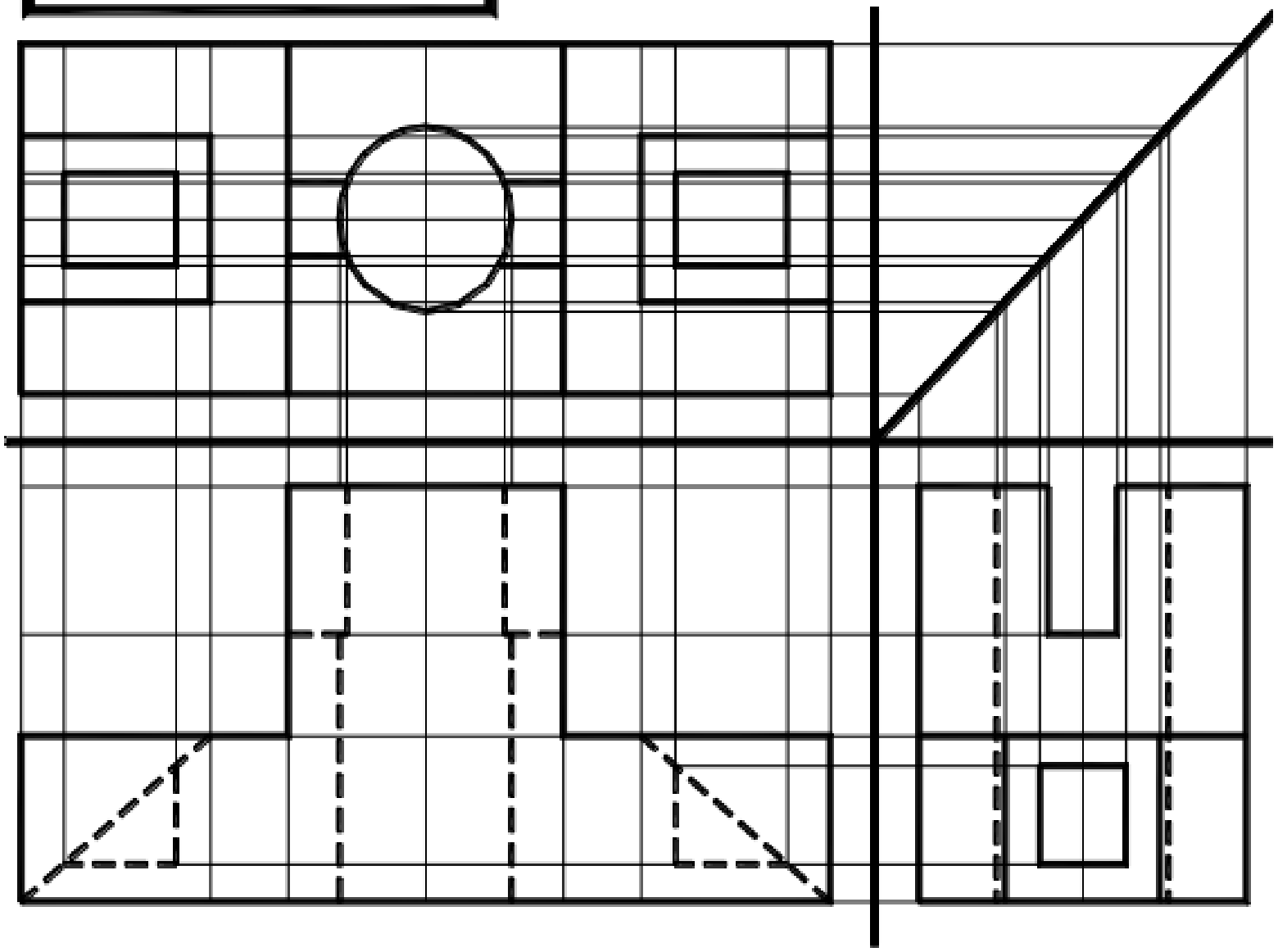


Figure T6.3

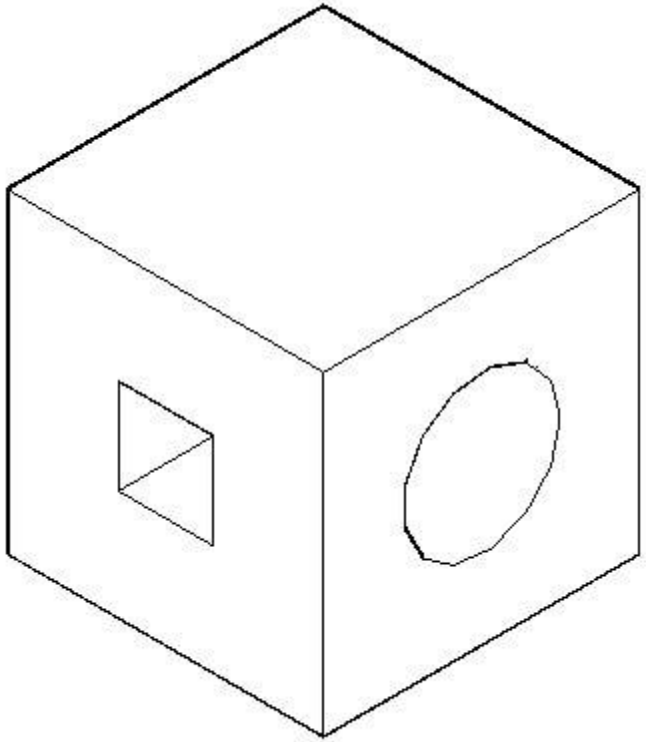
Solution T6.3

