ME-160
Mechanical Engineering Drawing

Missing Lines & Missing Views

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Missing Lines & Missing Views

- Visualization skills improve with being challenged to find errors in technical drawings. These errors include:

I. Missing Lines

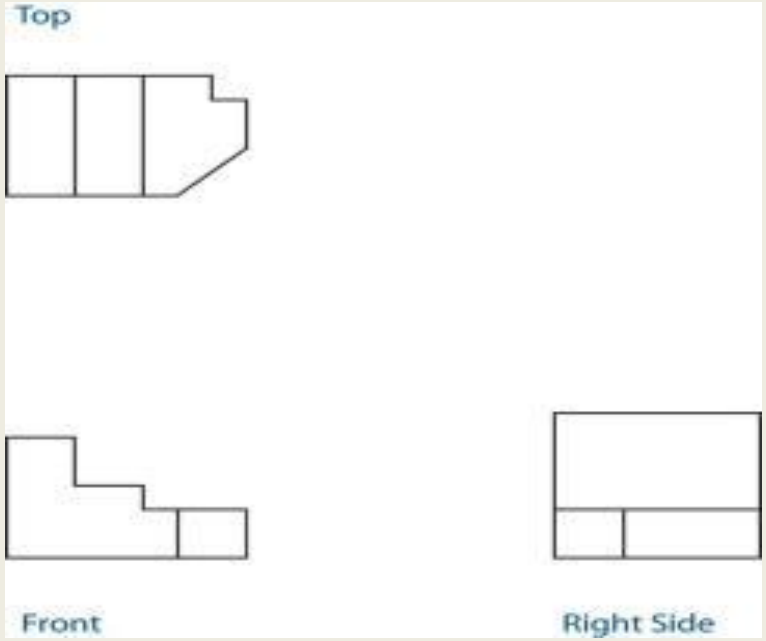
   Visible, Hidden, Centerlines

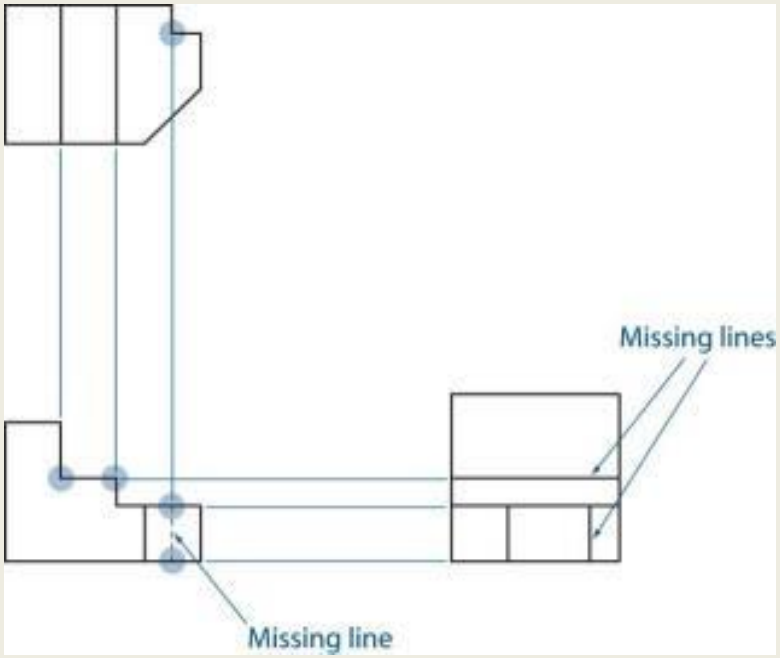
II. Missing Views

   Orthographic and Isometric

Missing Lines

- Missing lines can be visible, hidden, or centerlines.





