

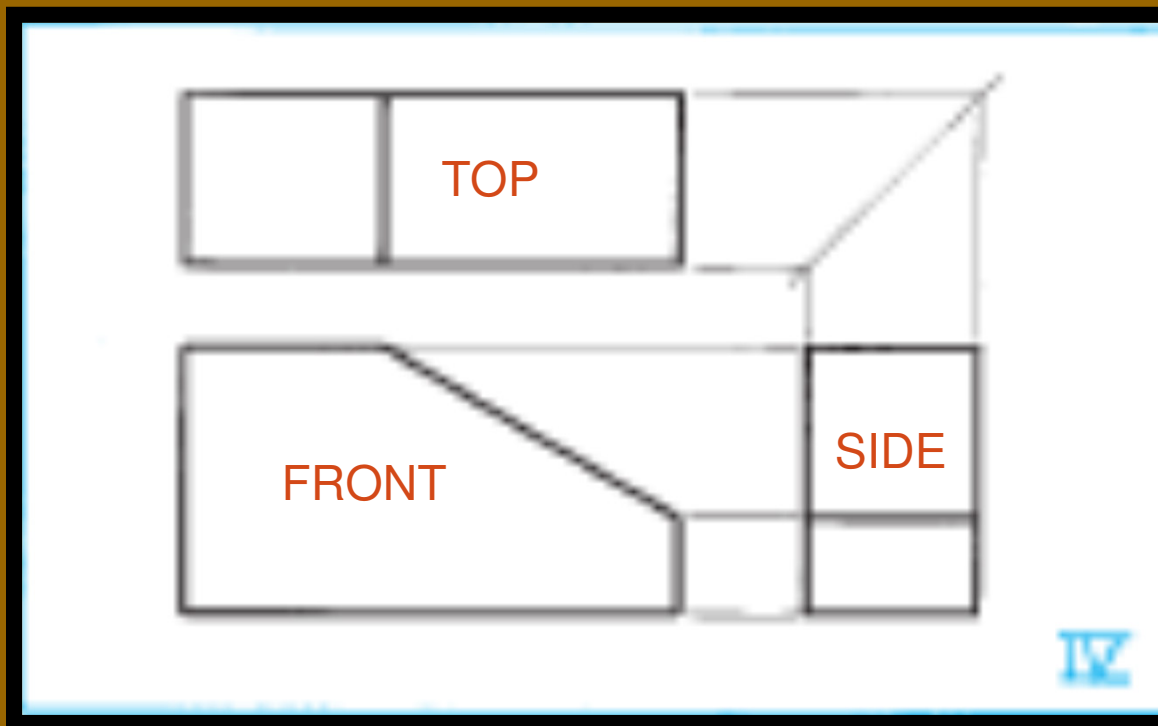


# MULTI-VIEW DRAWING (PART 2)

The way Drafters look at the world.

# PROJECTING LINES

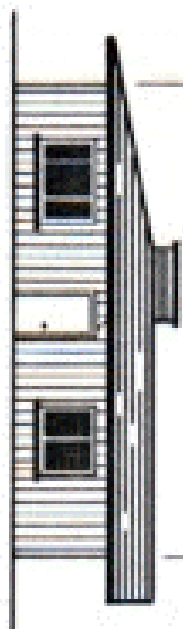
To draw several views of an object, make measurements of certain points, lines and surfaces in one view and the project it to the others.



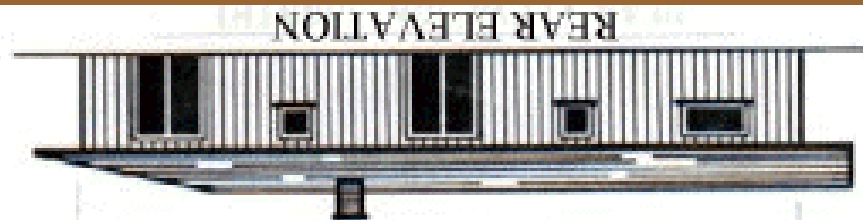
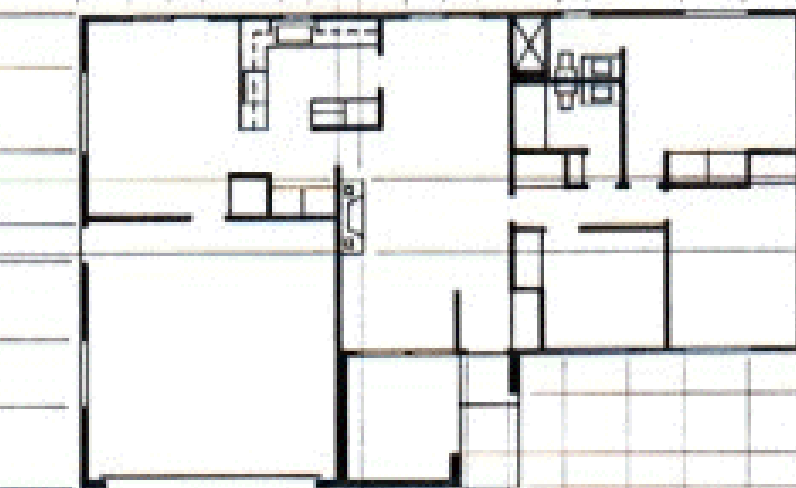
Projecting & transferring lines from one view to the next provides greater accuracy in the alignment of views & is faster than measuring each view separately.



**LEFT ELEVATION**

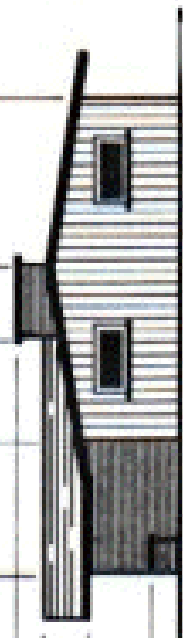


**FRONT ELEVATION**



**REAR ELEVATION**

**RIGHT ELEVATION**



# PROJECTING LINES

The “Miter Method” is a way in which a 45 degree miter line is drawn to project points, lines, and surface measurements from one view to the next.