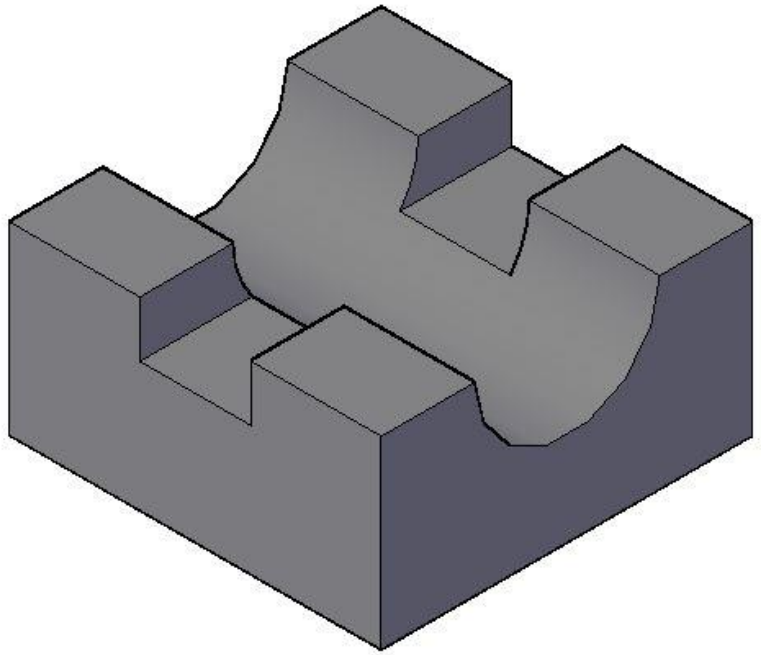
Solution T6.6



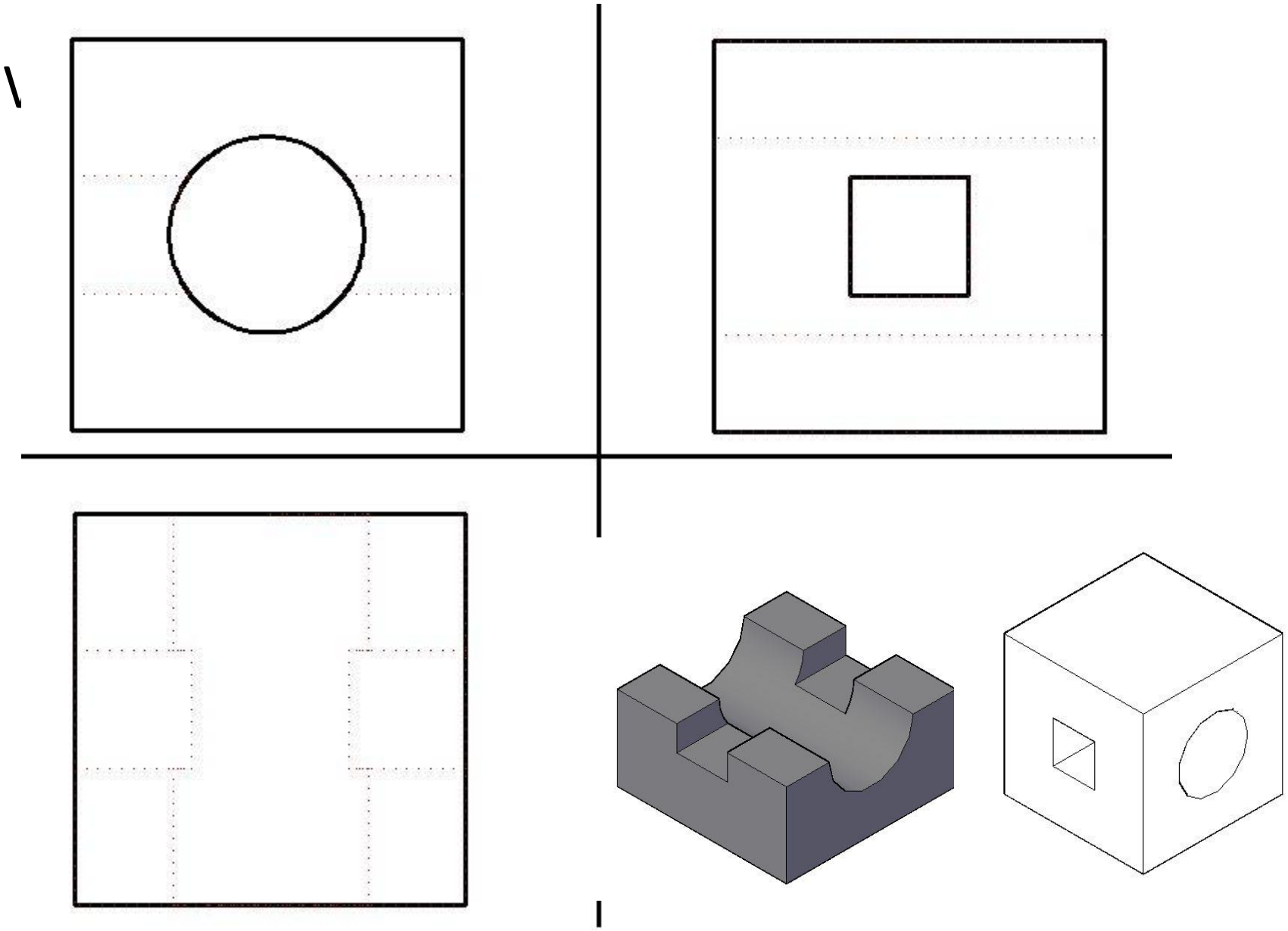