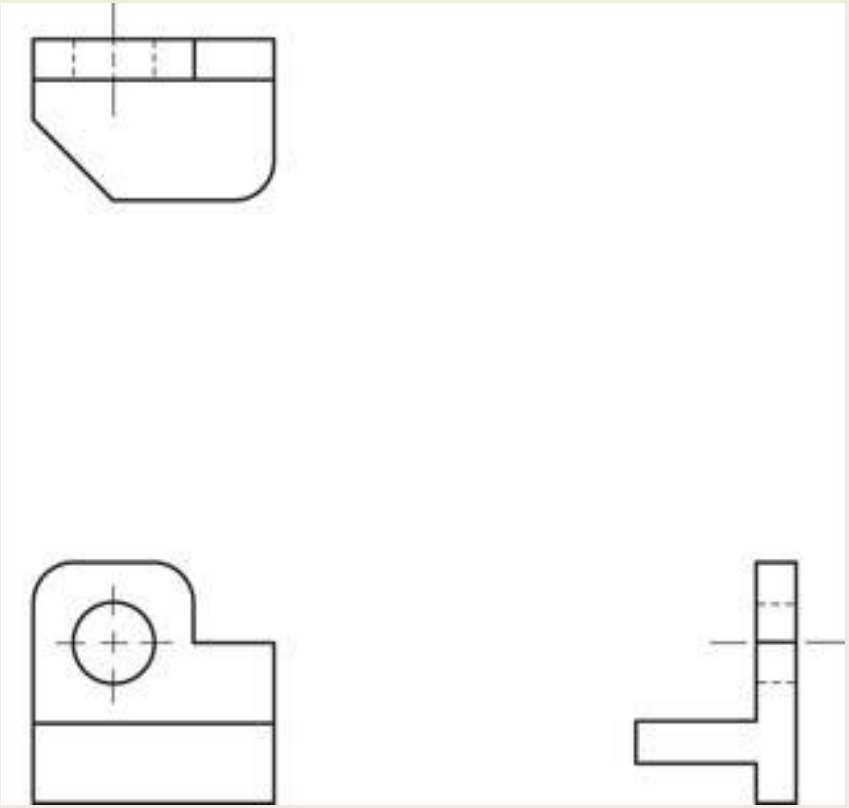
How to find missing lines ?

- Missing Lines are found by lining up views and comparing features (similar to point, edge, surface tracking)

let's see an example !

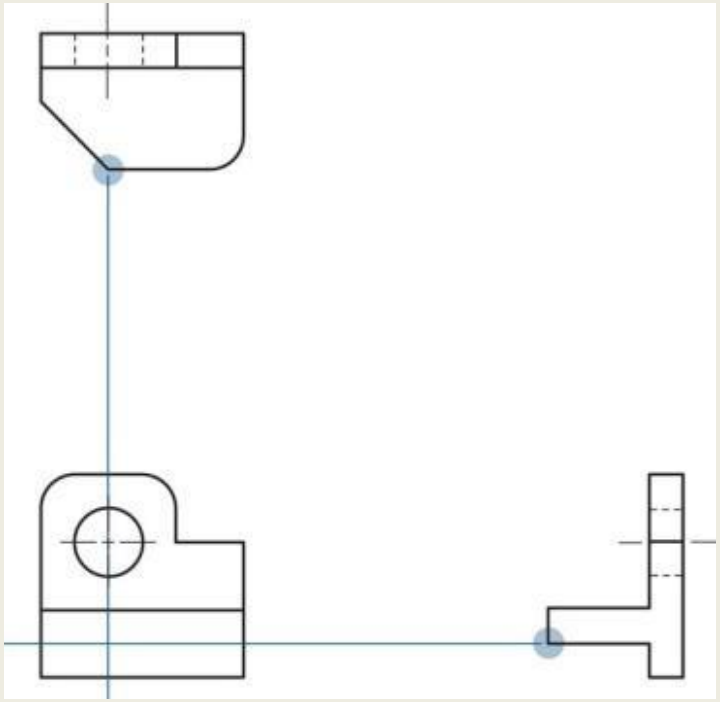
How to find missing lines ?

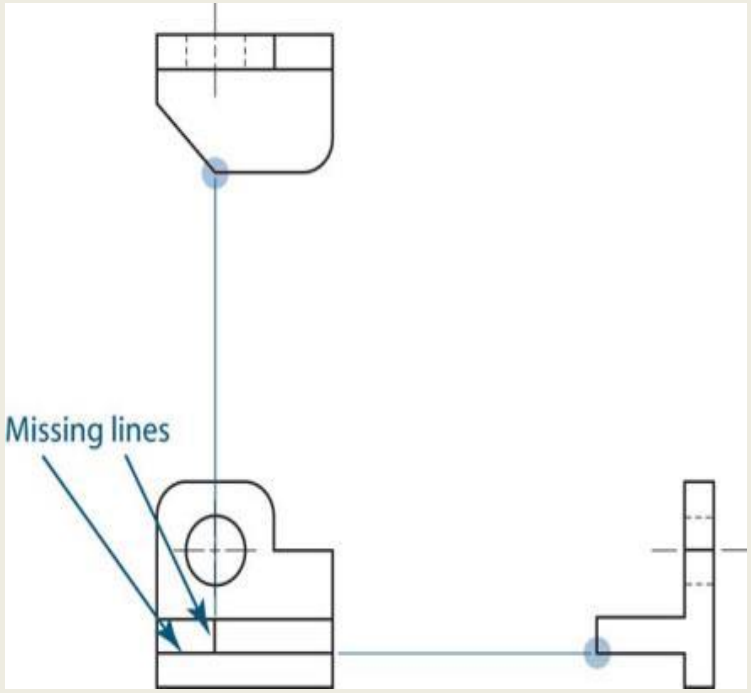
Indicate the missing lines of the drawing below :



How to find missing lines ?