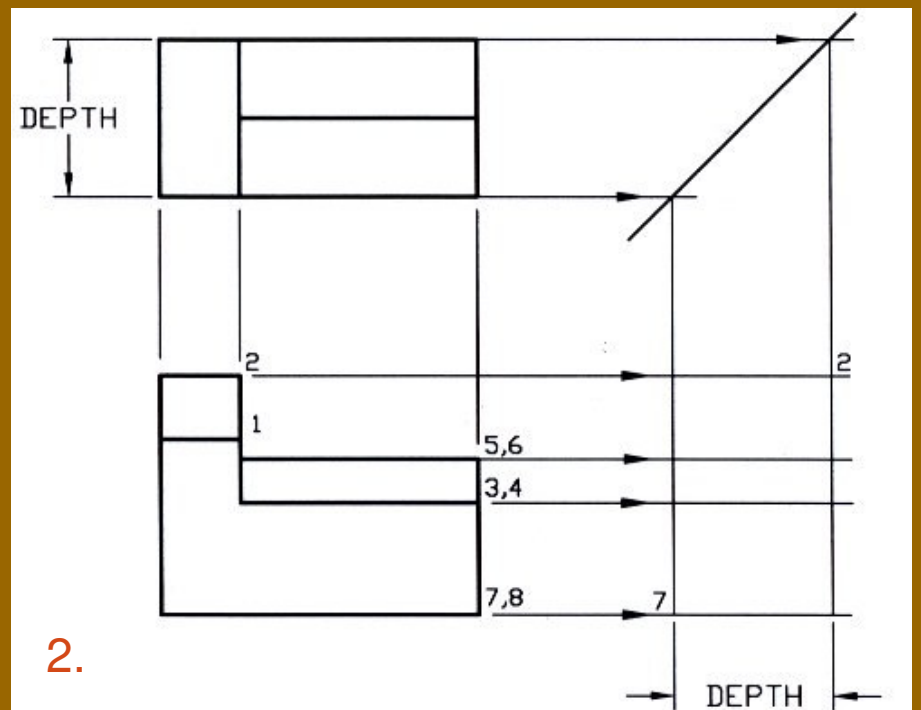
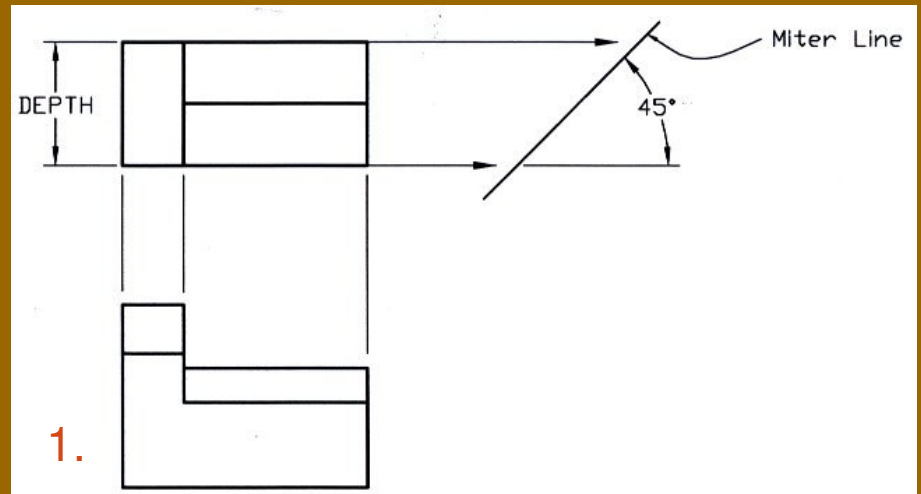


# PROJECTING LINES

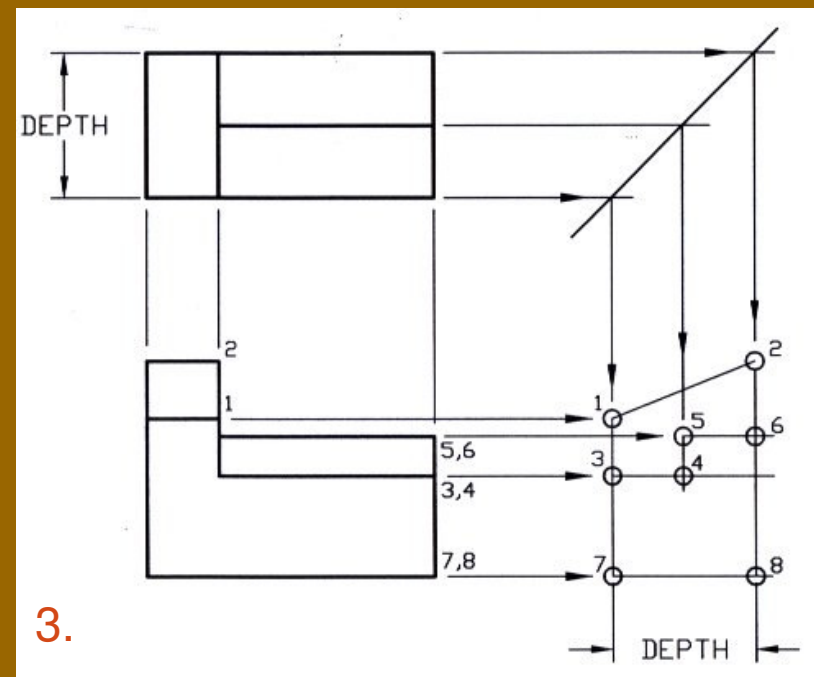
The “Miter Method” is a way in which a 45 degree miter line is drawn to project points, lines, & surface measurements from one view to the next.