Rectangle and Circle

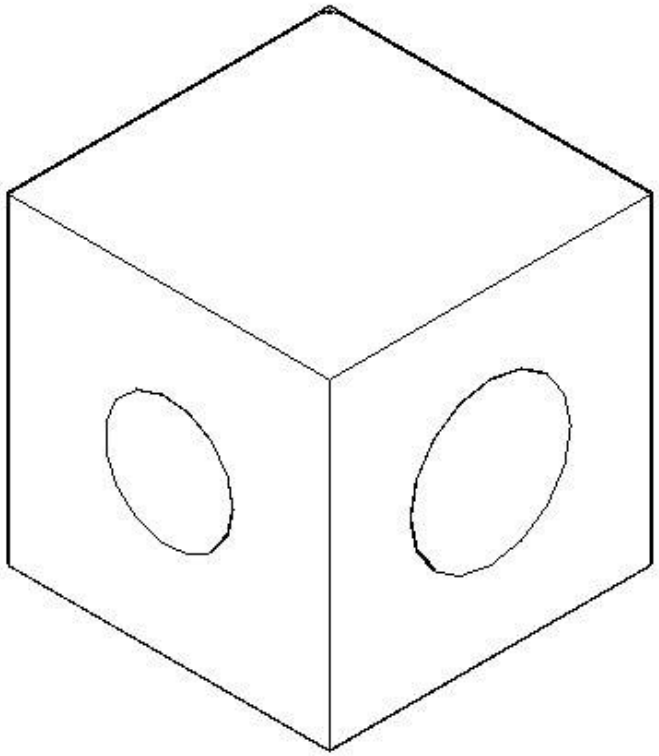


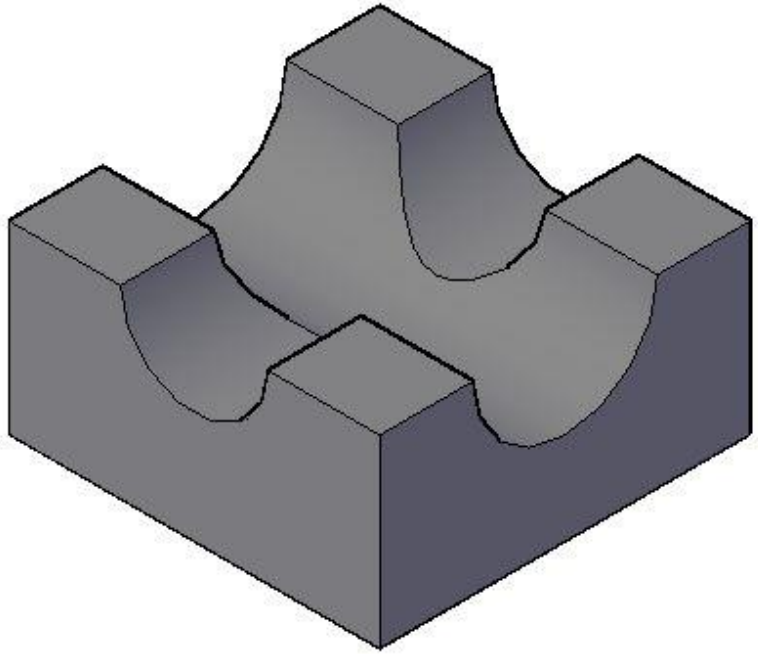


3viev



