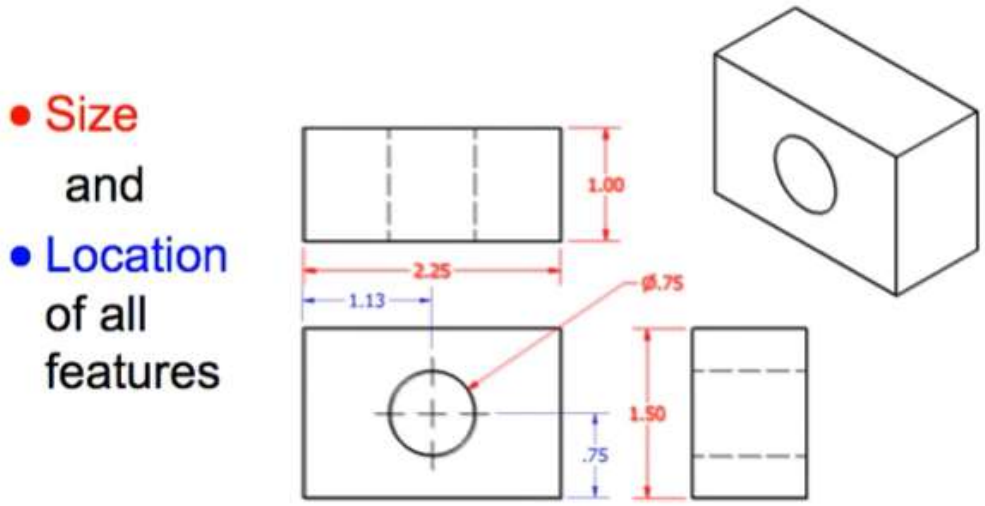
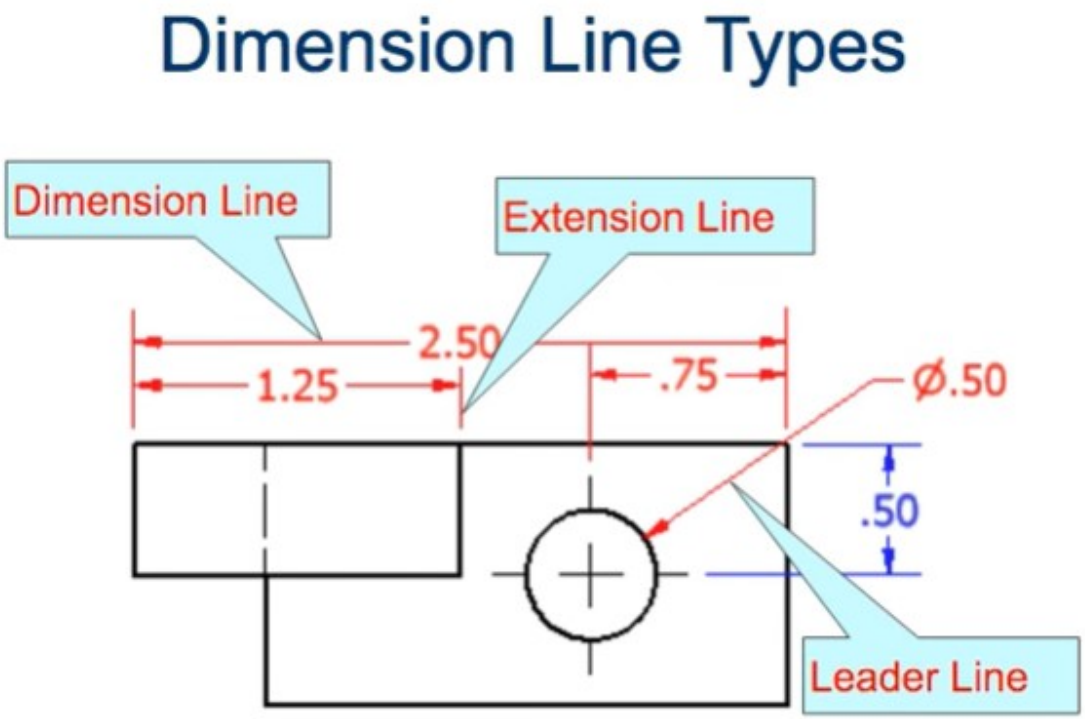
LECTURE 6: Dimensioning: Adding Dimensions on Orthographic Drawing