1. Locate the Miter line a convenient distance away from the object to produce the desired spacing between views.

2. Sketch light lines projecting depth locations to the Miter line and down into the right view as shown.

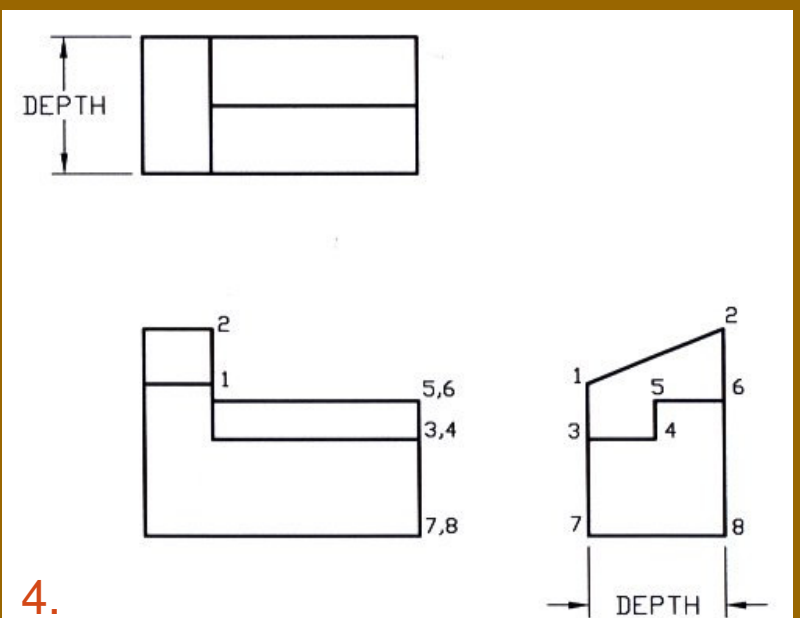


3. Project the remaining points.



3.

4. Complete the view connecting the vertex of the intersecting lines.

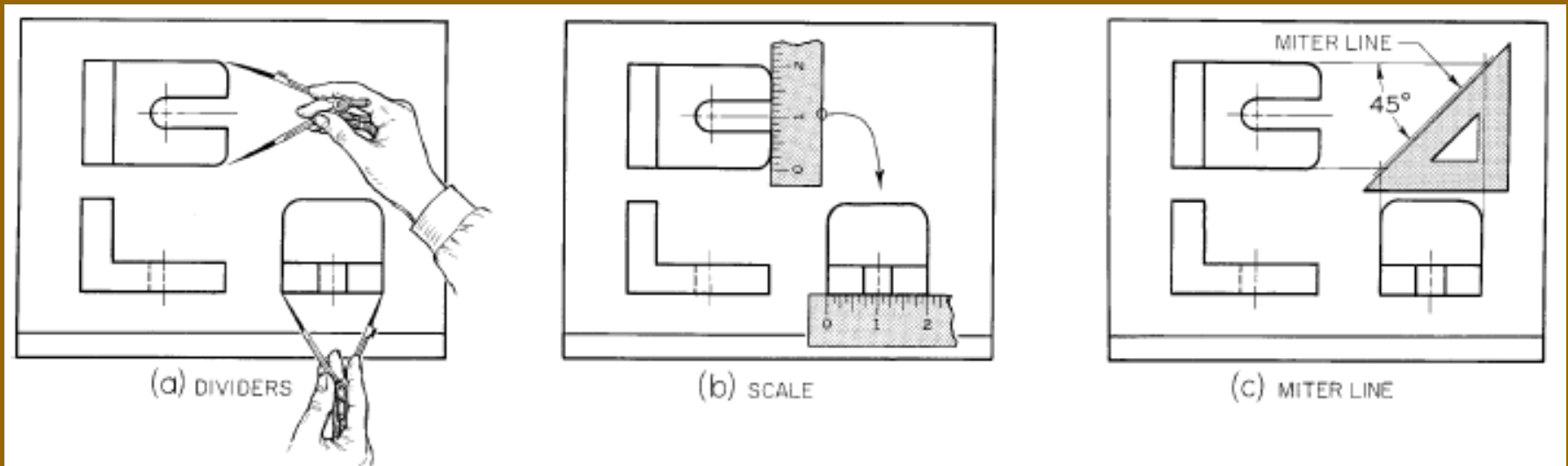


4.

# PROJECTING LINES

To project lines and dimensions from other views you can also use your dividers or scale.