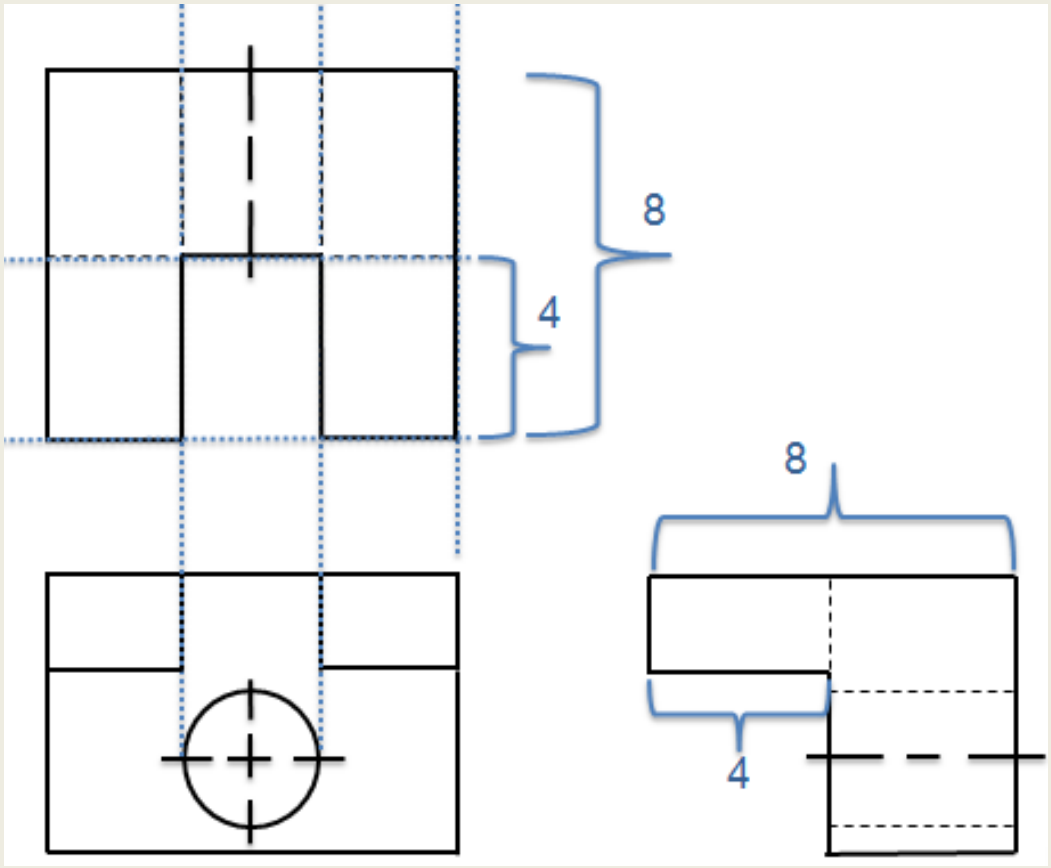
- Step 1: Align Vertices.
- Step 2: Find un-aligned vertices. This is where lines are missing!
- Step 3: Add missing lines.