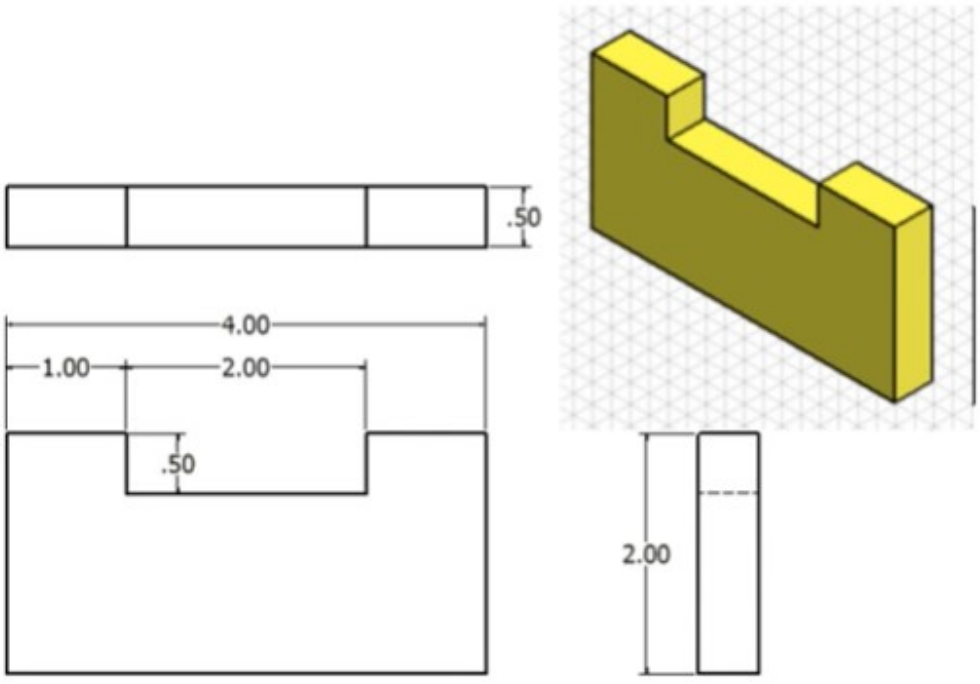
Why we add dimensions ?

It is very important for the designers, engineers and engineering technologists to know the size and the location of all features of a given part.

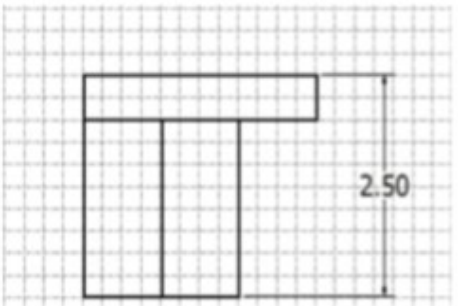




Example of placing dimensions:

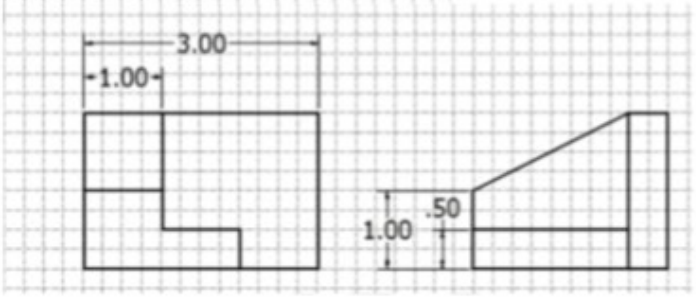


Where are the Missing Dimensions?



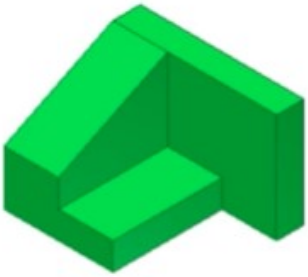


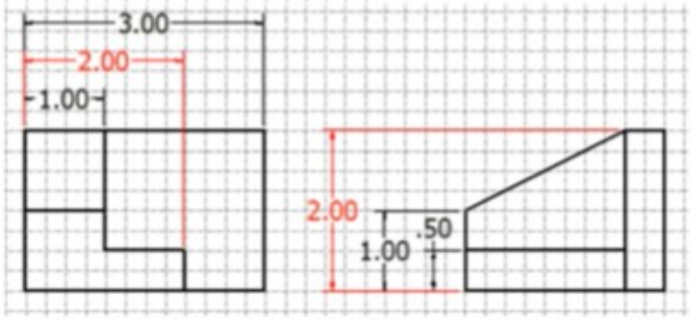
¼ in. scale or 4 squares = 1 in.