## THE 3 WAYS TO PROJECT LINES



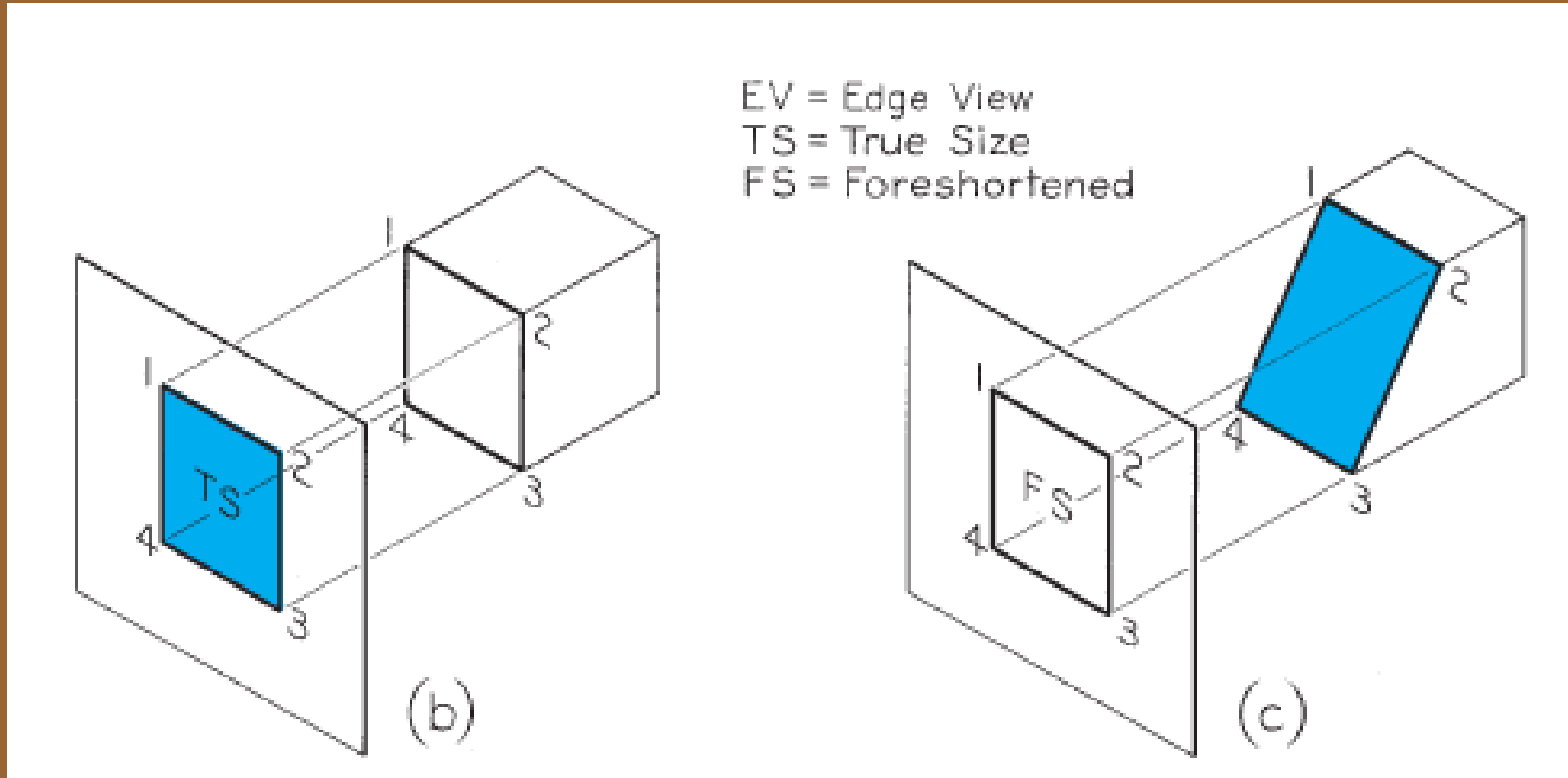
DIVIDERS

SCALE

MITER METHOD

# PROJECTING OF SURFACES

Look at the figure below and note how a vertical surface and an inclined surface looks when projected orthographically.



Do you see how they look the same when projected, but in reality they are different types of surfaces? One is the (TS) True Size and one is (FS) Foreshortened



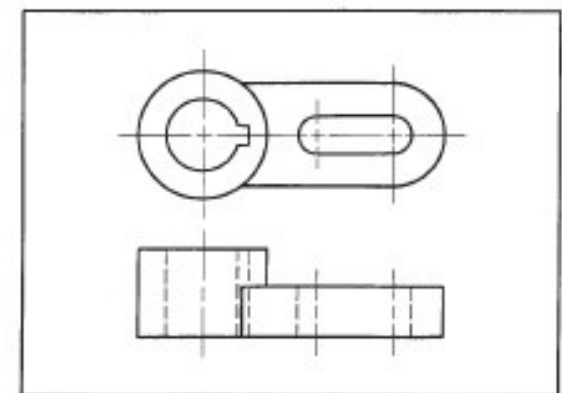
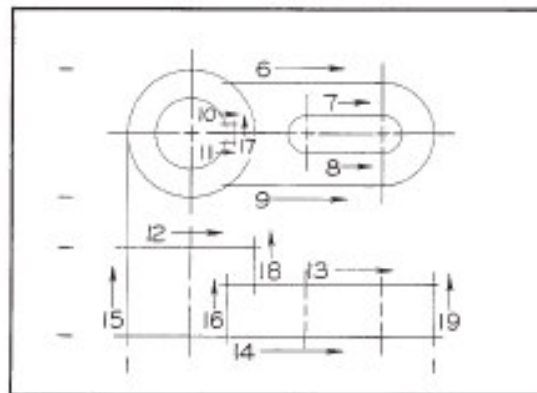
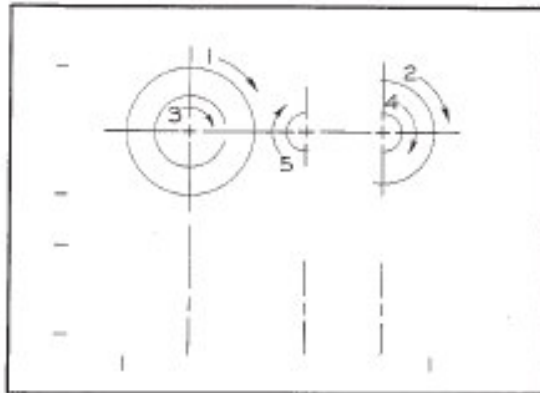
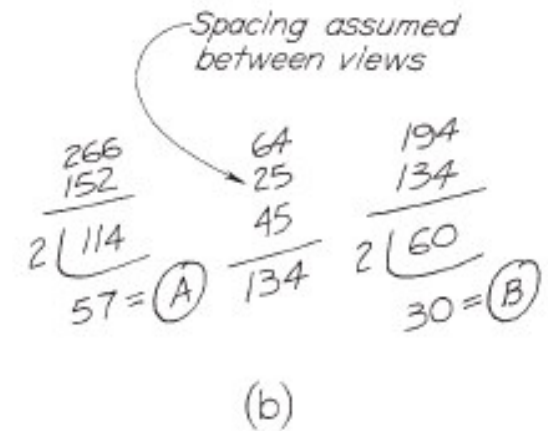
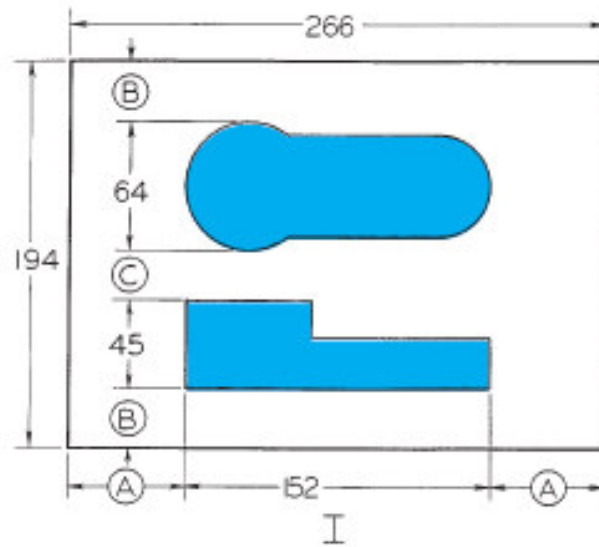
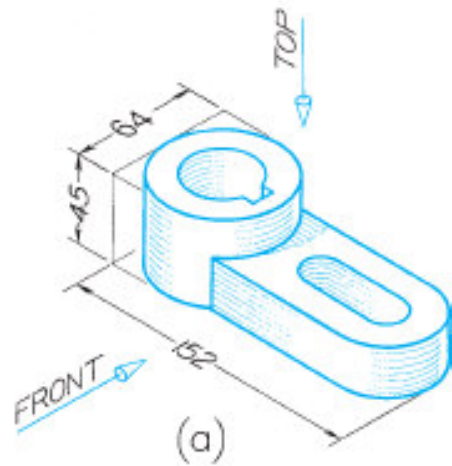
# SPACE ALLOTMENT FOR MULTI-VIEW DRAWINGS

**A crowded drawing detracts from the appearance, and makes the drawing hard to read and understand.**




Just like in a crowd of people, it is hard to find your friend because it is crowded. In a crowded drafting drawing, it will be hard to find and see the information you are looking for.