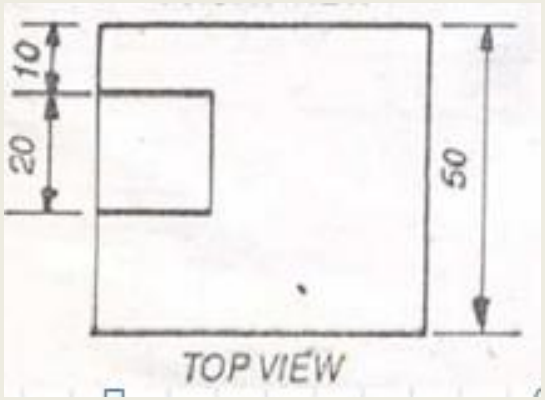


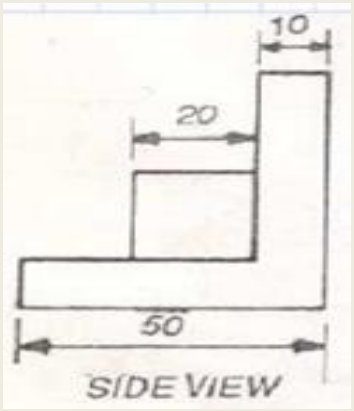
Missing Views

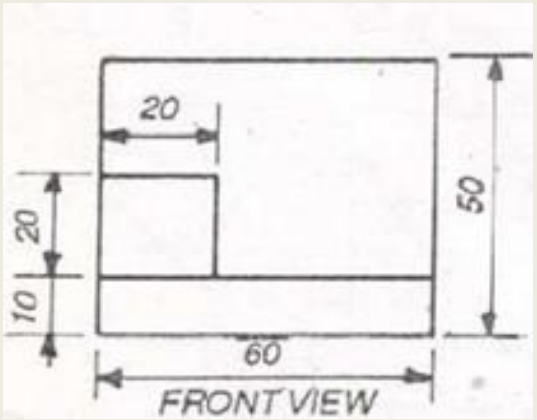
- Using information in 2 orthographic views, the missing 3rd view can be determined