Here They Are

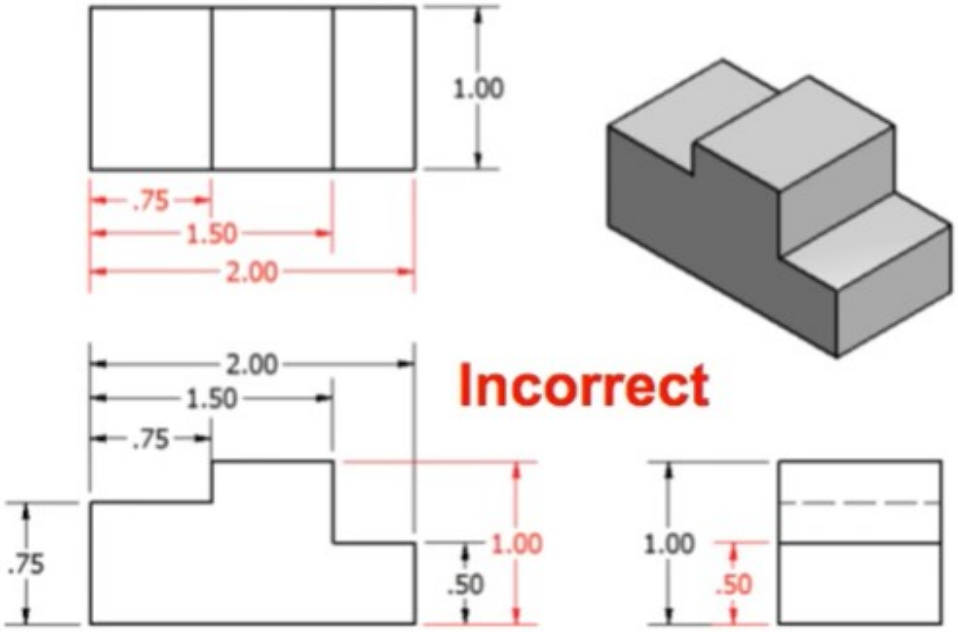


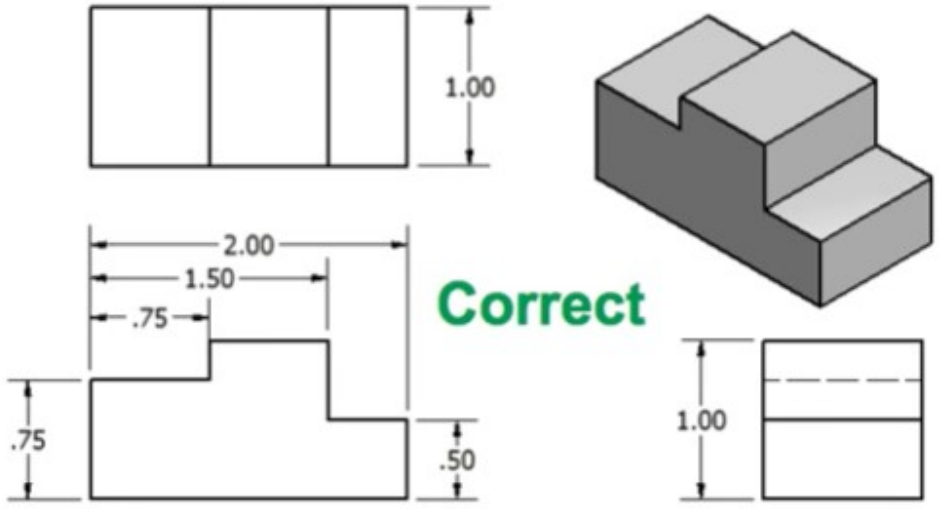




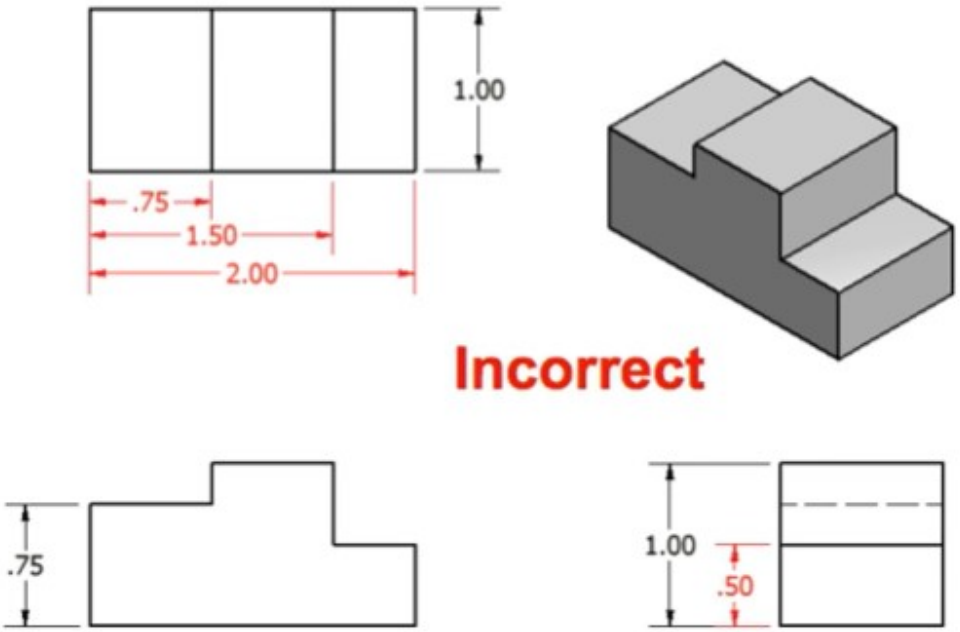
Dimensioning Guidelines:

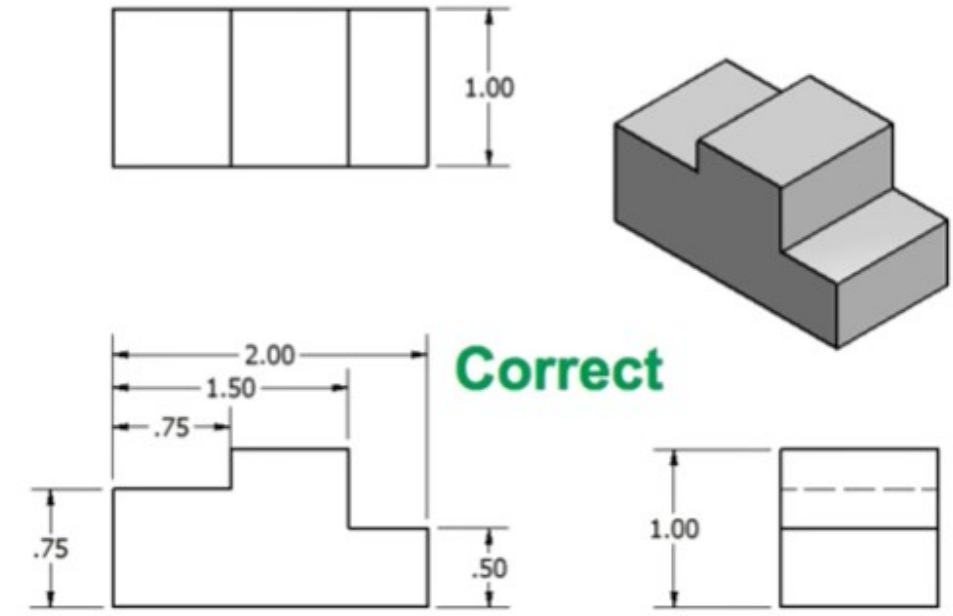
1- Dimensions should not be duplicated. Also, the same information should not be shown in two different ways.