# SPACE ALLOTMENT FOR MULTI-VIEW DRAWINGS



Your drawing needs to be set up so there is ample space between the views of the drawings and room for notes and dimensions.

# SPACE ALLOTMENT FOR MULTI-VIEW DRAWINGS

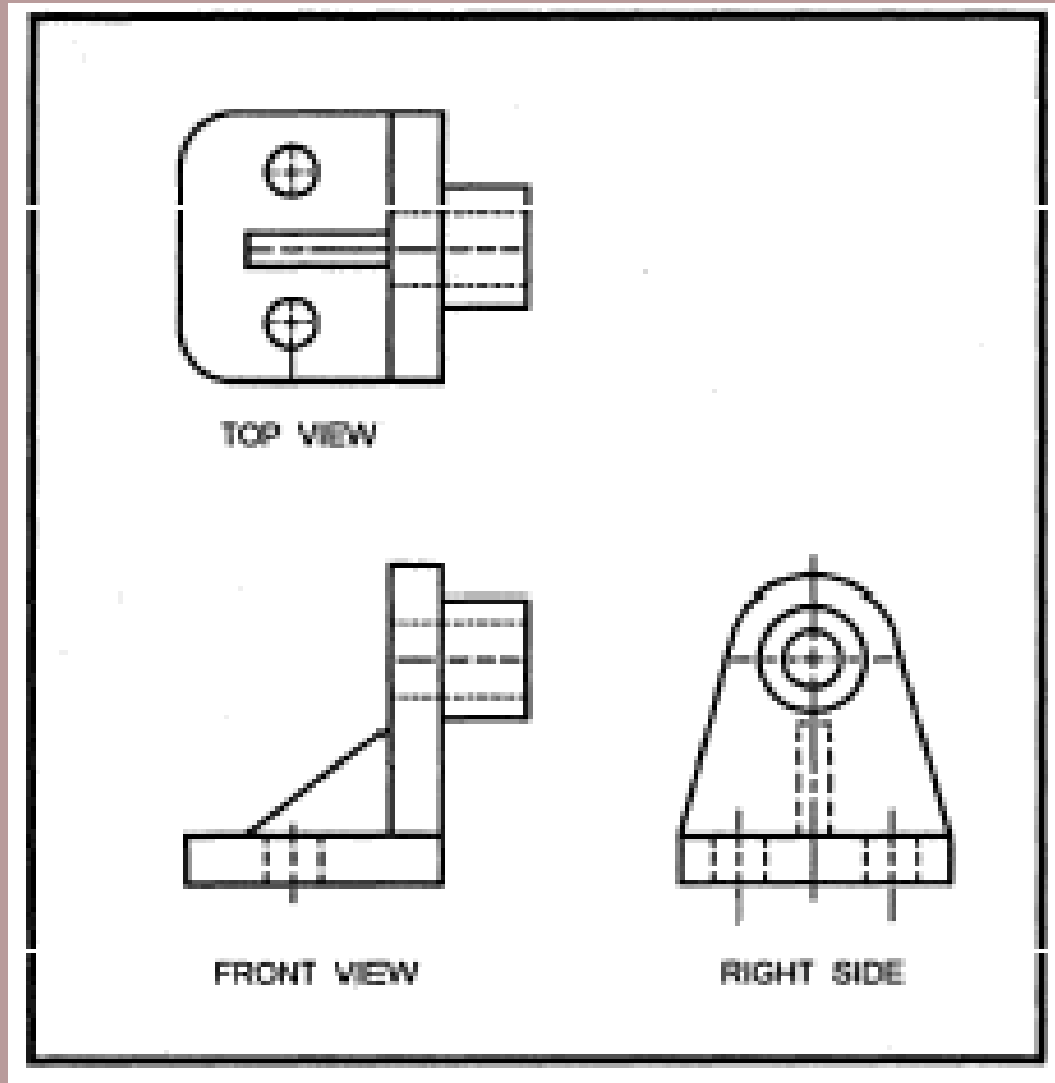


**Before drafting,  
your drawing  
1<sup>st</sup> BLOCK  
OUT your  
drawing.**

Look at your handout for reference.

