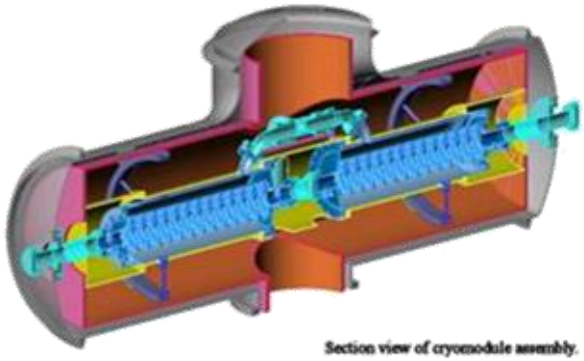
Section Views



Section view of cryomodule assembly.

Sectioning image

NO information about apple inside

Cutting the apple with knife

After cutting we get information about in side

Sectioning image

NO information about inside Watermelon

Information about color

Cutting the watermelon by knife

Information about seeds

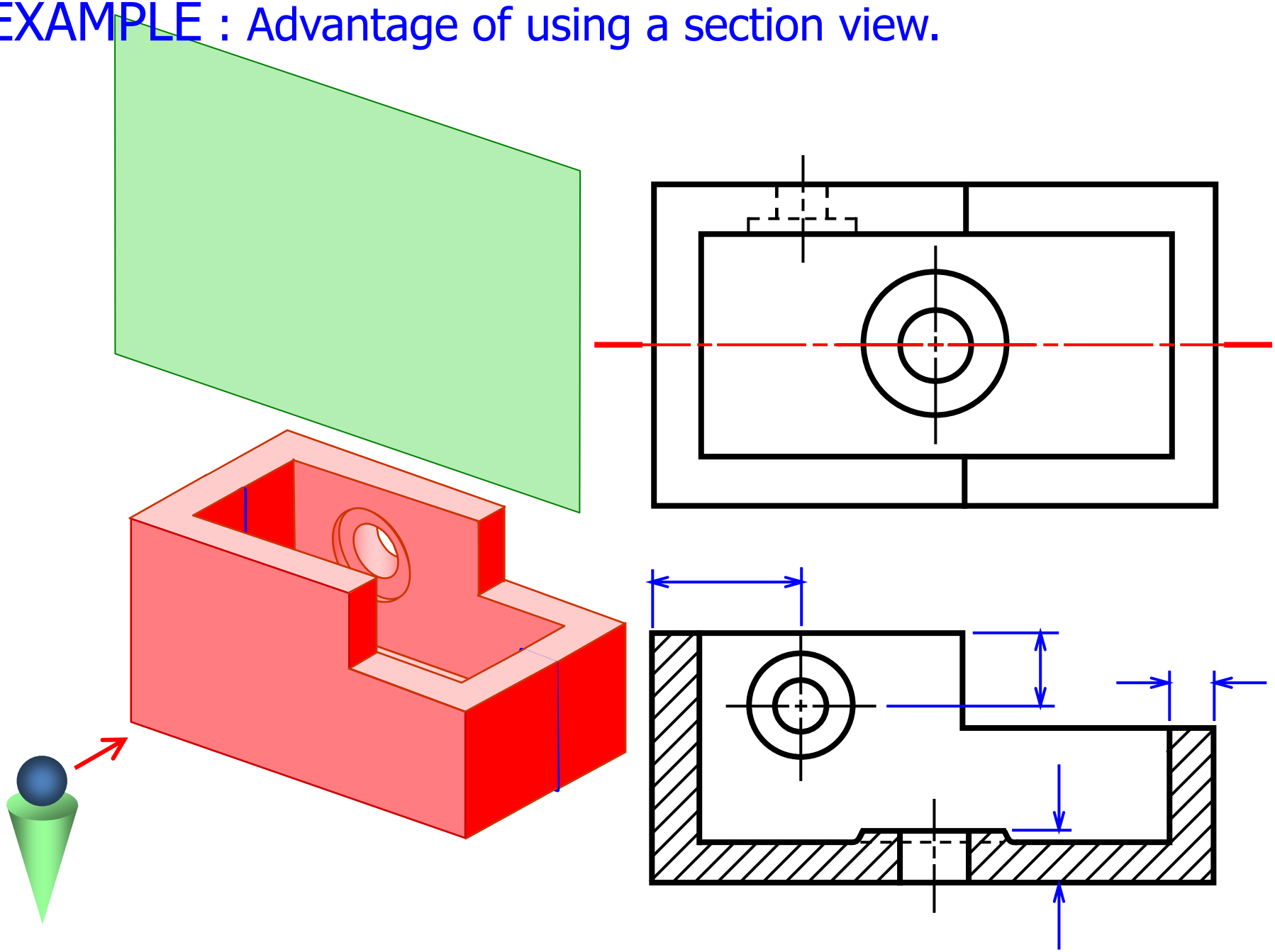
Information about taste

PURPOSES OF SECTION VIEWS

- Clarify the views by
  - reducing or eliminating the hidden lines.
  - revealing the cross sectional's shape.
- Facilitate the dimensioning.

Let See the example

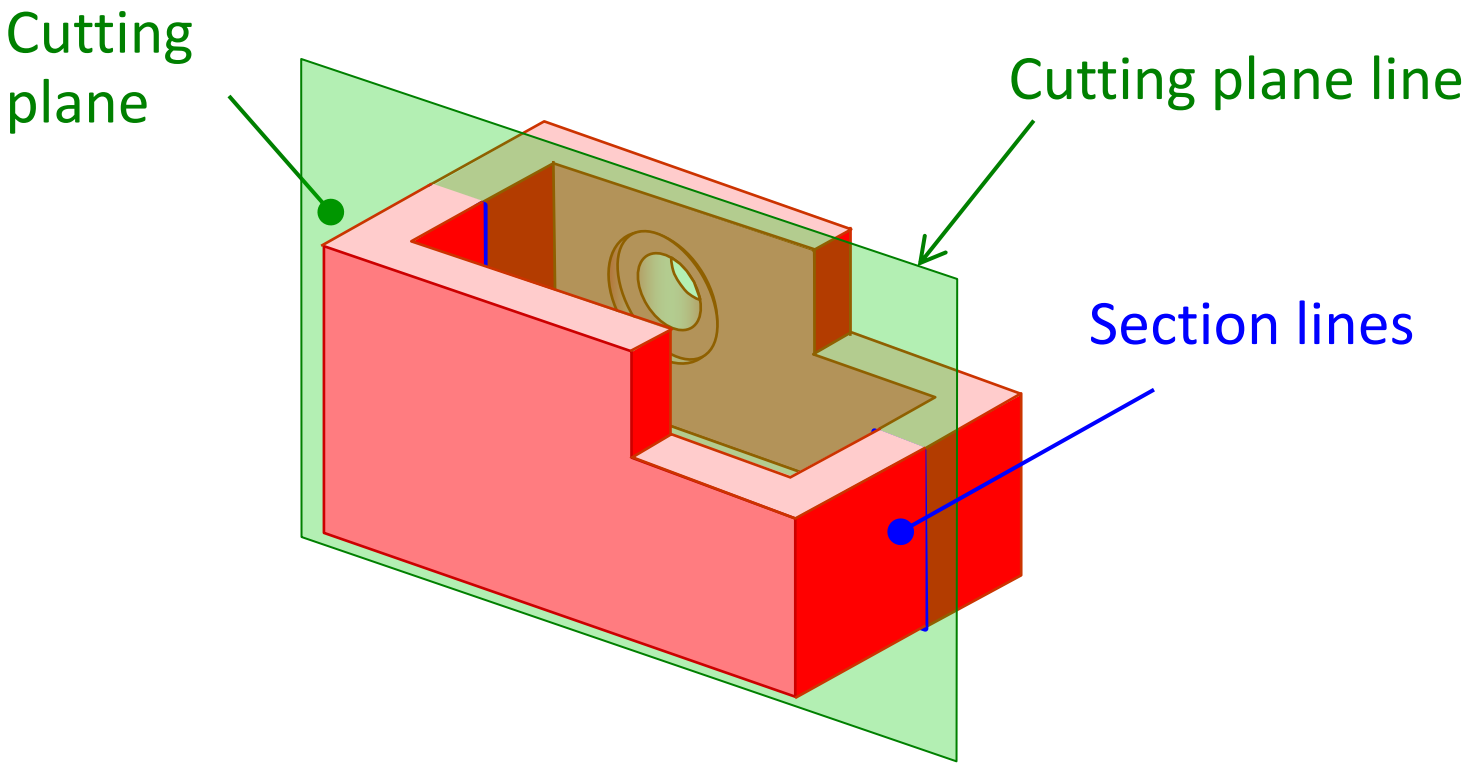
EXAMPLE : Advantage of using a section view.



Terminology and common practices

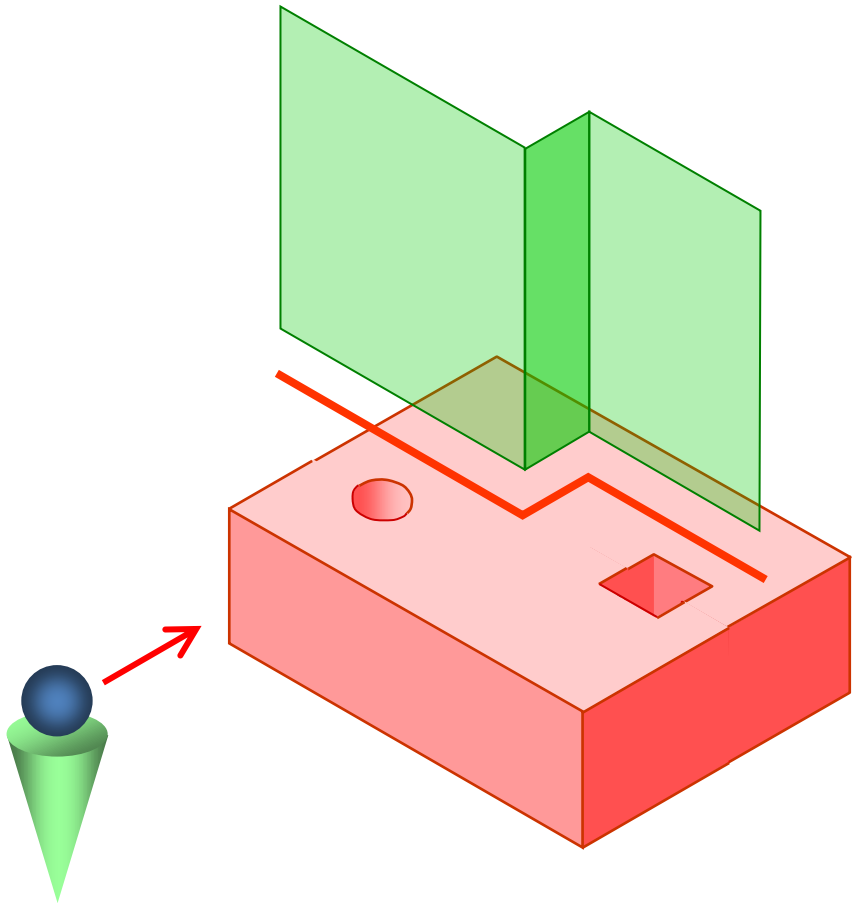
CUTTING PLANE

Cutting plane is a plane that *imaginarily cuts* the object to reveal the internal features.