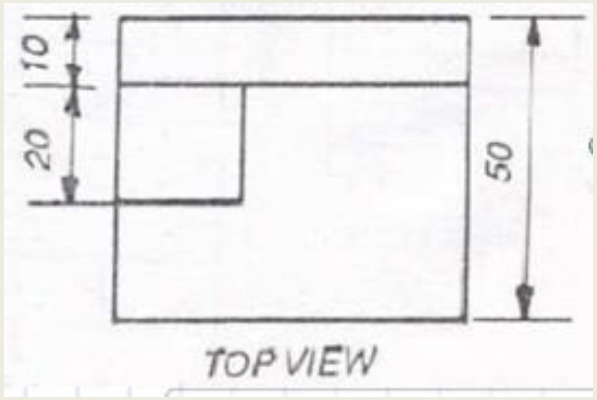
Practice Problem -1

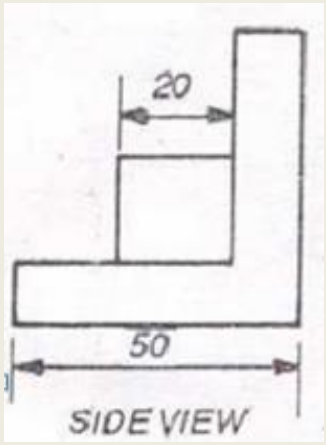


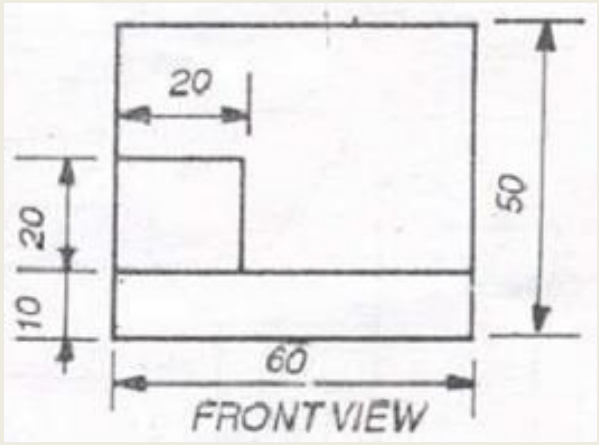




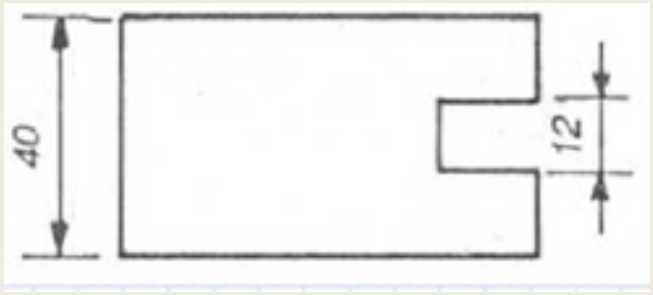
Practice Problem -1 : Solve

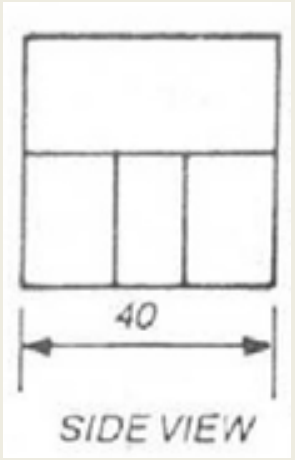


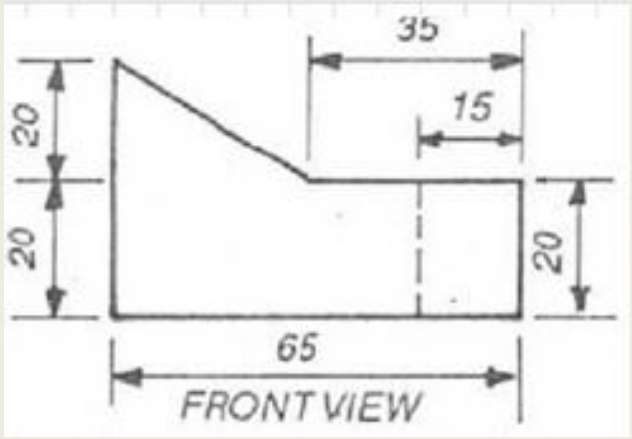




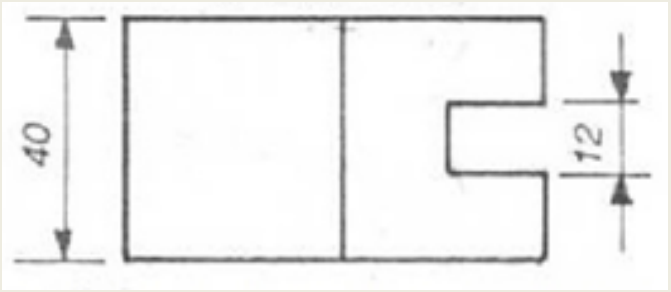
Practice Problem -2

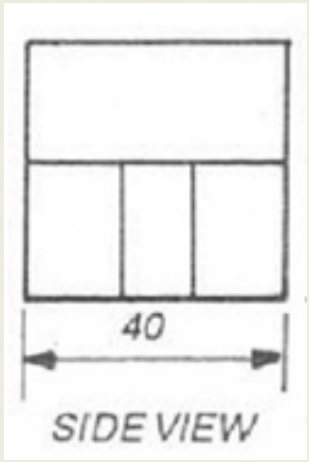


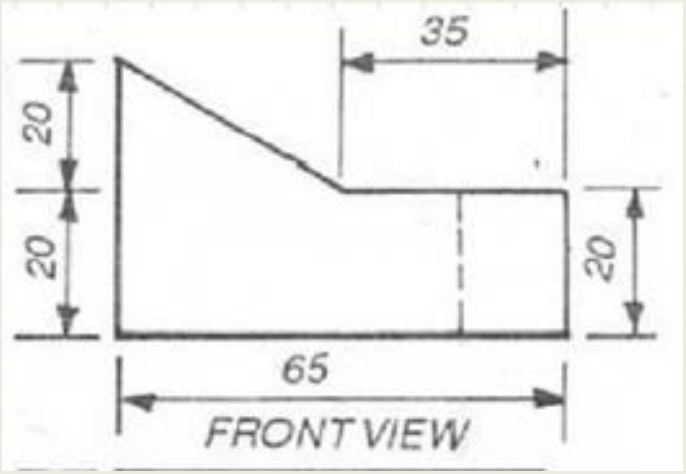




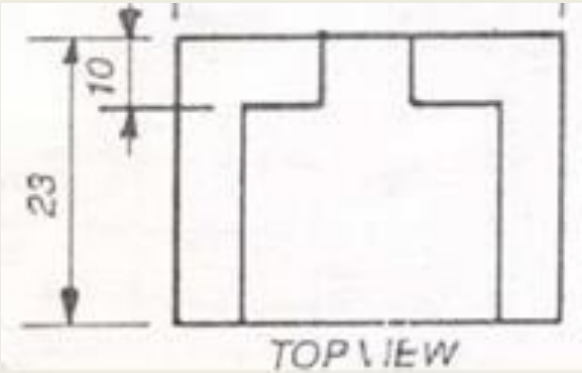