circle and Circle





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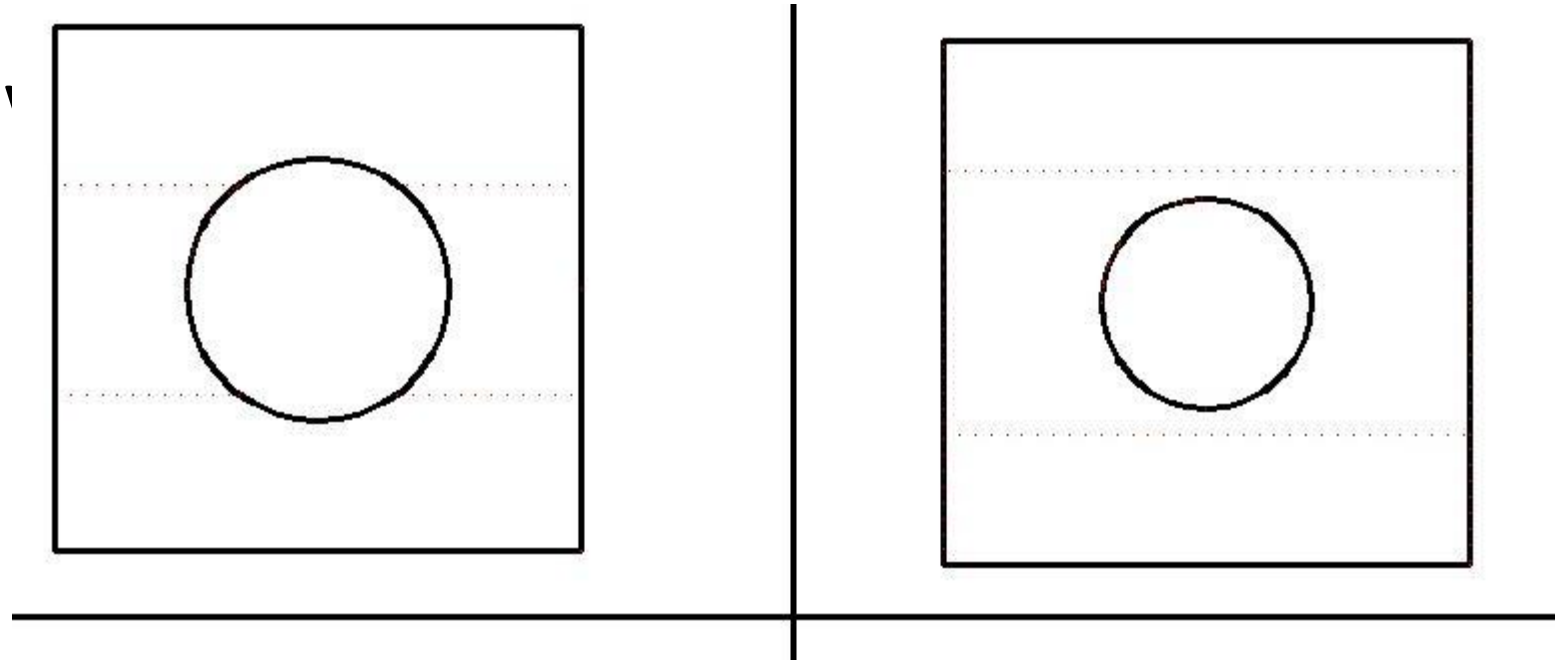