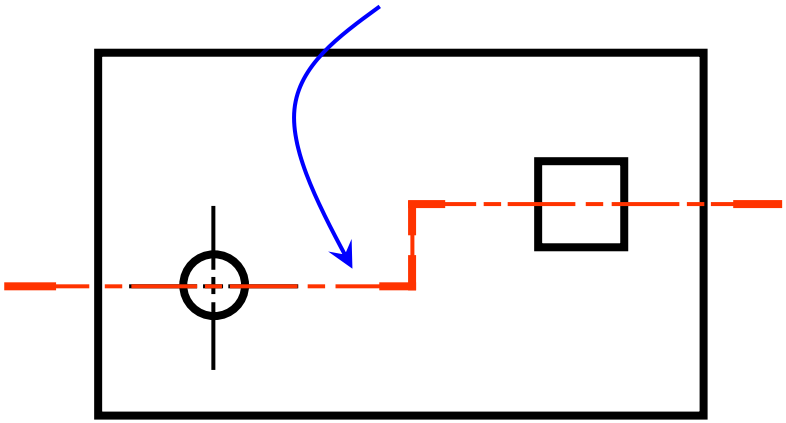


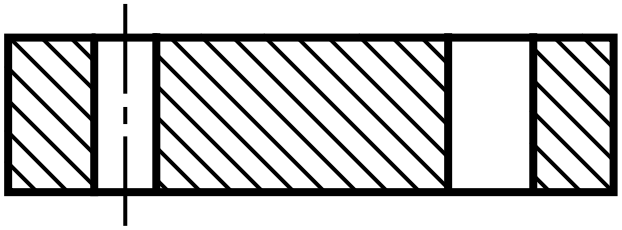
CUTTING PLANE LINE

Cutting plane line is an *edge view* of the cutting plane.

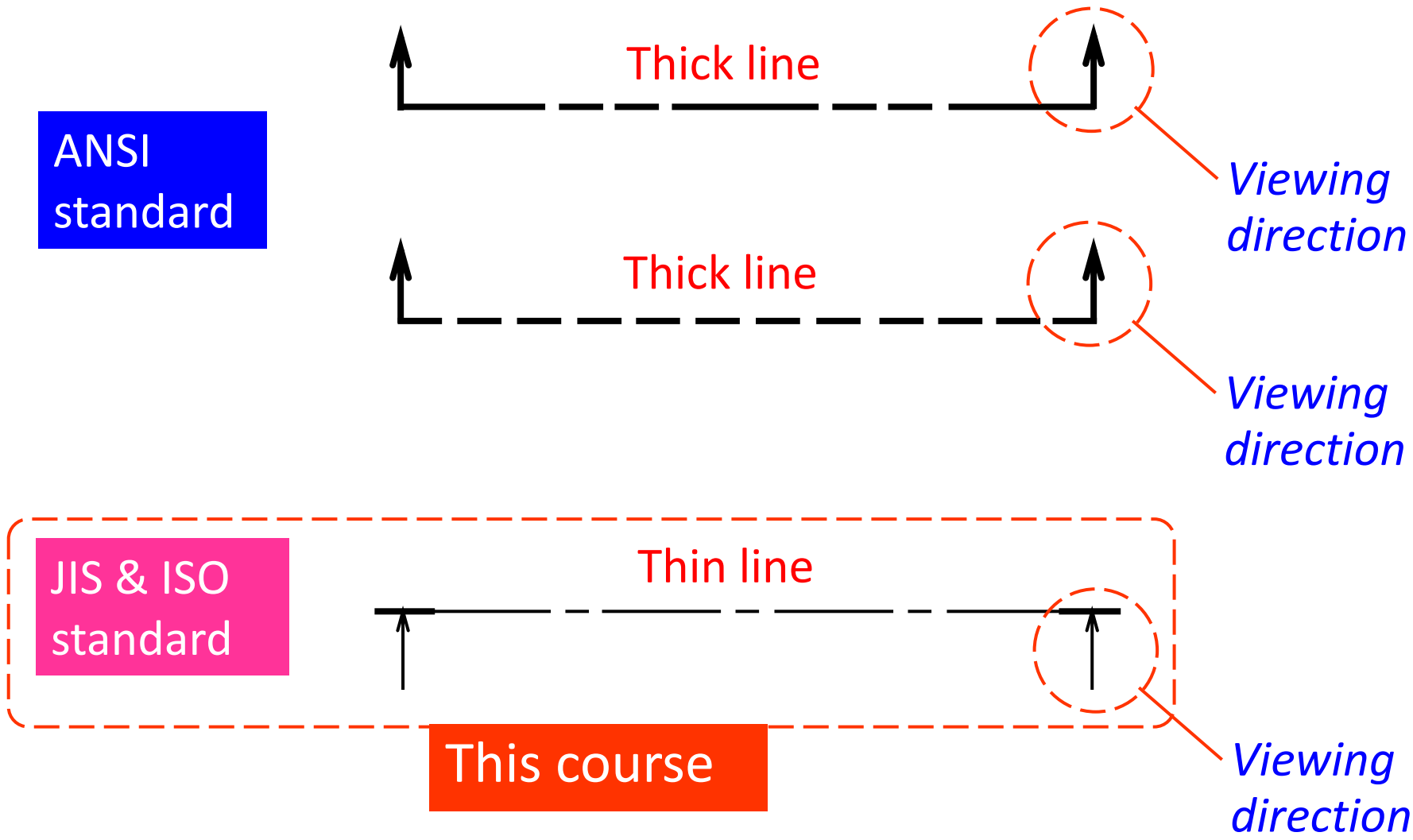


Indicate the *path* of cutting plane.





CUTTING PLANE LINESTYLES



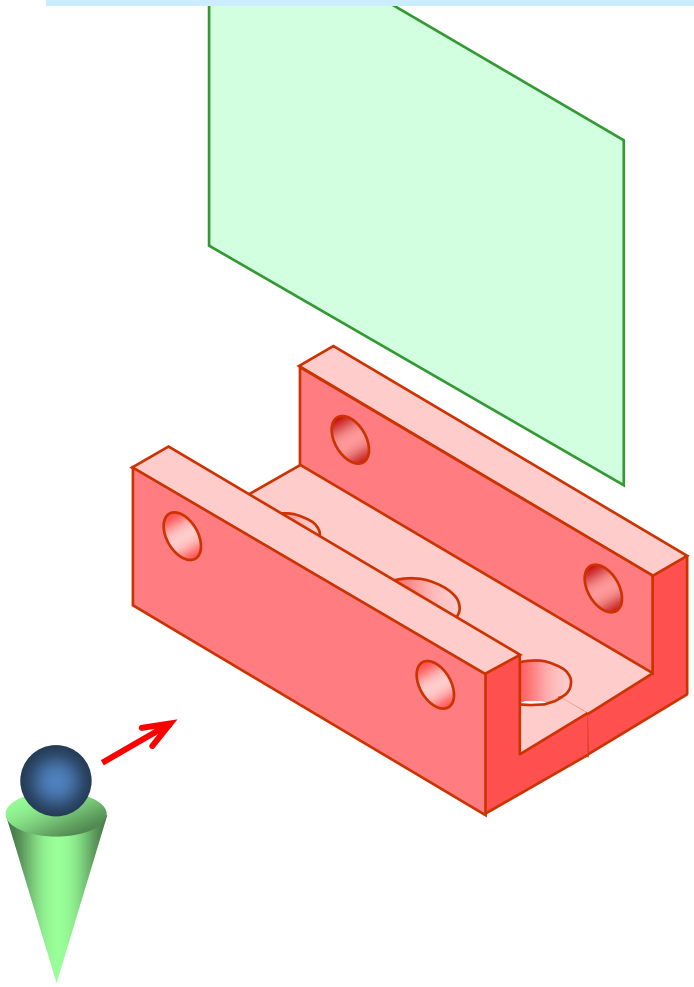
Kinds of Sections

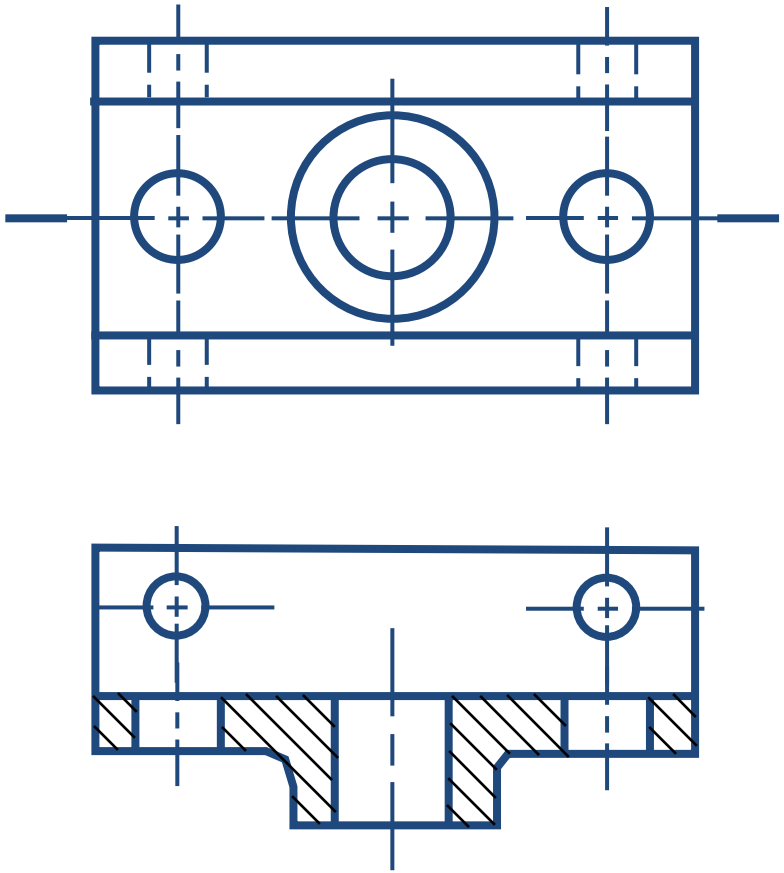
KIND OF SECTIONS

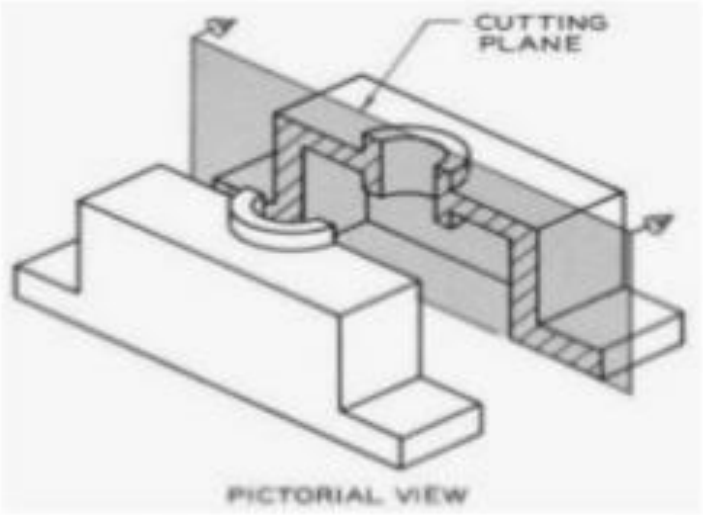
1. Full section
2. Offset section
3. Half section
4. Broken-out section

FULL SECTION VIEW

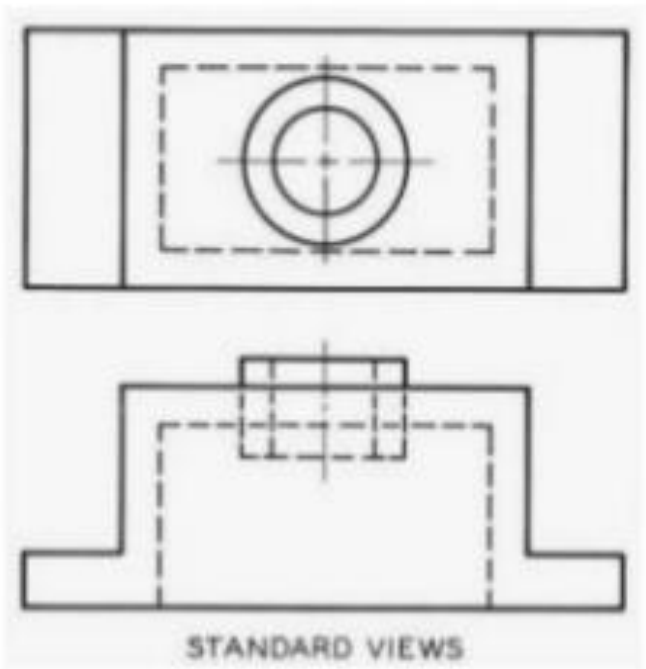
The view is made by passing the *straight* cutting plane *completely through* the part.