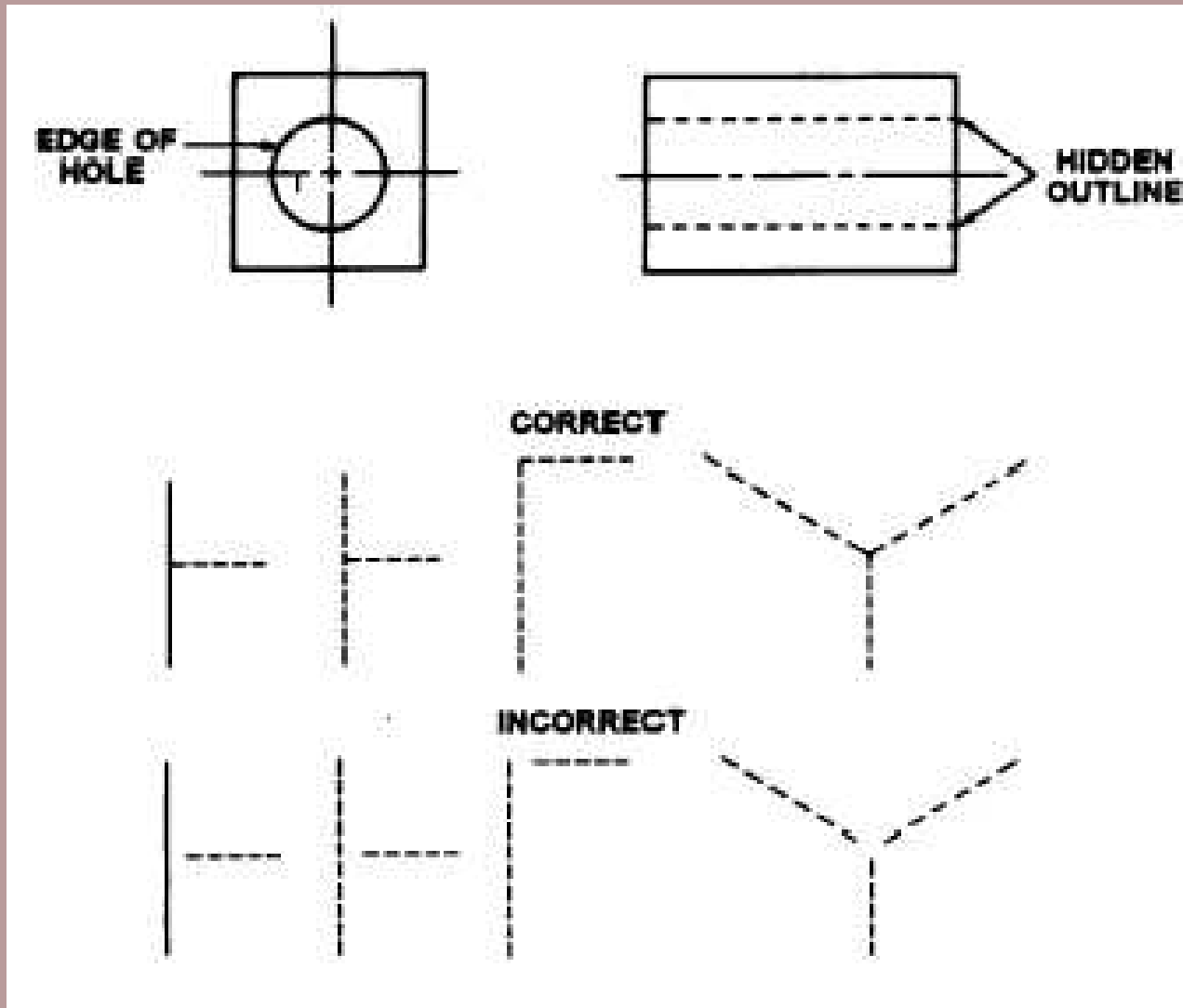
# PROJECTION OF HIDDEN LINES

**Surfaces and intersections that are hidden behind a portion of the object in a particular view are usually represented with “hidden” lines.**



# PROJECTION OF HIDDEN LINES

## Proper ways of drafting Hidden Lines



# PRECEDENCE OF LINES



**What lines are more important than others and will get into the Drafting Drawing Party before the rest?**

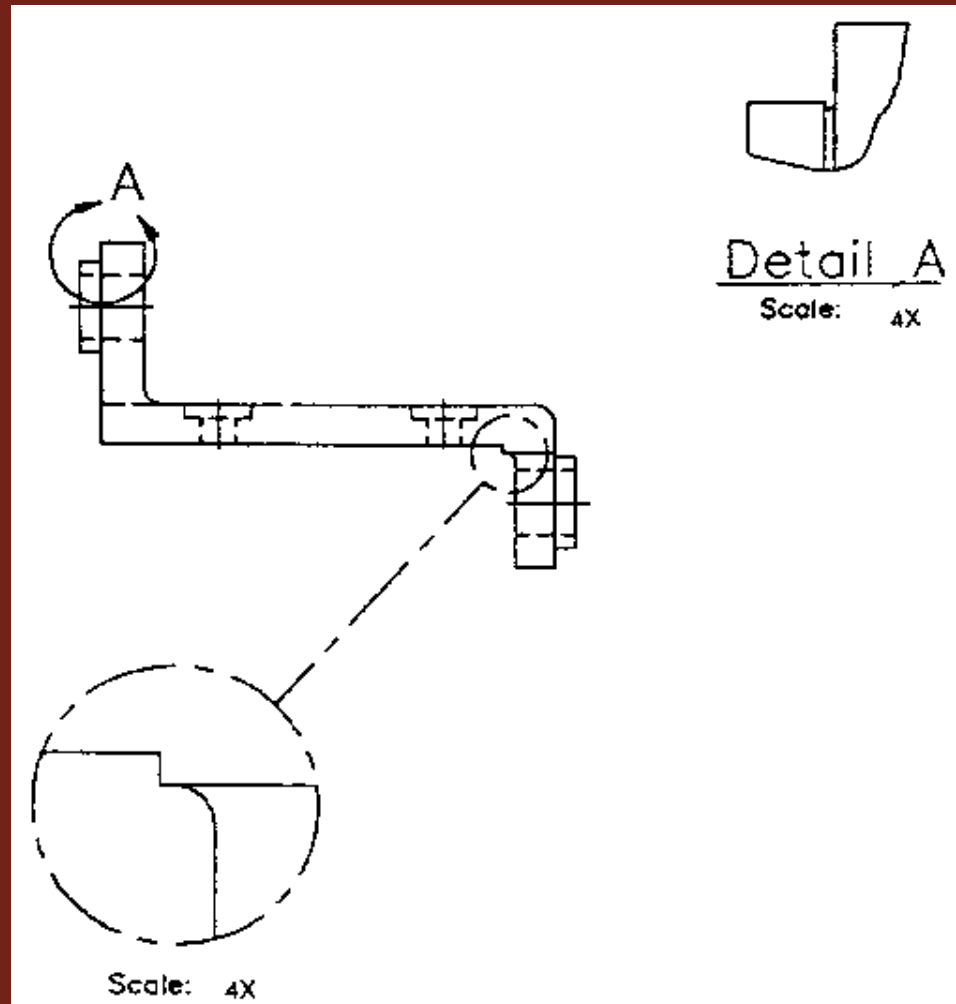
# **PRECEDENCE OF LINES**

Sometimes certain lines will coincide in the projection of views in multi-view drawings. If this should occur, visible lines take precedence over all others. The following is a priority of line occurrence.