Practice Problem -2: Solve

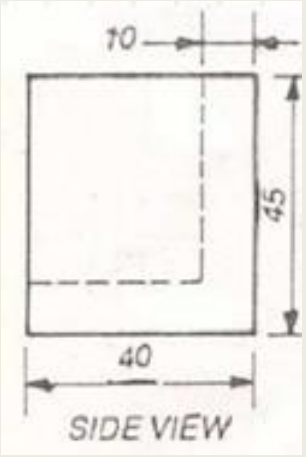


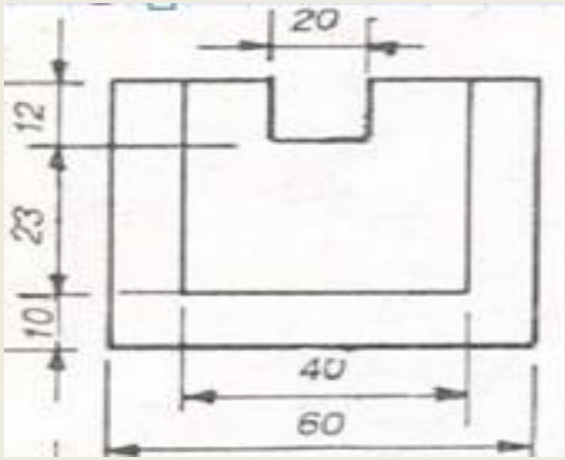




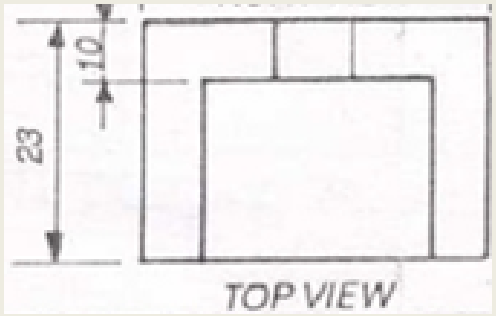
Practice Problem -3

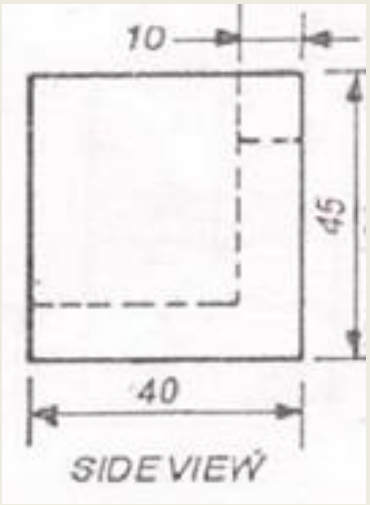


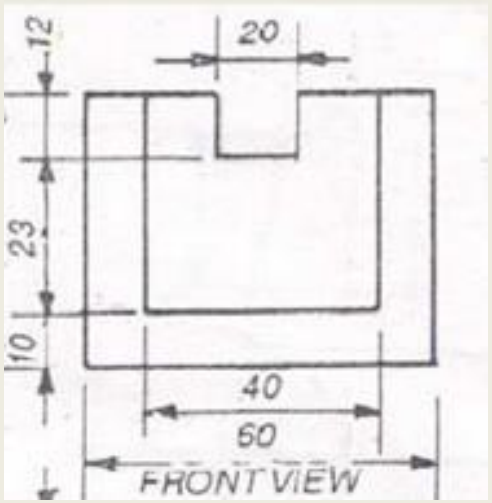




Practice Problem -3: Solve







Lines

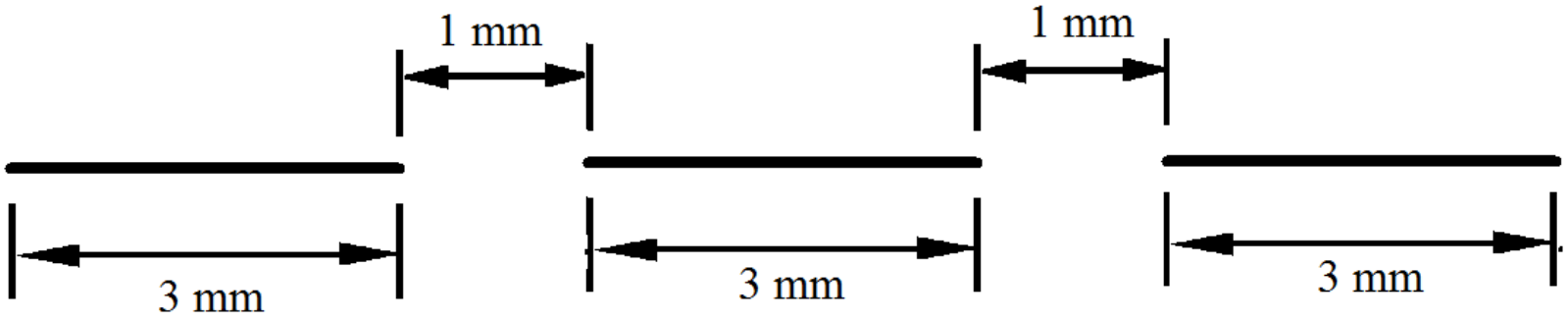
- Object Line : 100% thick
- Hidden Line: 50% thick
- Dimension, Extension Line: 25% thick
- Center Line : 50% thick
- Cutting Plane Line : 125% thick
- Hatchet line :25% thick