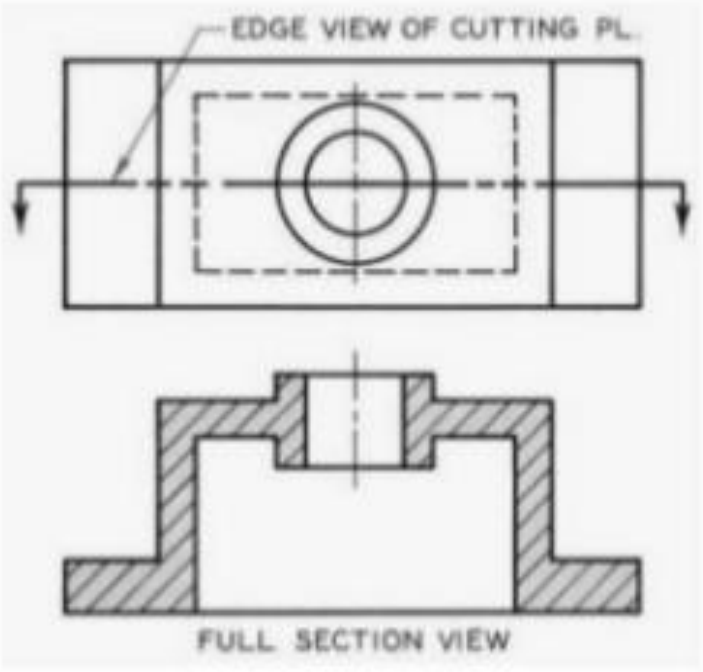




PICTORIAL VIEW

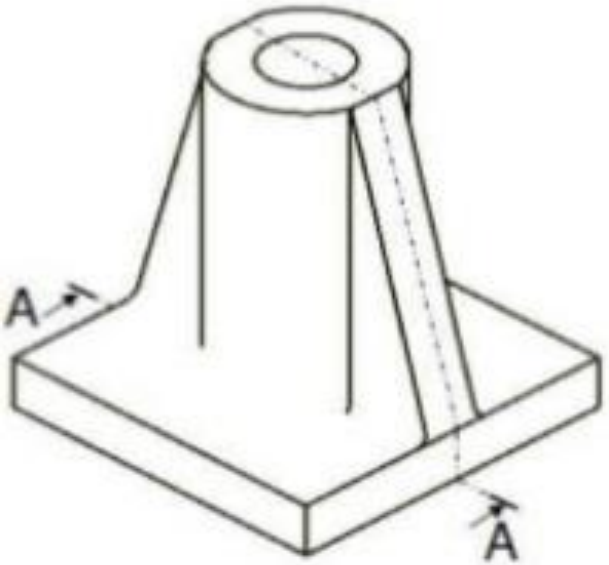


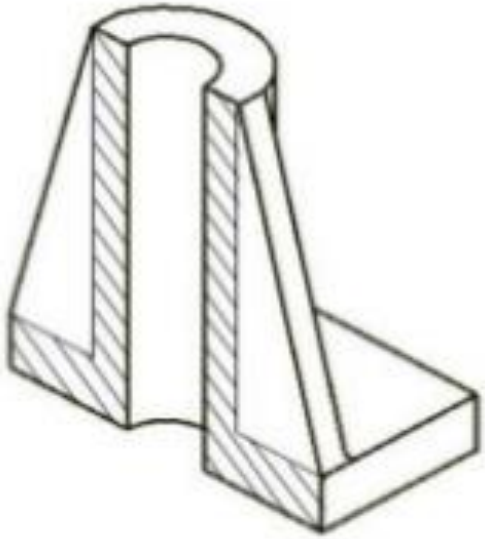
STANDARD VIEWS

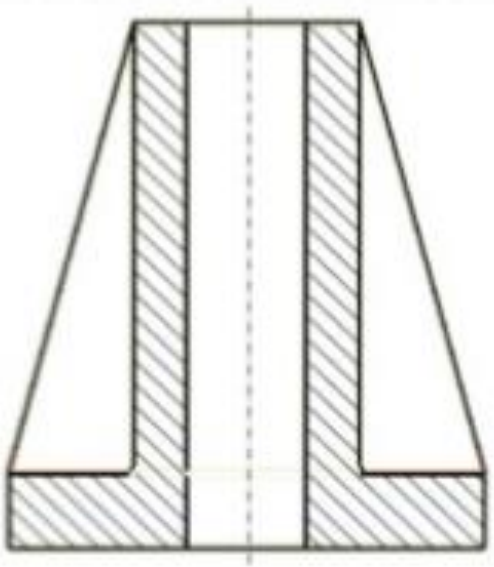


FULL SECTION VIEW

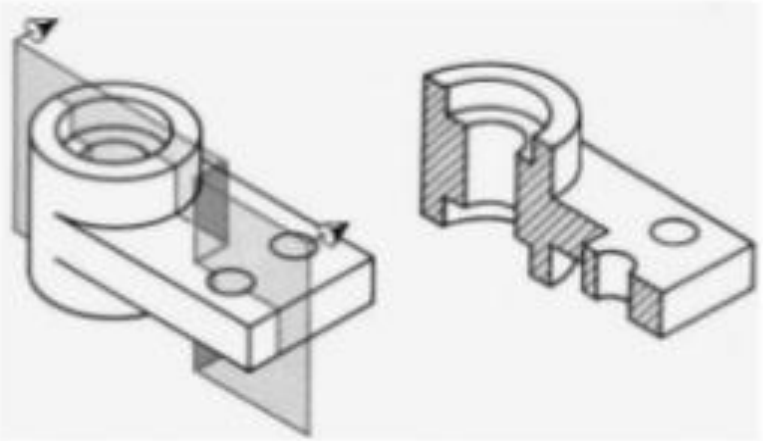
1. When the cutting plane passes through
   Thin features, such as RIB or a WEB,
   Shafts, Keys & Splines,
   Nuts, Bolts & Rivets.
2. Such Parts are not sectioned.

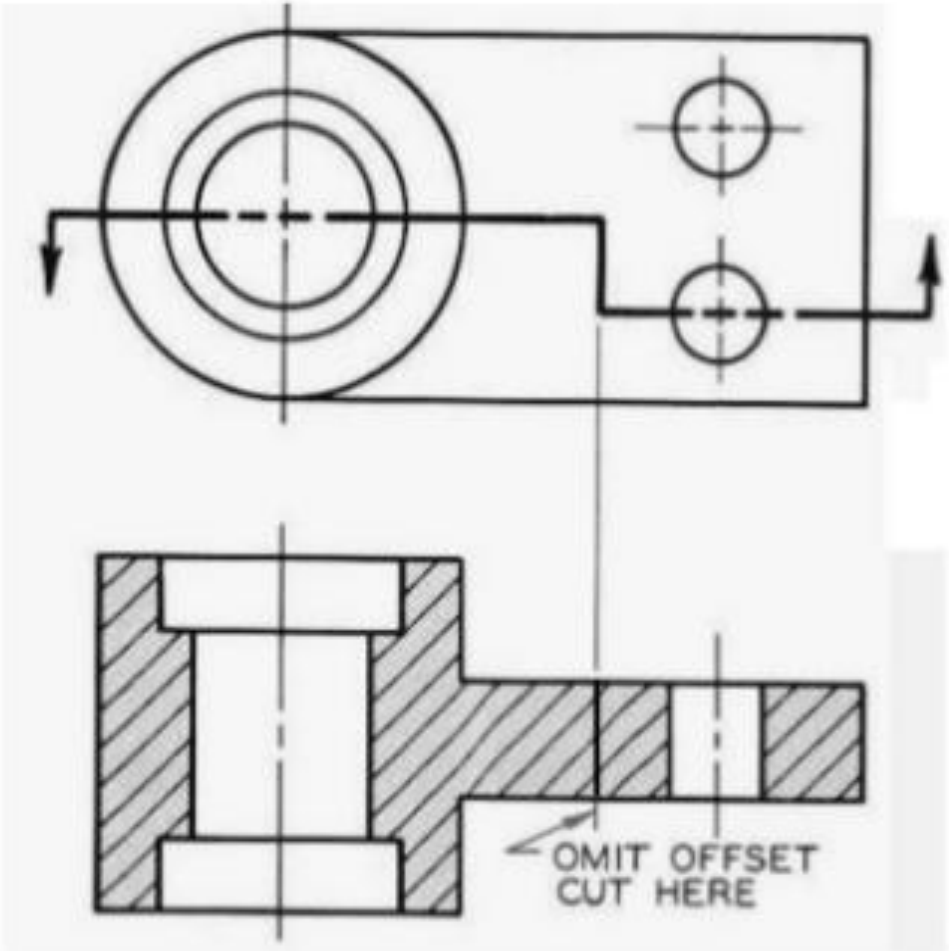


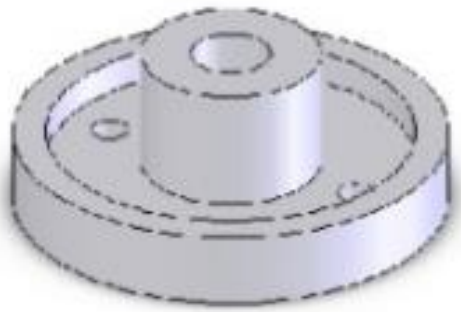


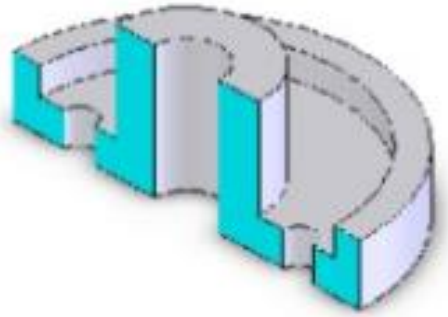


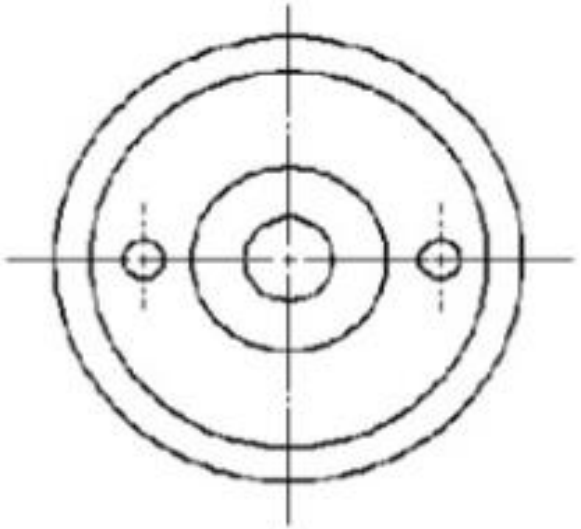
- Views obtained by "offsetting" or bending the cutting plane. are called an OFFSET SECTIONAL VIEWS.