- 1. Visible Lines**
- 2. Hidden Lines**
- 3. Cutting-Plane Lines**
- 4. Center Lines**
- 5. Break Lines**
- 6. Dimension and Extension Lines**
- 7. Section Lines (Crosshatching)**

# DETAILS

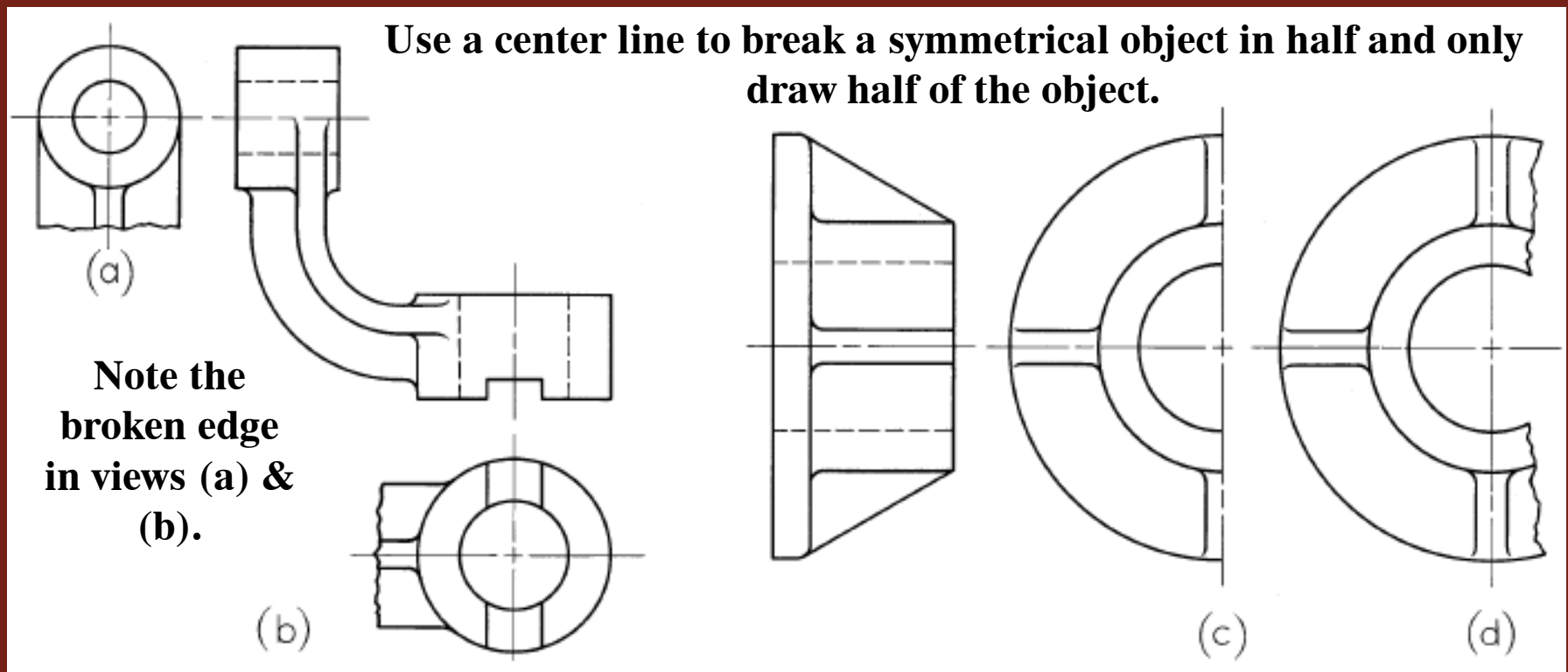
Sometimes it is desirable to show a complete or partial enlarged view – a **DETAIL**- of an object to clarify the information of that part.





# PARTIAL VIEWS

Sometimes you may not need to show a complete view of an object, but only what is necessary for a clear description of the object. This would be called a “PARTIAL VIEW”.



**Why is this helpful to know?**

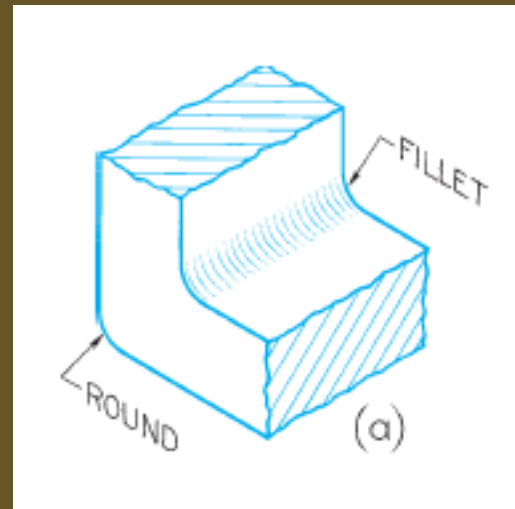
# CONVENTIONAL DRAFTING PRACTICES

A number of conventional drafting practices are used in American Drafting Industry to Reduce Costs, Speed Up The Drafting Process and Clarify Drawings.

## Fillets and Rounds:

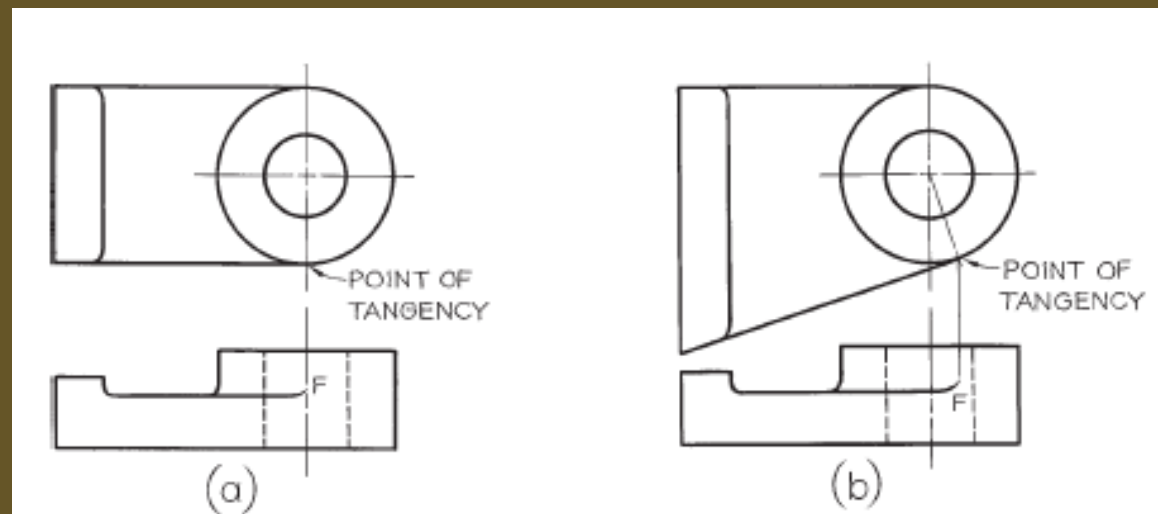
When making metal castings it is necessary to avoid sharp corners.