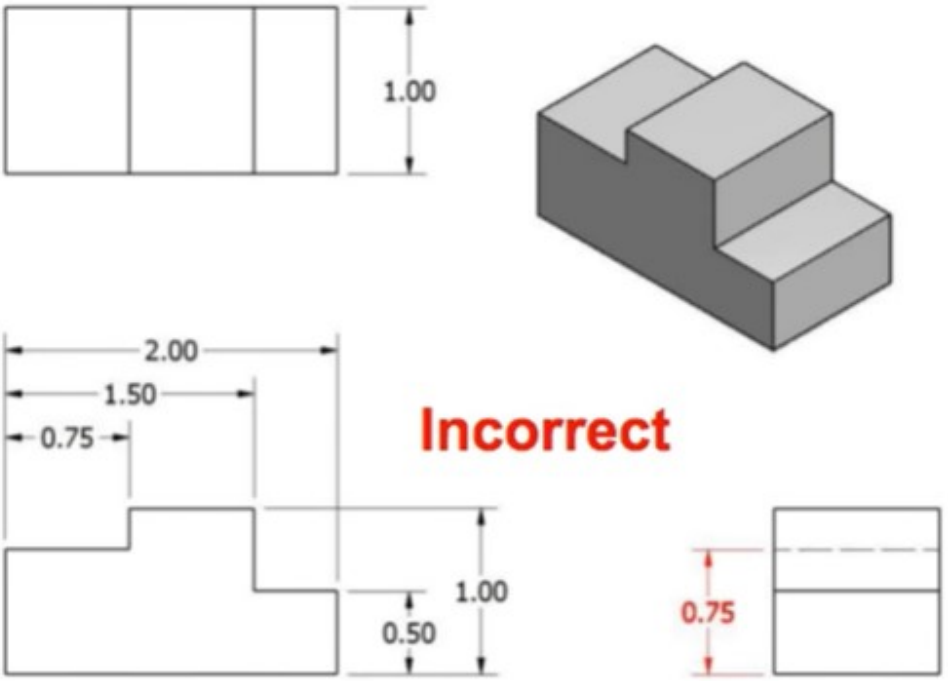


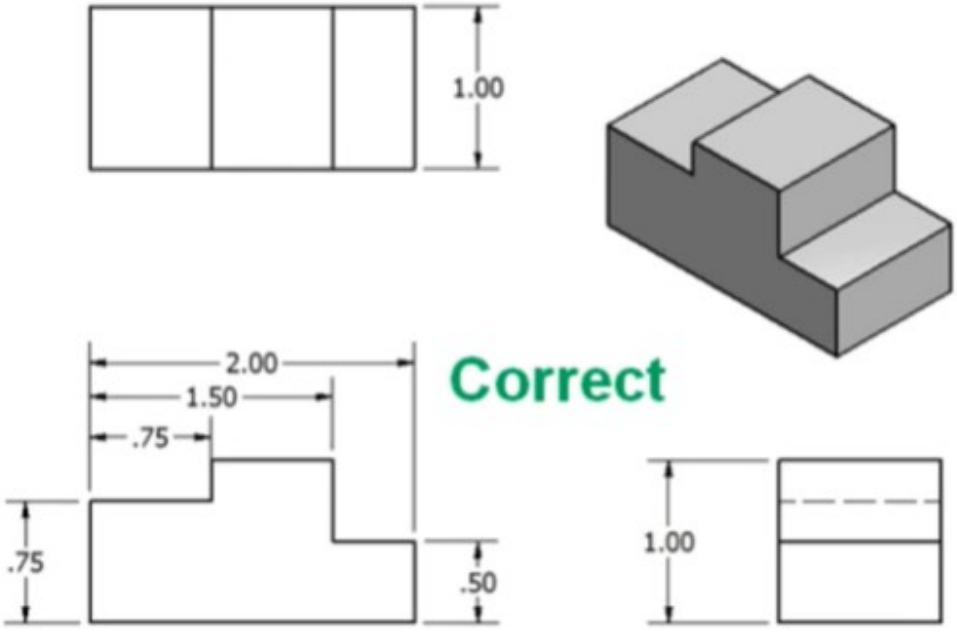
2- Dimensions should be placed on the view that best shows the contour of the feature to be dimensioned.





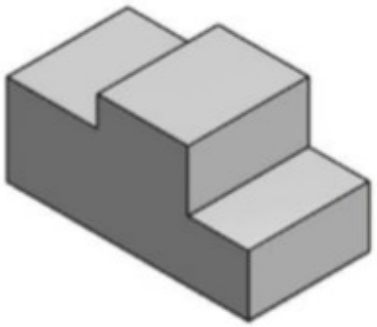
3- Whenever possible, avoid dimensioning to Hidden lines.



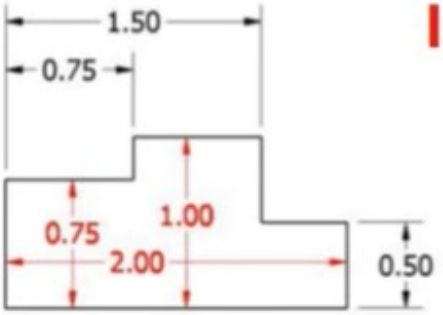


4- Avoid dimensioning over or through the object.