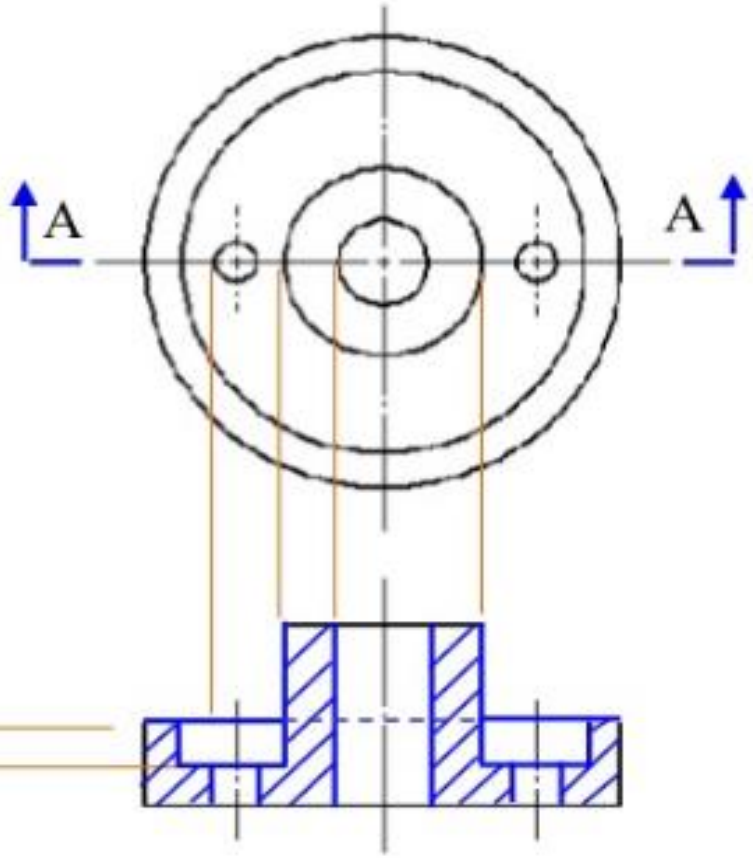






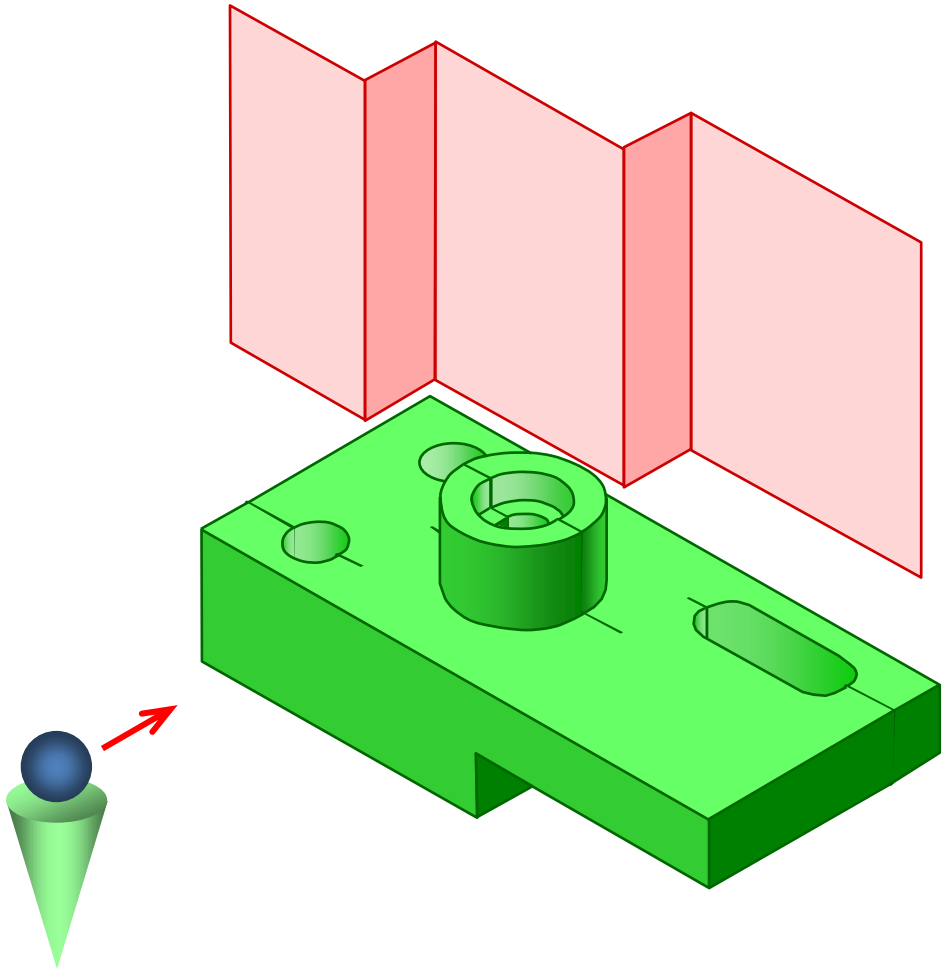


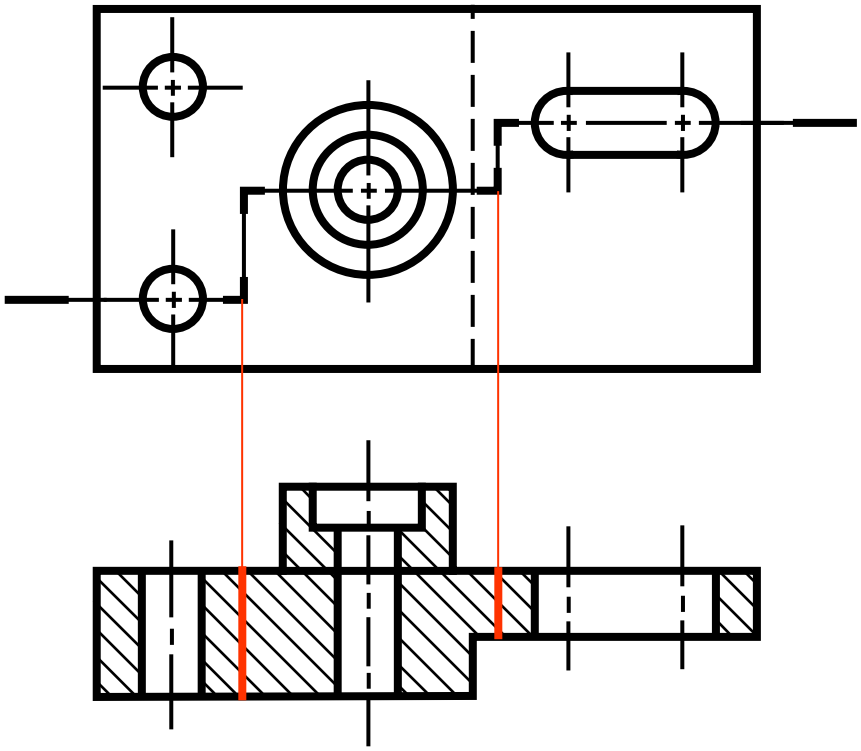



A
A

OFFSET SECTION VIEW

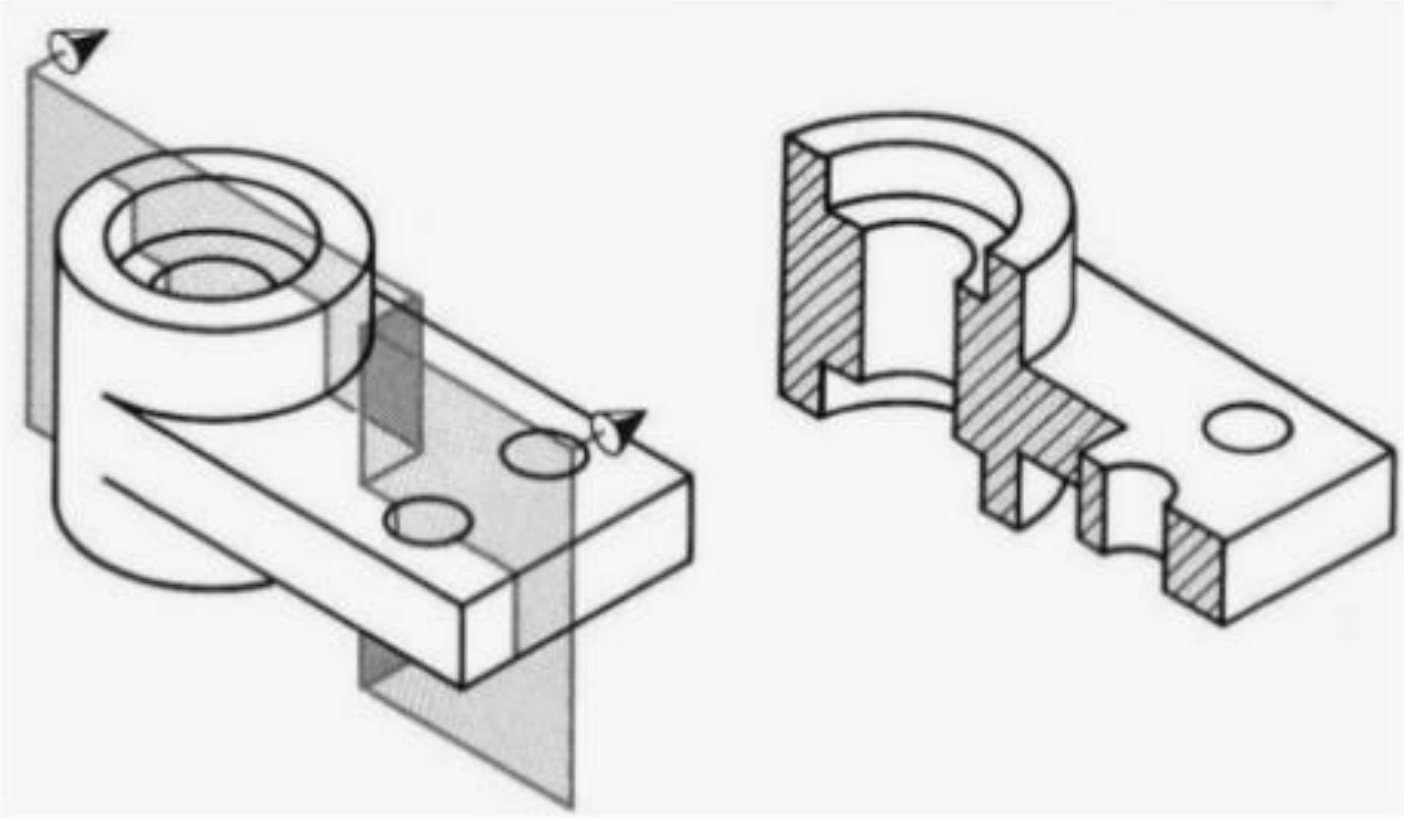
The view is made by passing the *bended* cutting plane *completely through* the part.