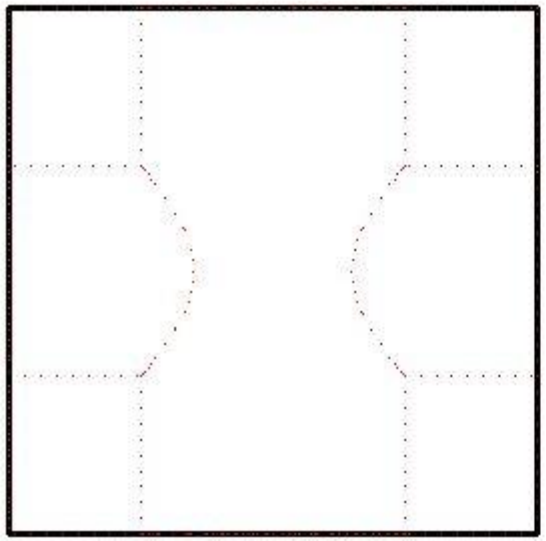

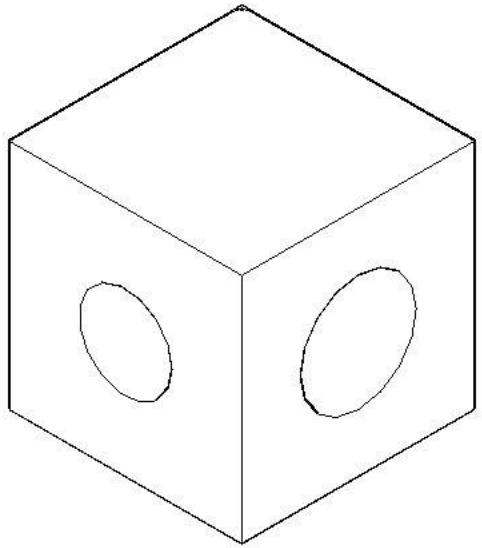

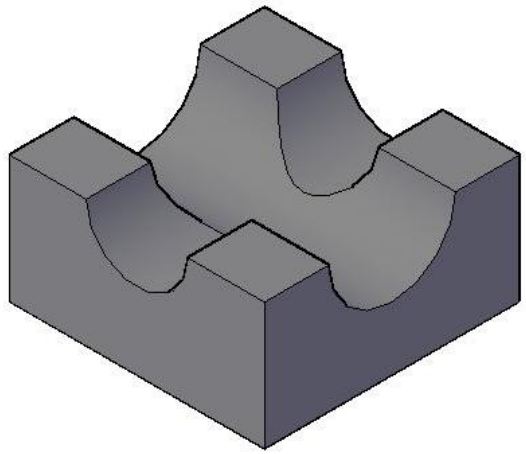