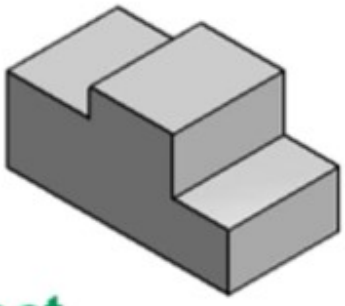


Incorrect

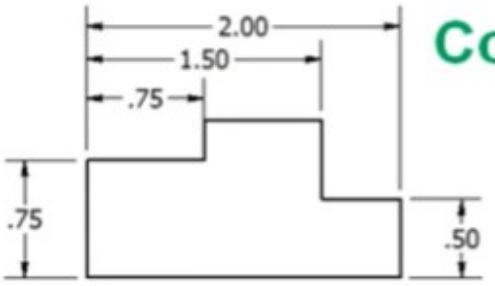


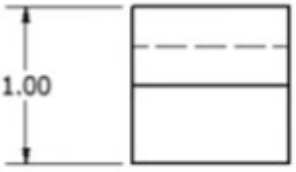




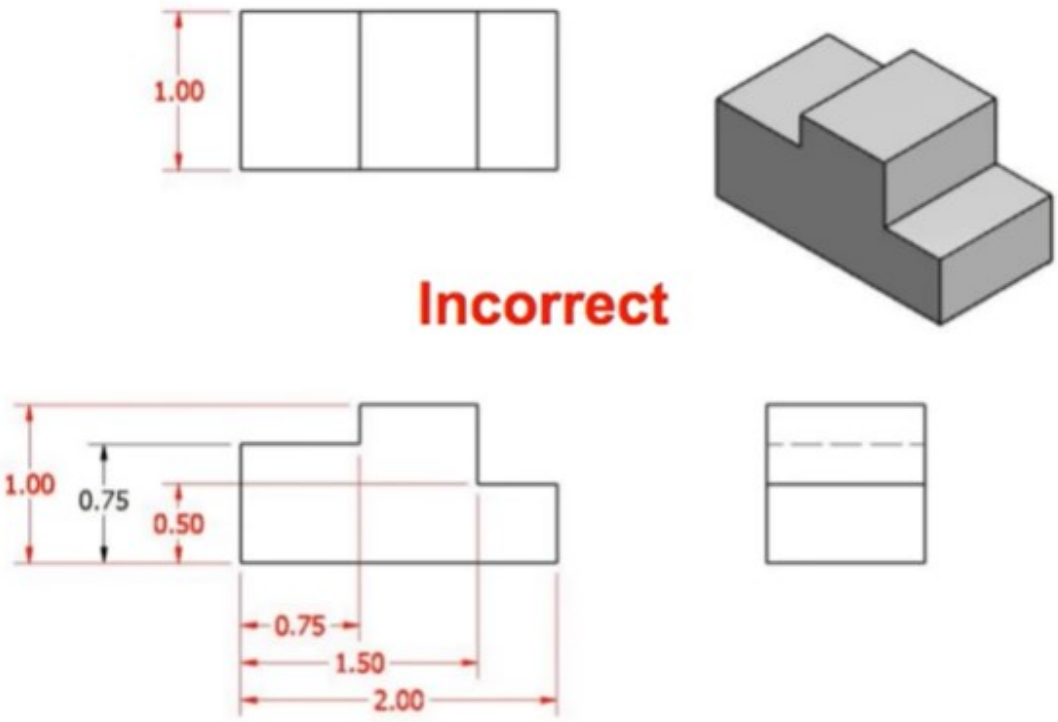


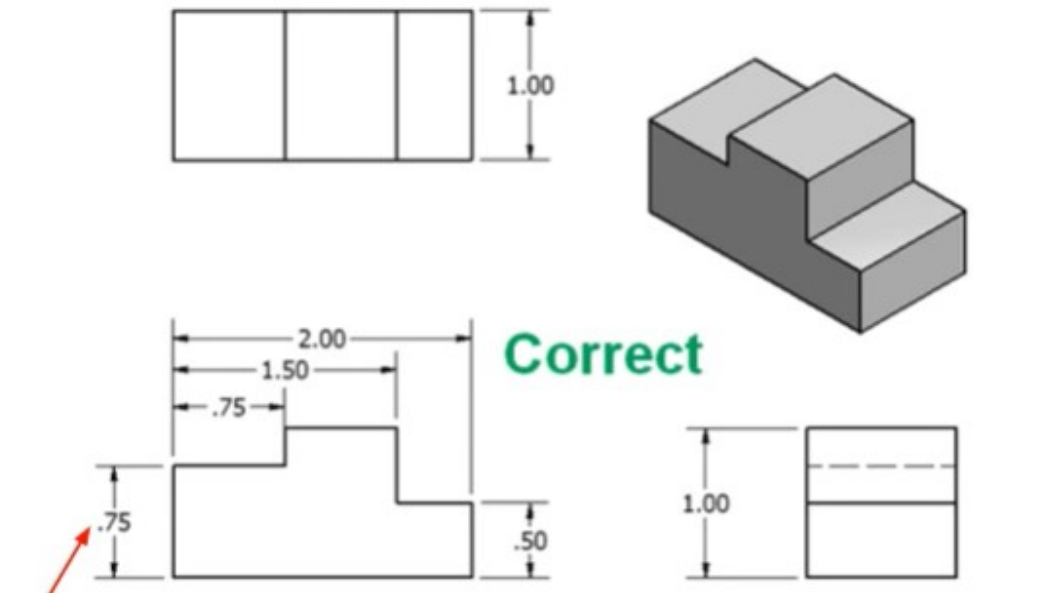
Correct





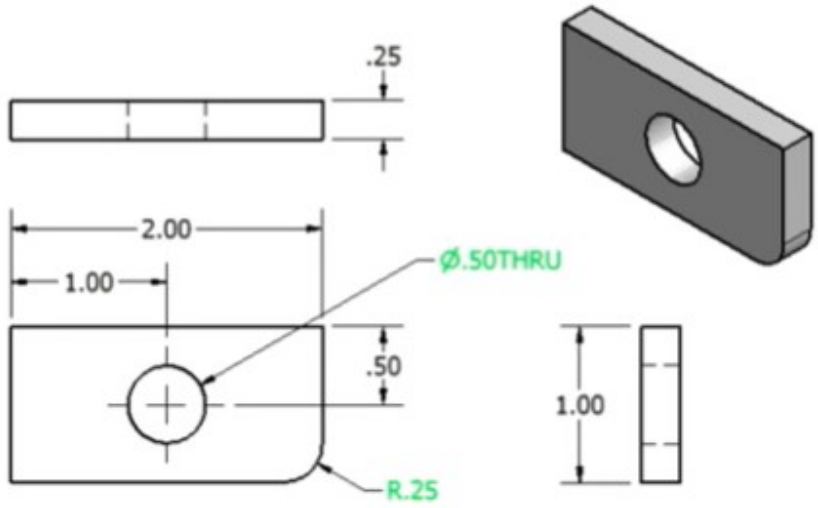
5- Whenever possible, locate dimensions between adjacent views.