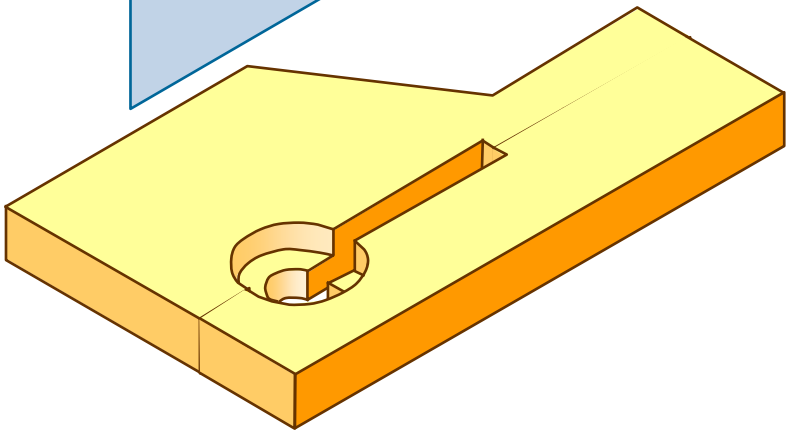
Do not show the edge views of the cutting plane.

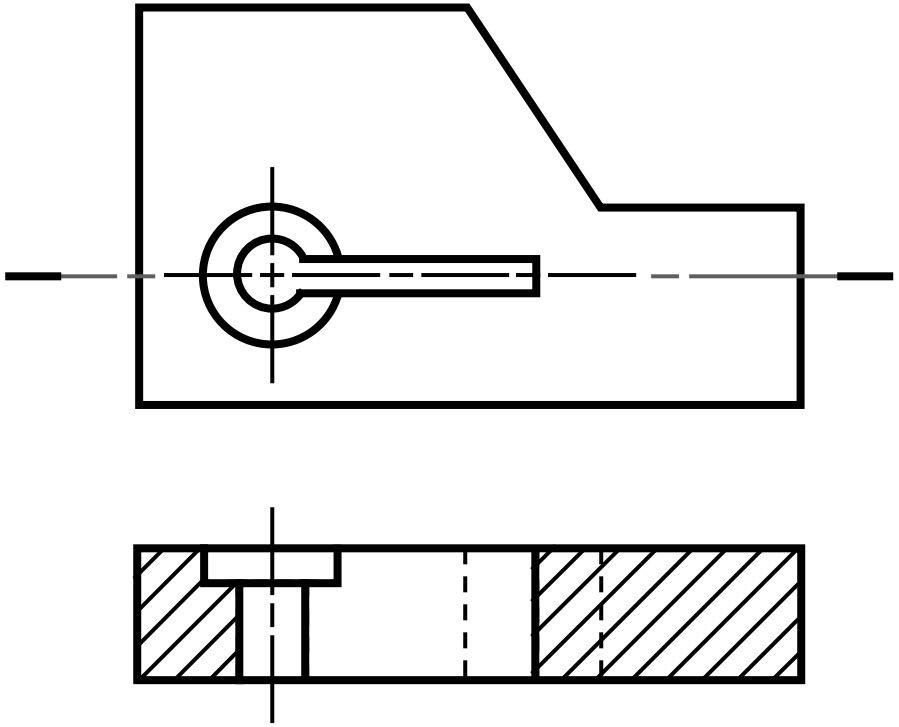
- Several features of an object that do not lie in a straight line,
- Such features can be shown by "offsetting" or bending the cutting plane.
- The section is then called an OFFSET SECTION.



TREATMENT OF HIDDEN LINES

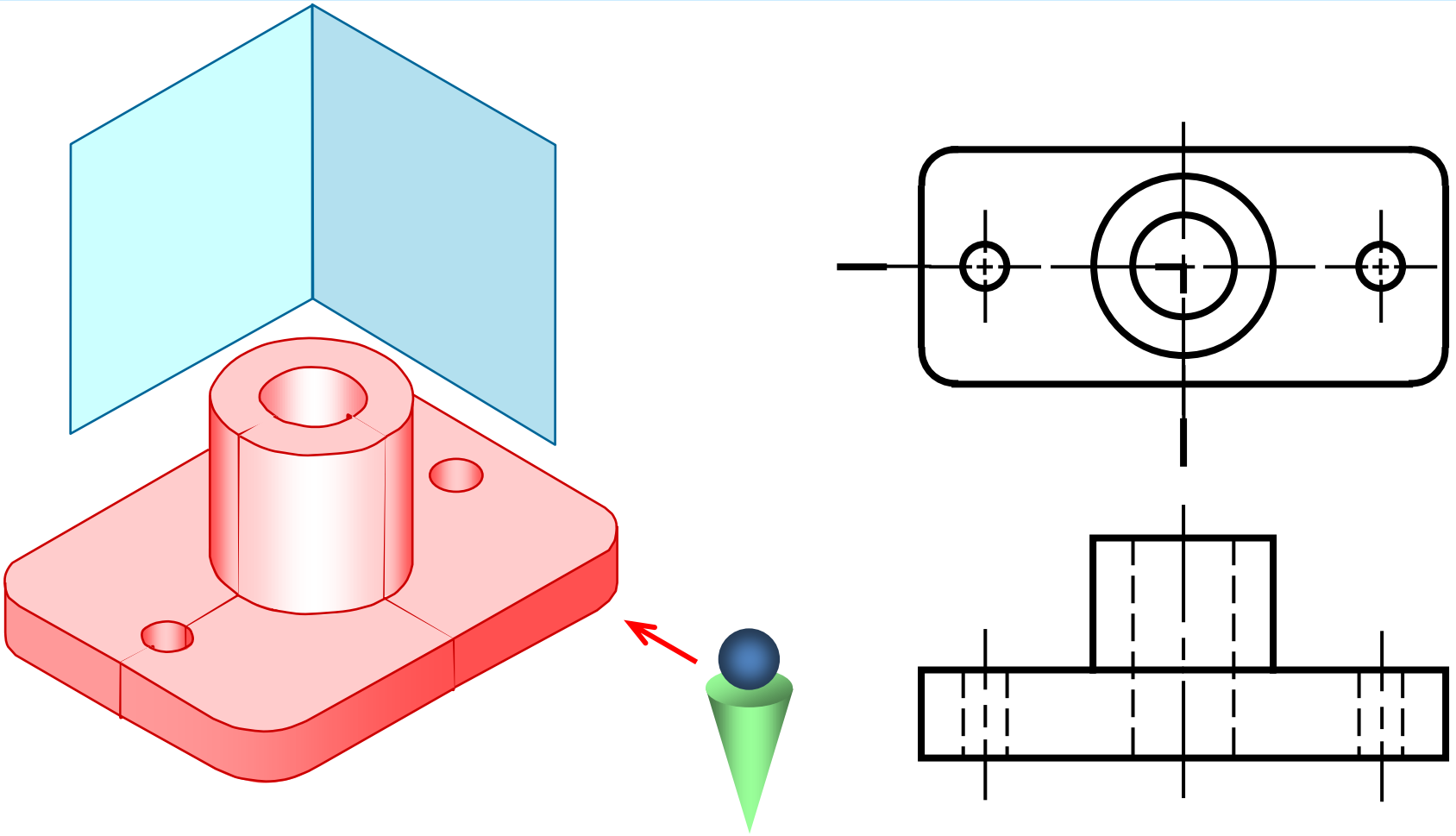
- Hidden lines are *normally omitted* from section views.





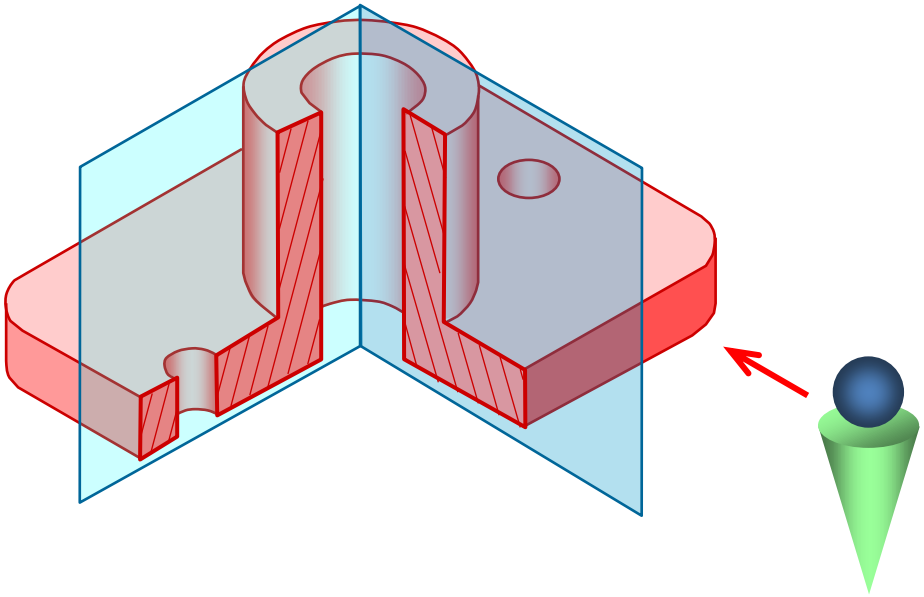
HALF SECTION VIEW

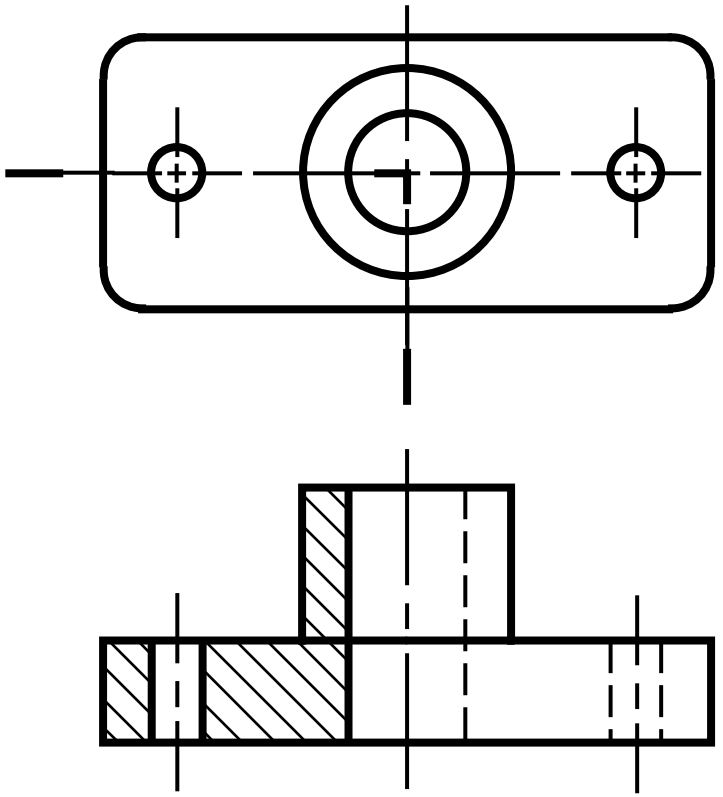
The view is made by passing the cutting plane *halfway* through an object and remove a *quarter* of it.