Internal corners are known as “Fillets” and external corners are known as “Rounds”.



## Runouts:

An intersection of a fillet or round with another surface.

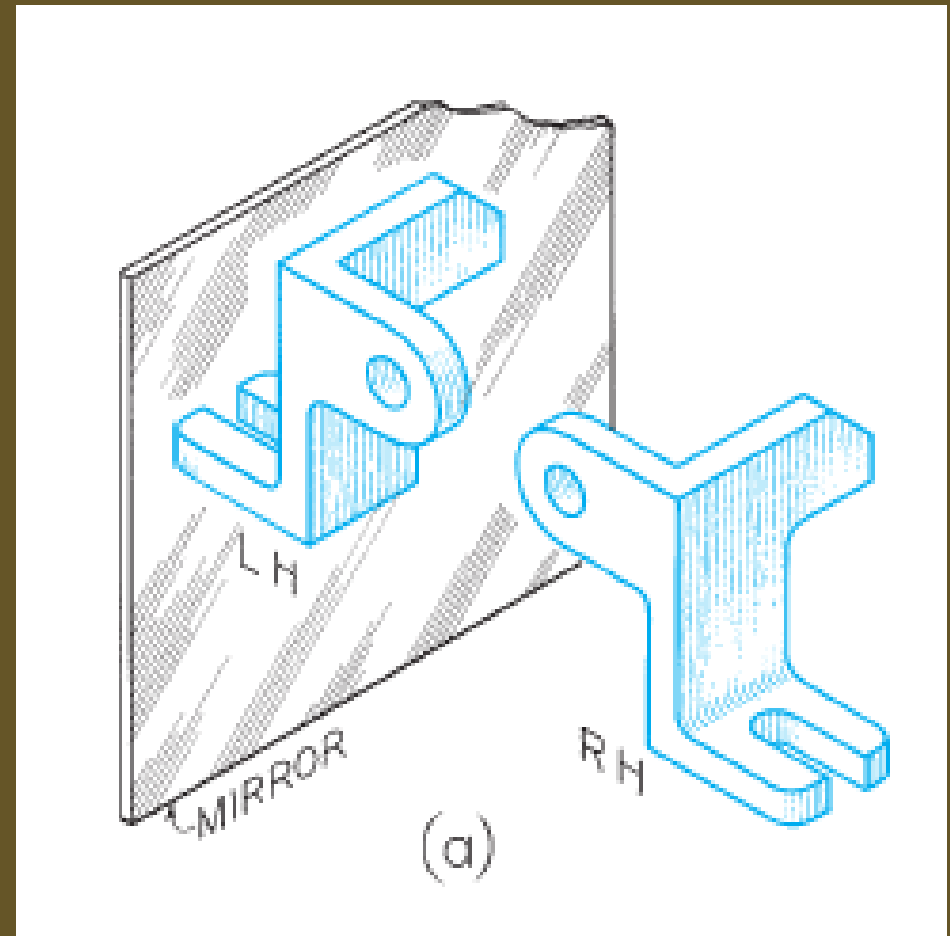


# CONVENTIONAL DRAFTING PRACTICES

## Right and Left Hand Parts:

When possible industry will make opposite parts identical to reduce the number of parts required to be manufactured.

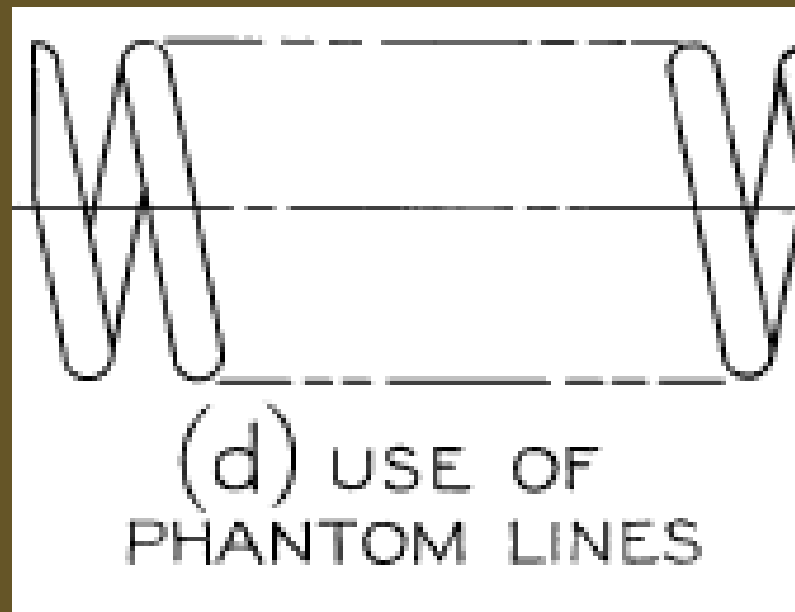
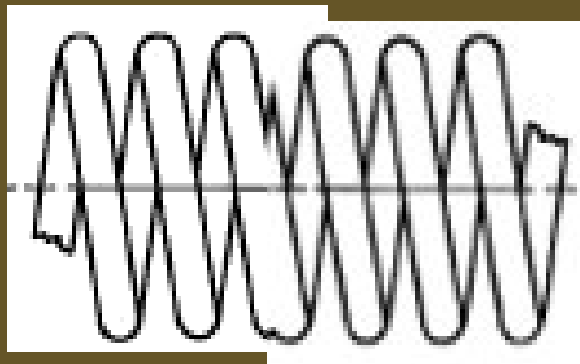
When opposite parts are not interchangeable, the typical practice is to draw one part and note, “RH PART SHOWN, LH PART OPPOSITE”.



# CONVENTIONAL DRAFTING PRACTICES

## Repeated Detail:

Drawing of coil springs, radial flutes, and other repeated details would require considerable drafting if drawn in full views. Therefore, phantom lines can be used to represent the remainder of the object.



1<sup>st</sup> & 3<sup>rd</sup>

Angle

Projection

Orthographic drawings are referred to as “first-angle” or “third-angle” projections depending on how the planes of projections are viewed.

In the U.S. 3<sup>rd</sup> angle projection is used.