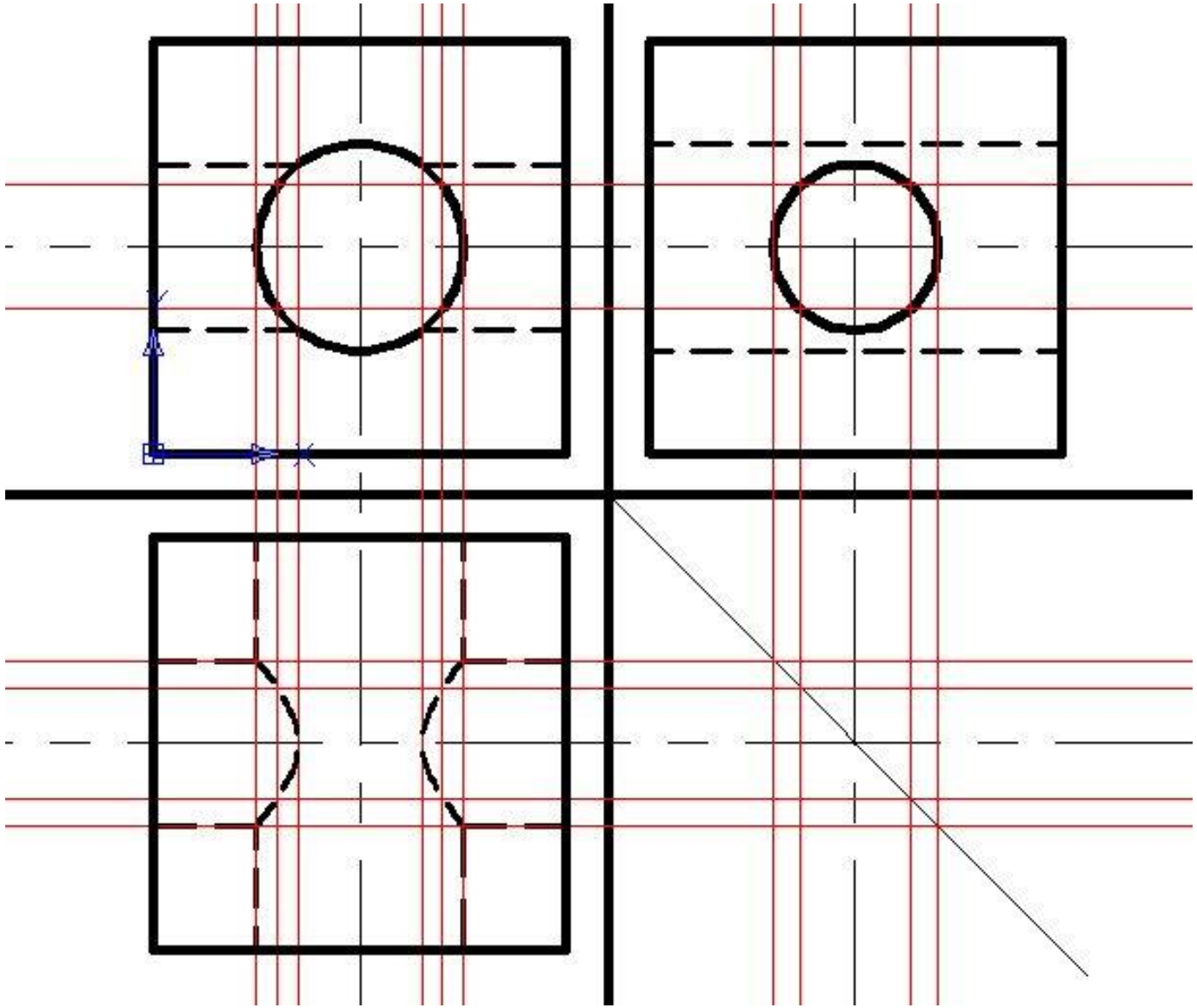

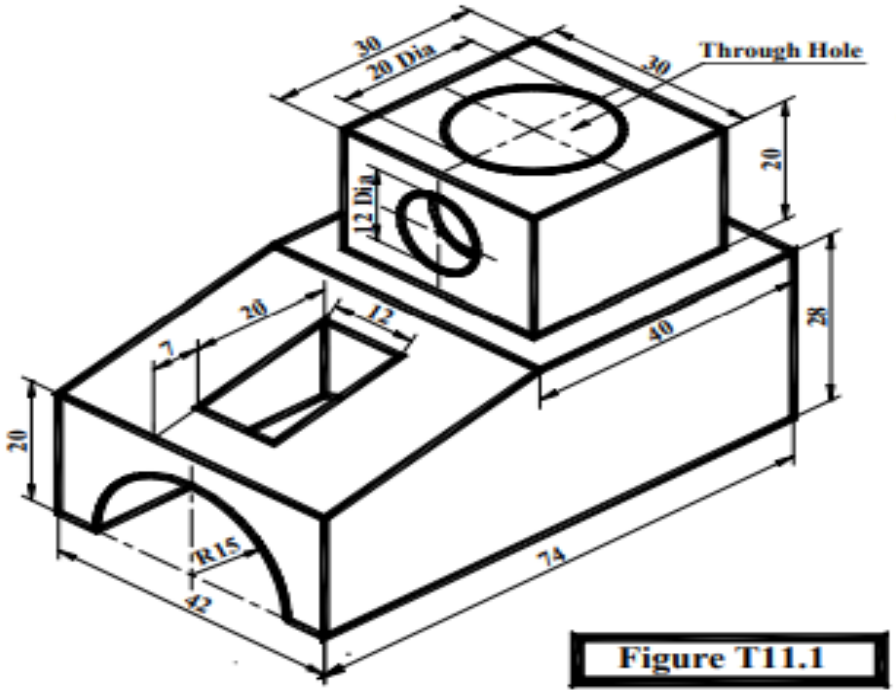

Figure T11.1