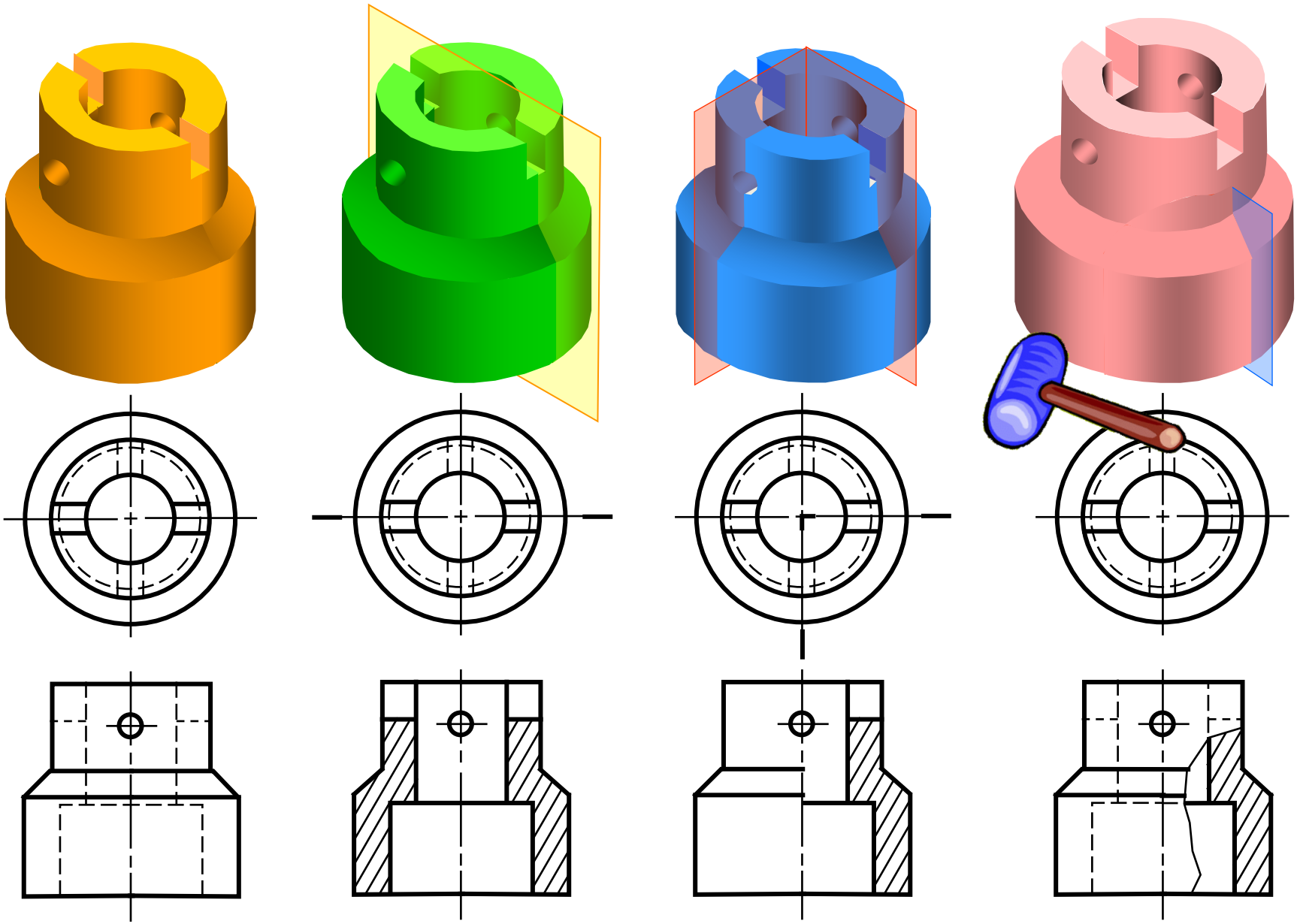
HALF SECTION VIEW

- A *center line* is used to separate the sectioned half from the unsectioned half of the view.
- *Hidden line* is omitted in unsection half of the view.



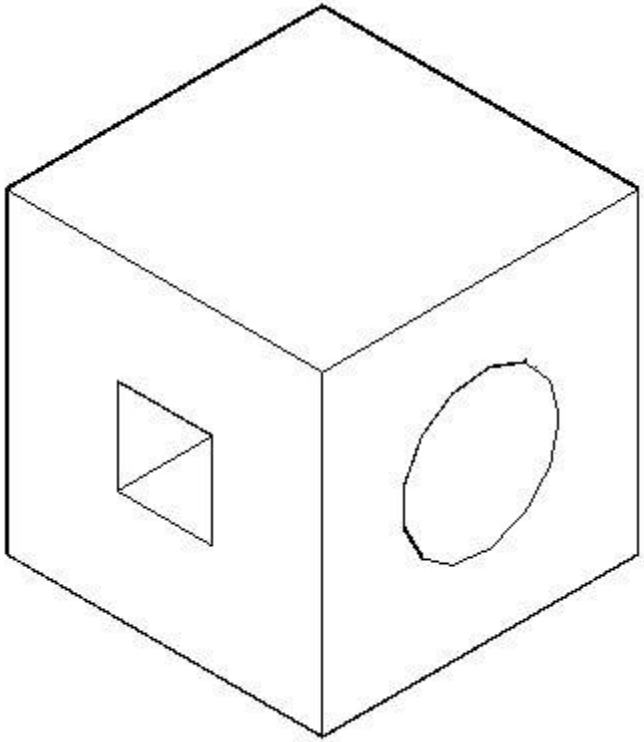


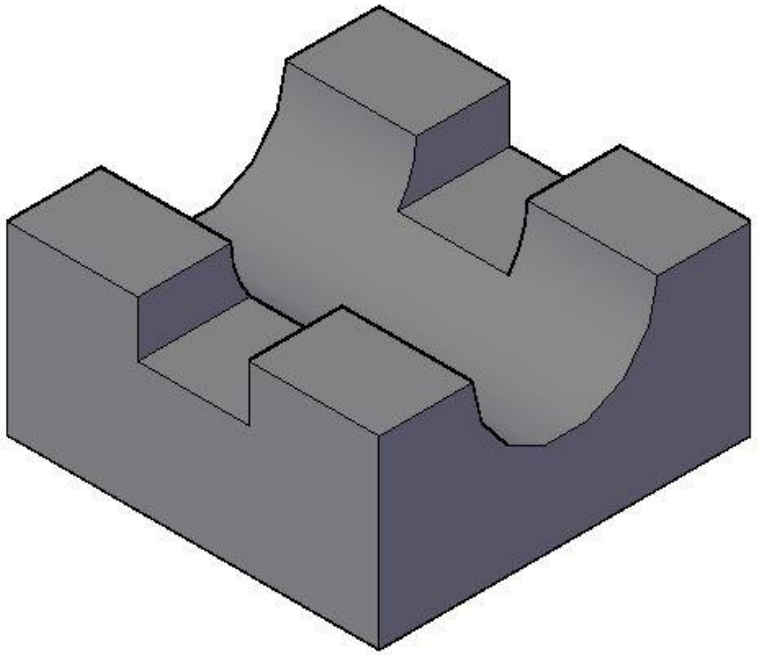
EXAMPLE：Comparison among several section techniques