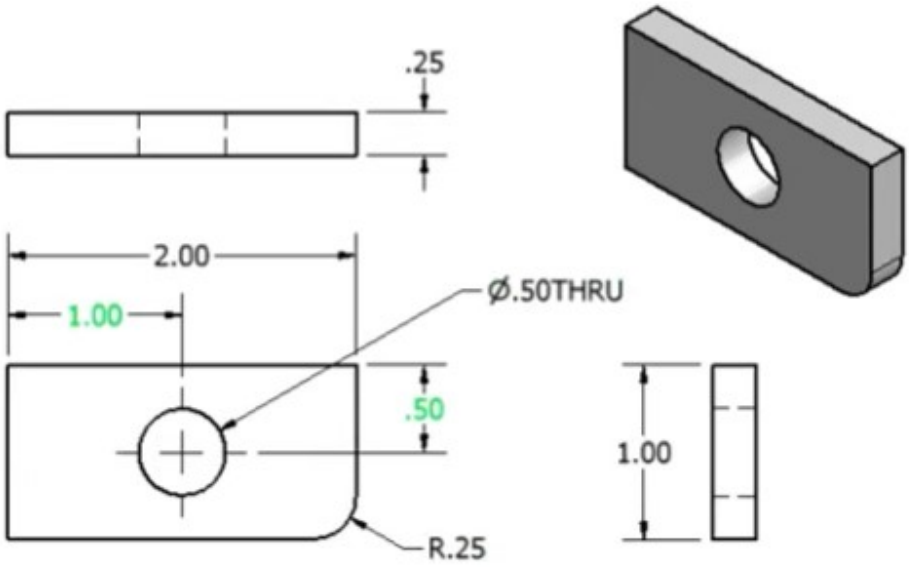


Notice this dimension is not between the views, but this is a better placement than dimensioning to the hidden line in the right side view.

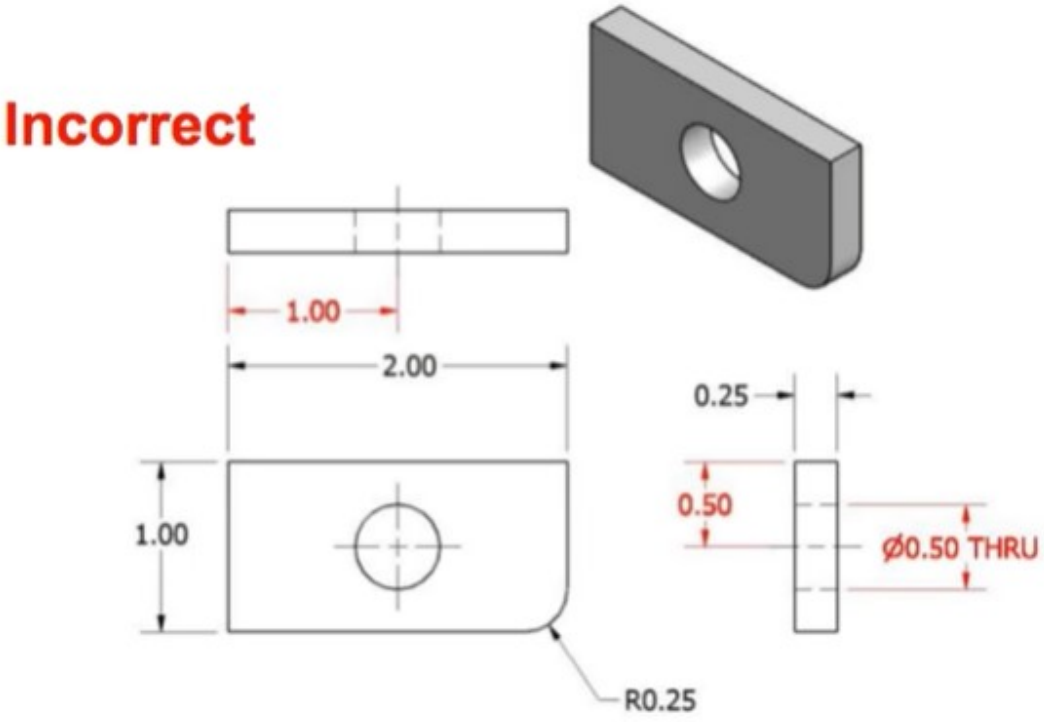
6- Usually, a circle is dimensioned by its diameter while an arc by its radius.