Object Line

Thickness: 100 %

Hidden Line

Thickness: 50 %

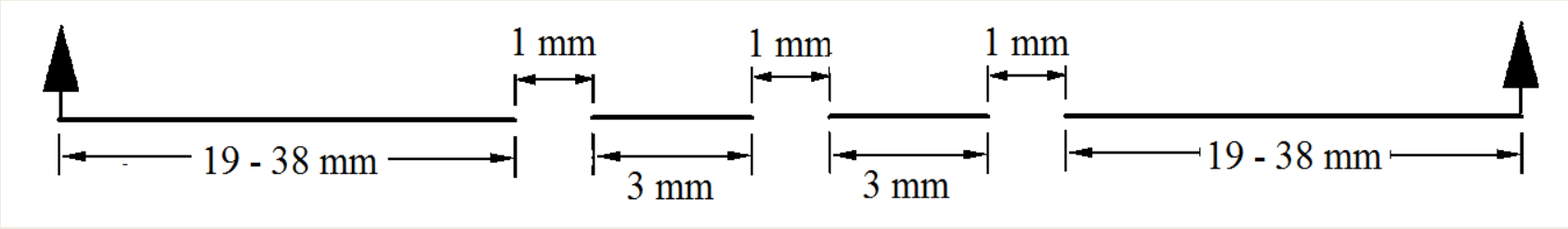


Center Line

Thickness: 50 %

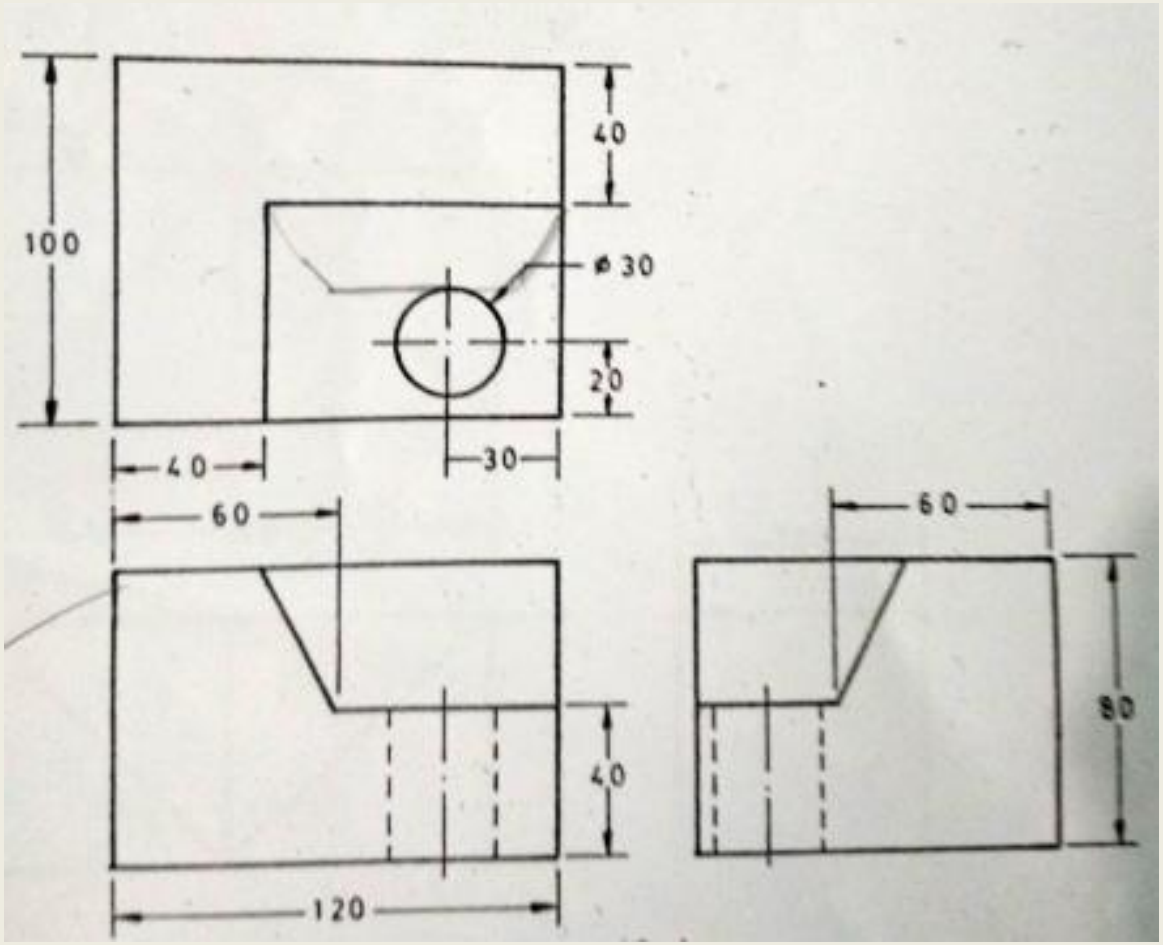
Thickness: 25 %