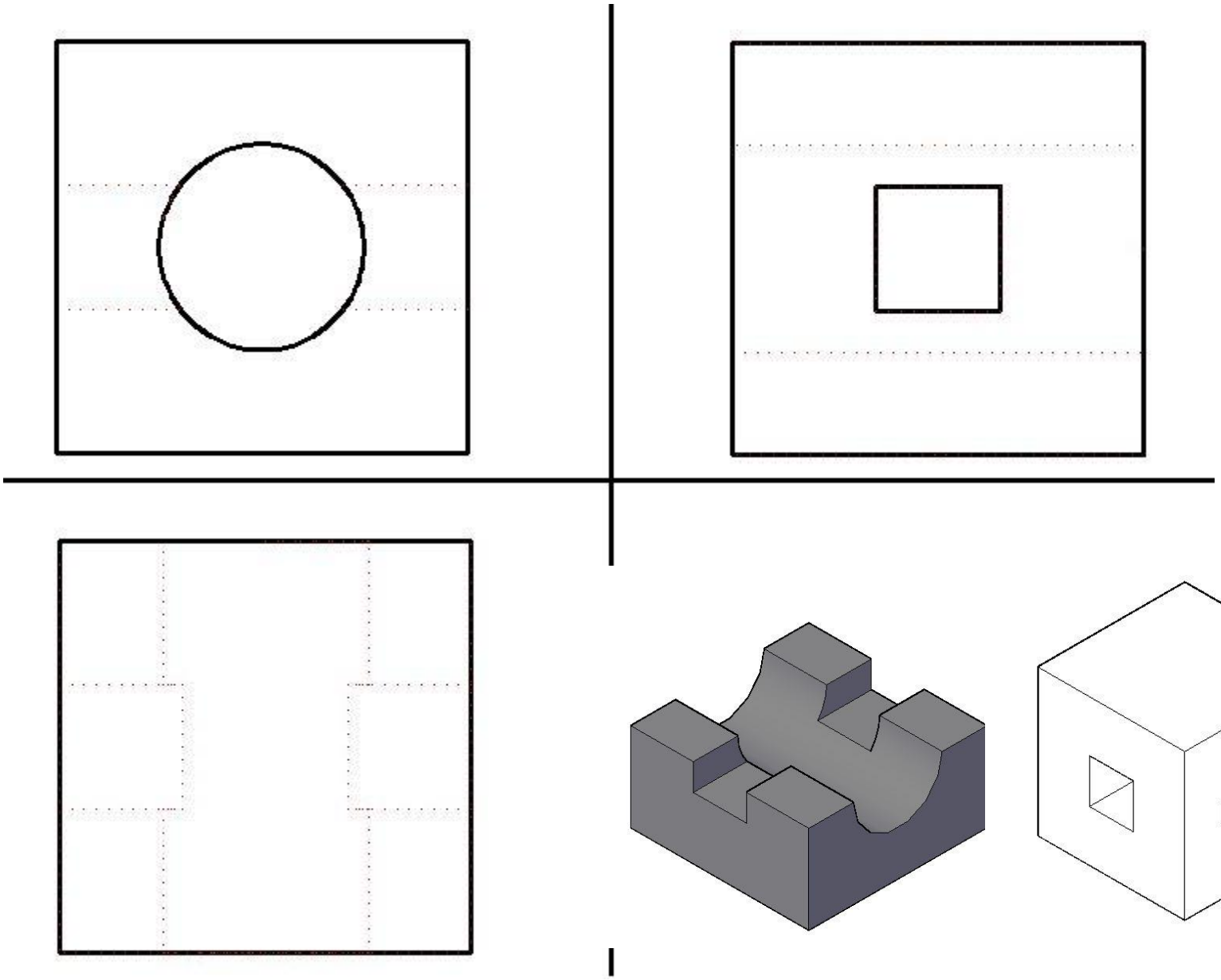
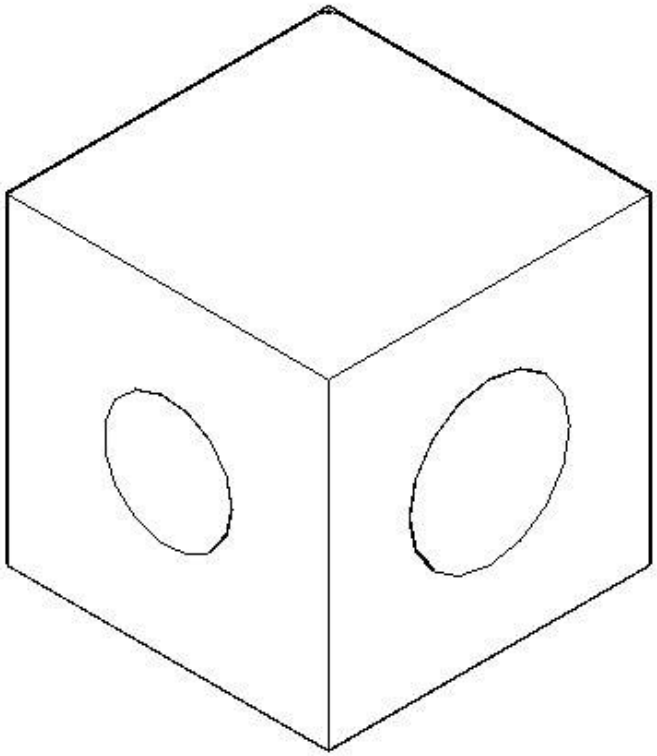
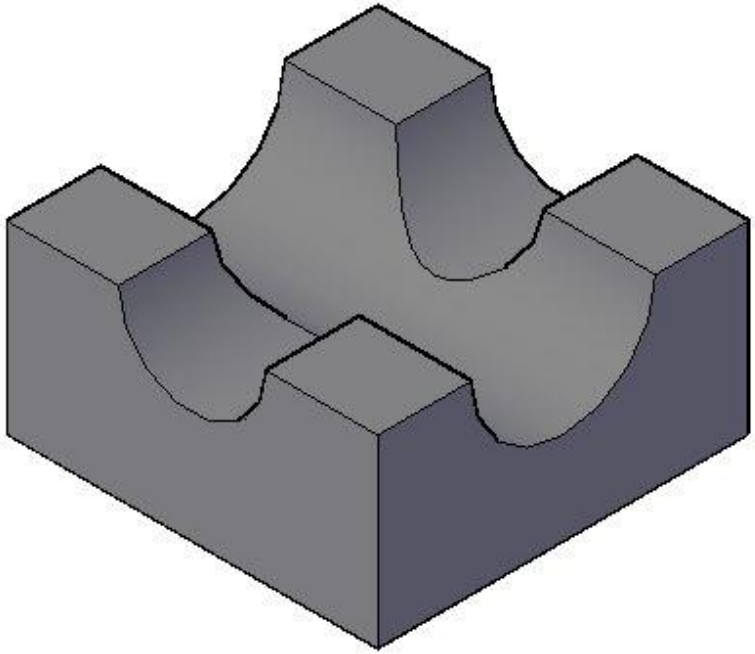
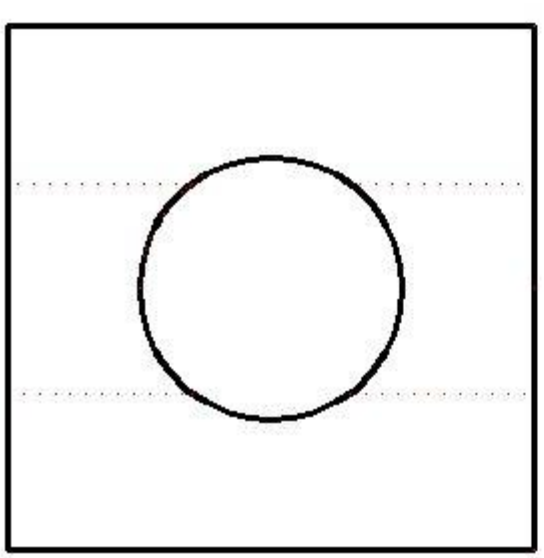
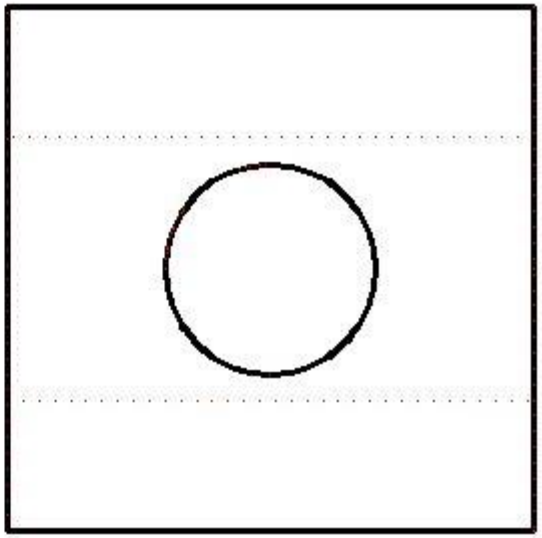
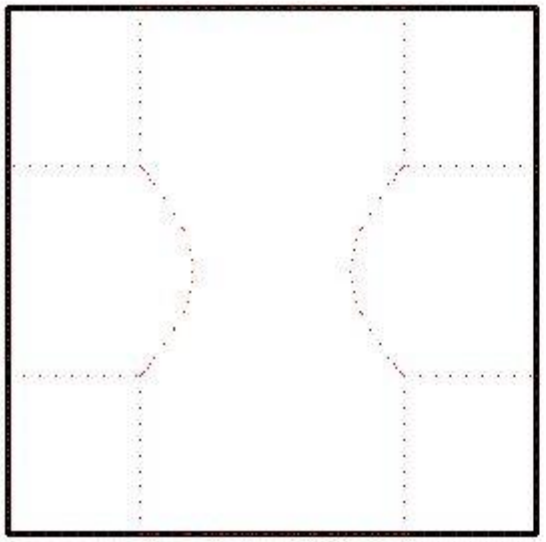
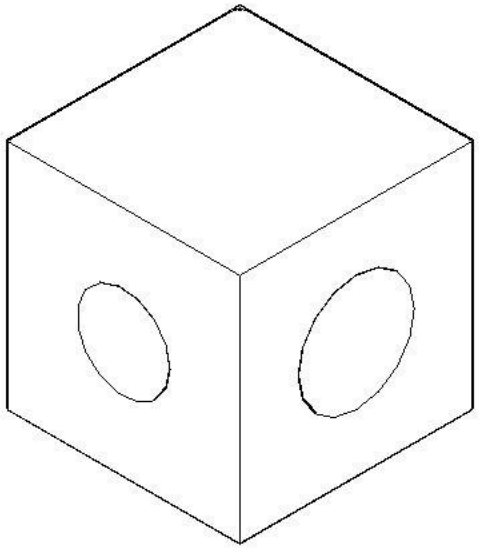