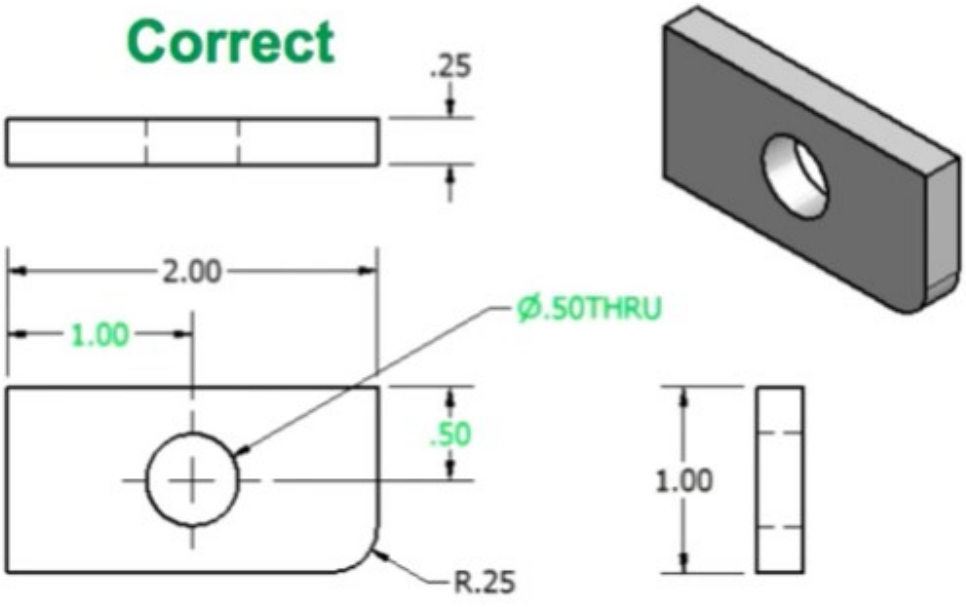


7- Holes are located by their centerlines, which may be extended and used as extension lines.



8- Holes should be located and sized in the view that shows the feature as a circle.



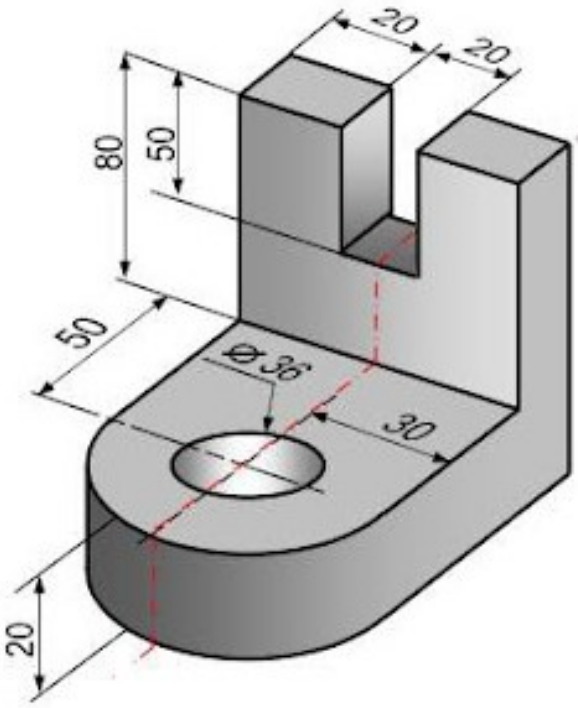


C.W.

Using 3rd Angle Projection, draw the following views for the part shown in below (show dimensions on drawing) :

1- Top View
2- Front View
3- Side View

Dimensions are shown in mm.



H.W.

Using 1st Angle Projection, draw the following views for the part shown in below (dimensions need to be placed on the drawing):

1- Top View
2- Front View
3- Side View

Dimensions are shown in mm.