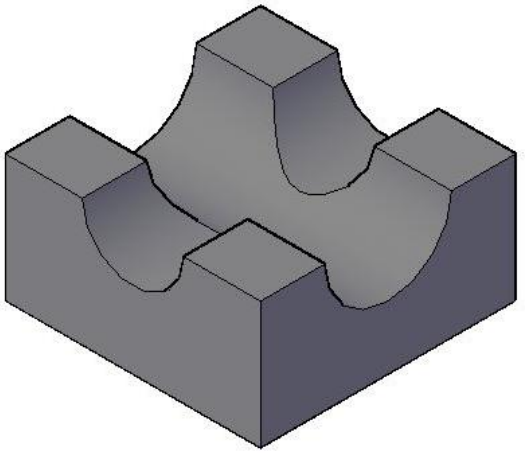
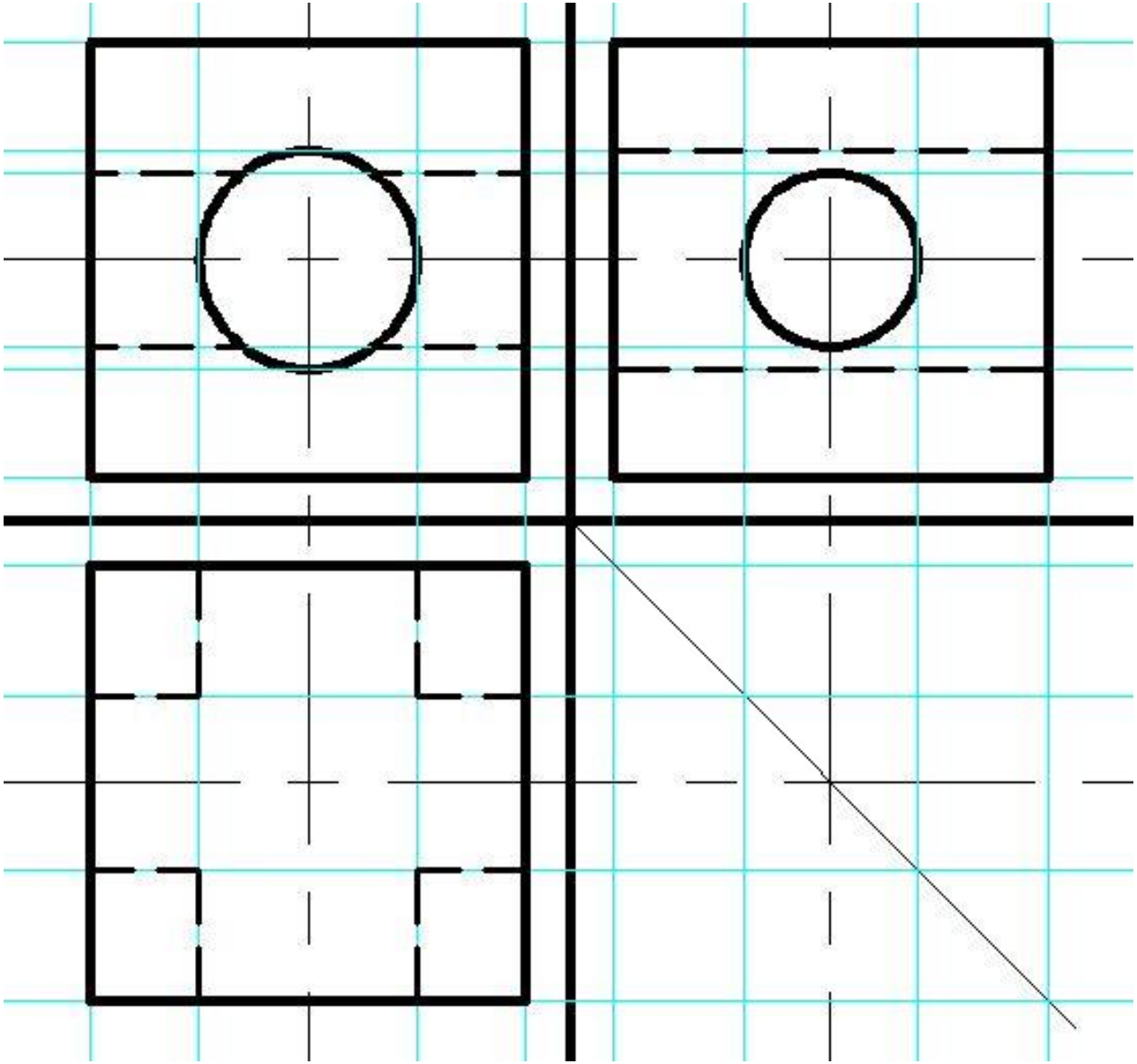
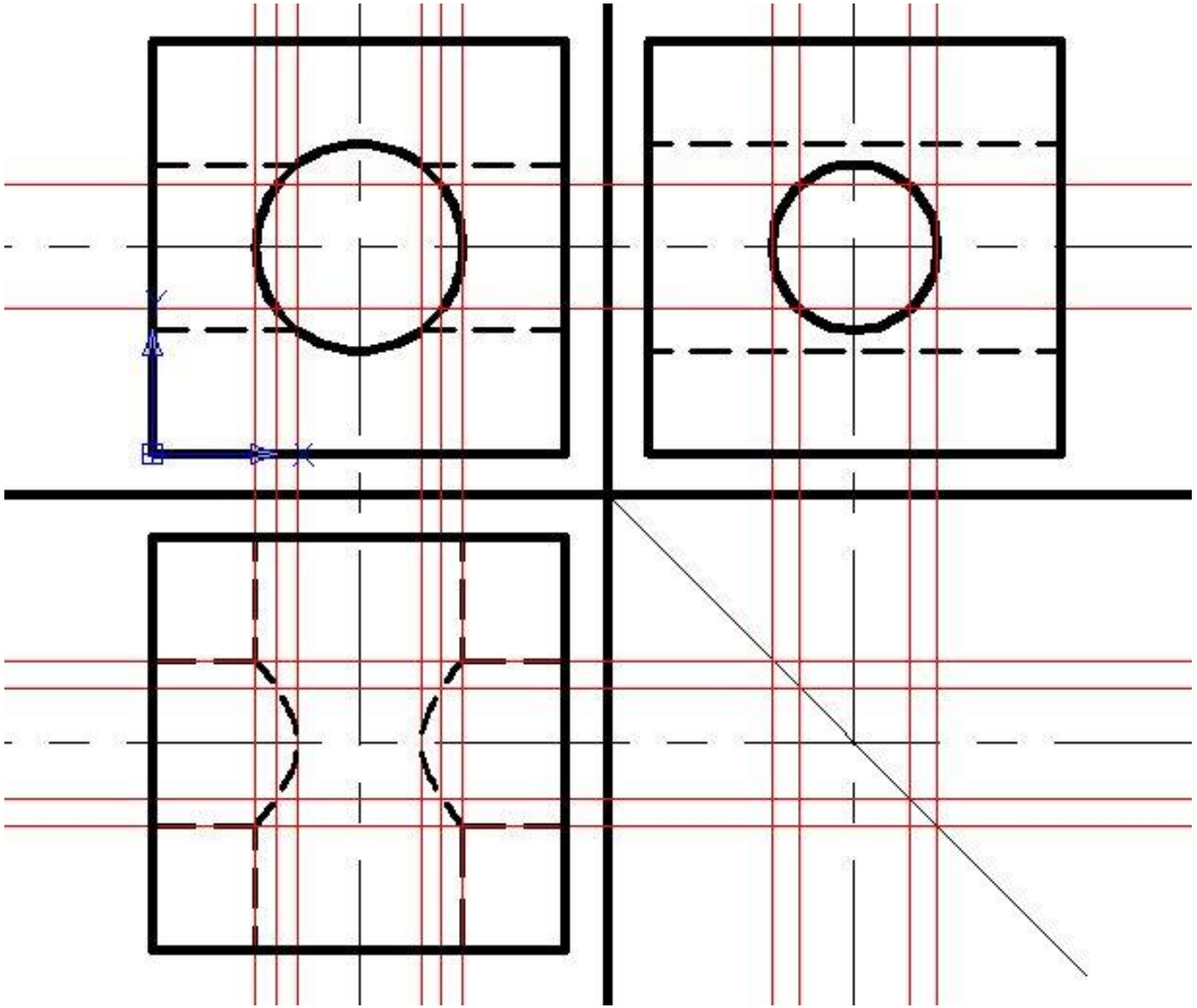
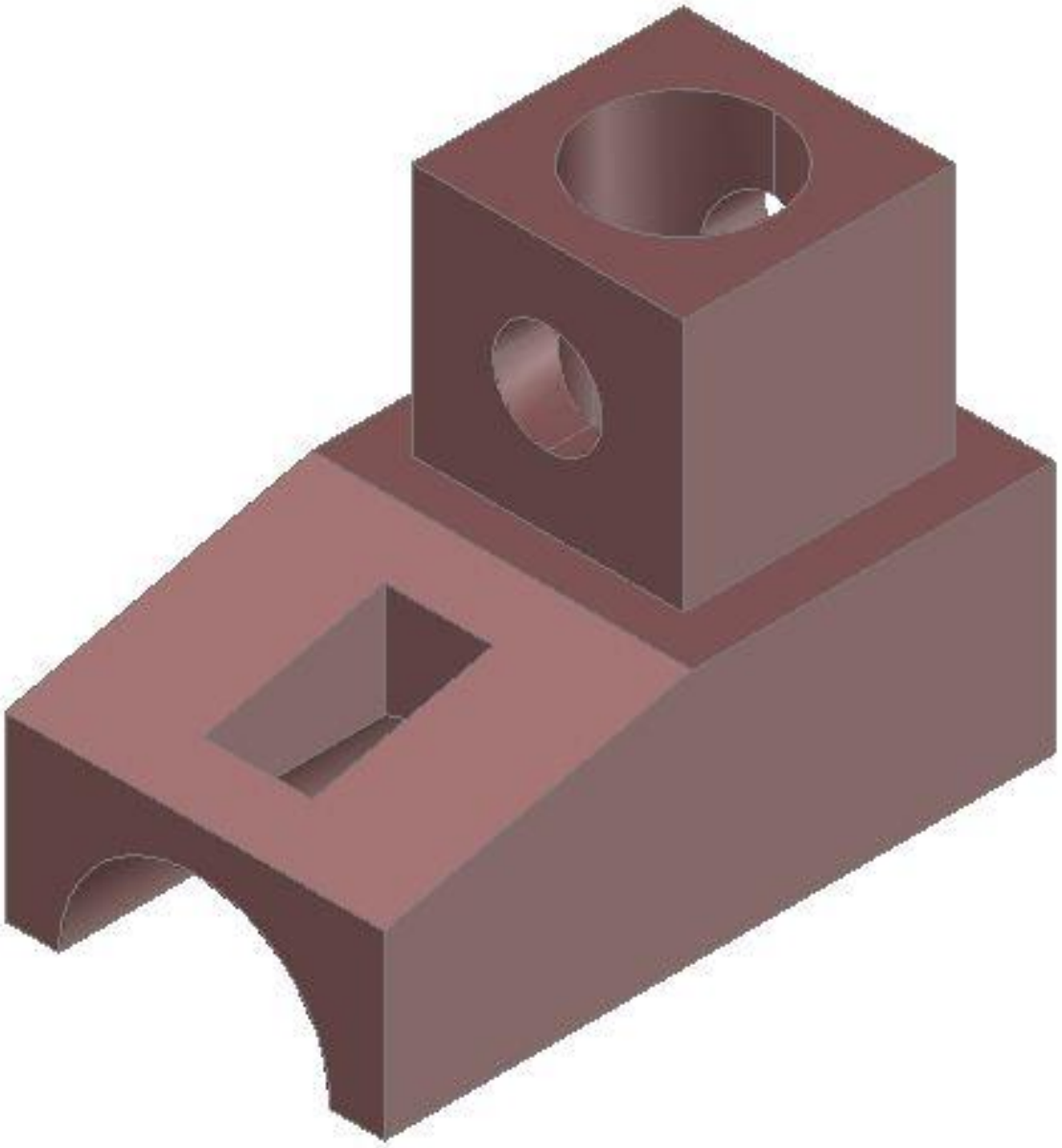
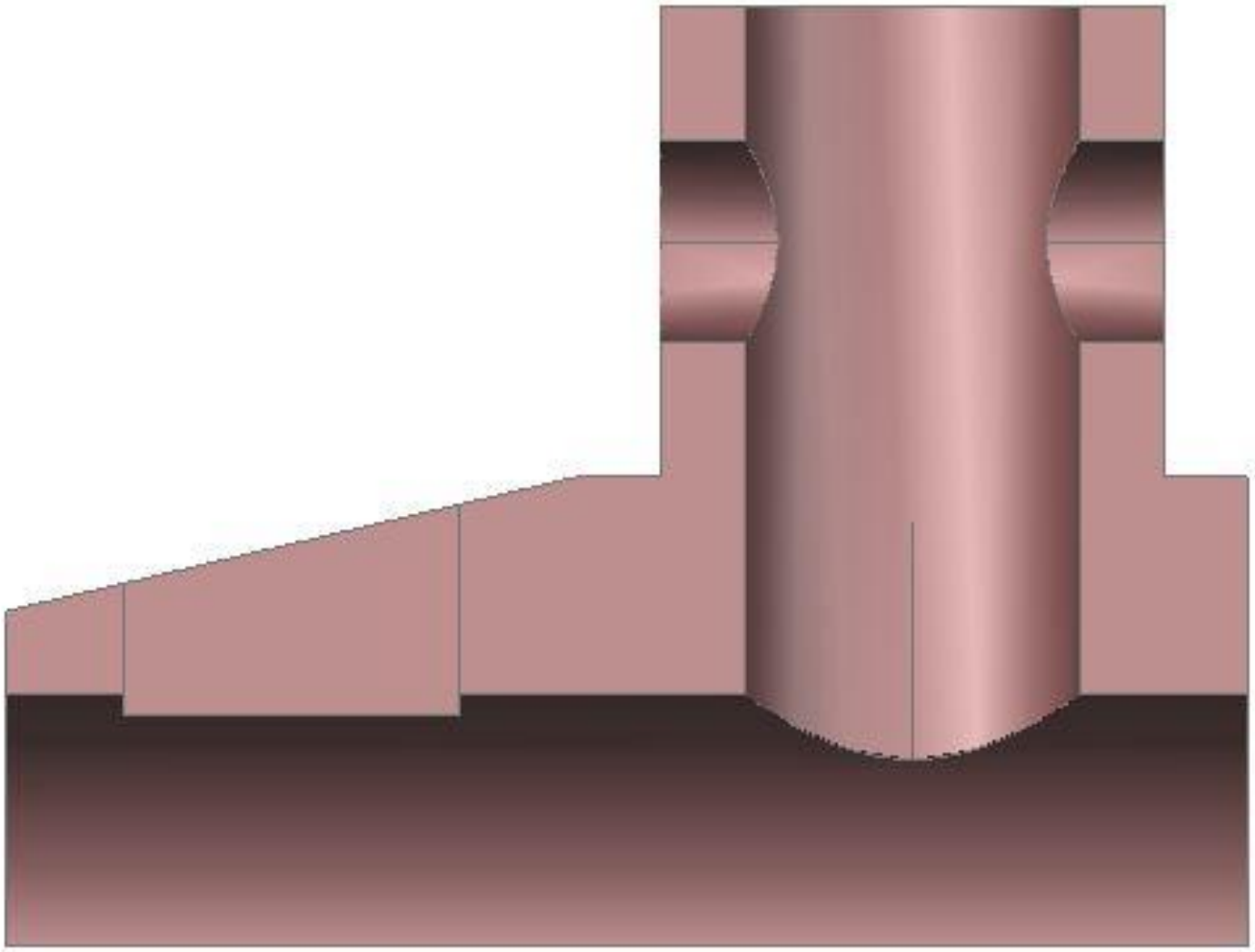


Intersection of objects

Rectangle and Circle







circle and Circle