Thickness: 125 %



N.B.: All Percentages are with respect to the object line

First Problem



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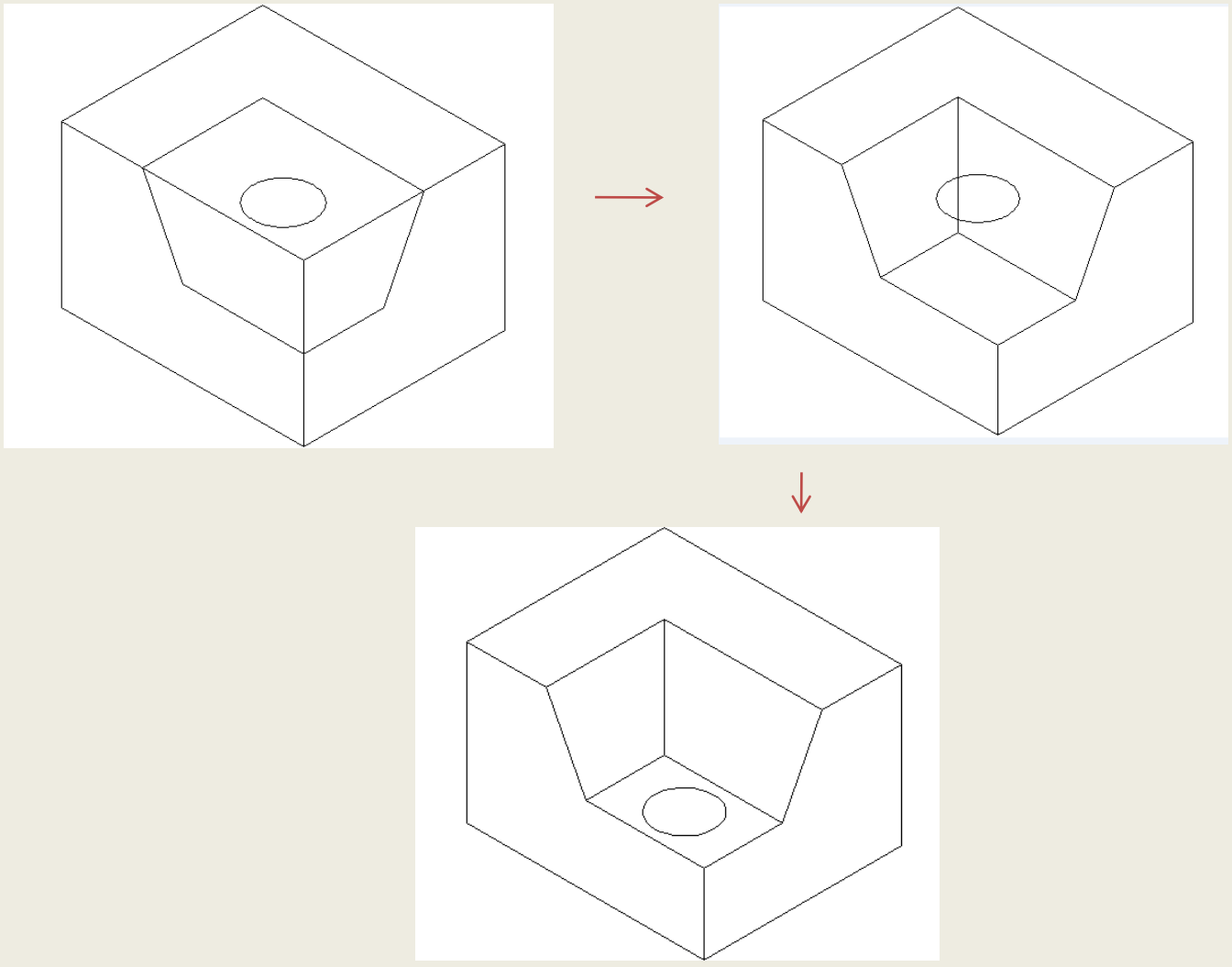
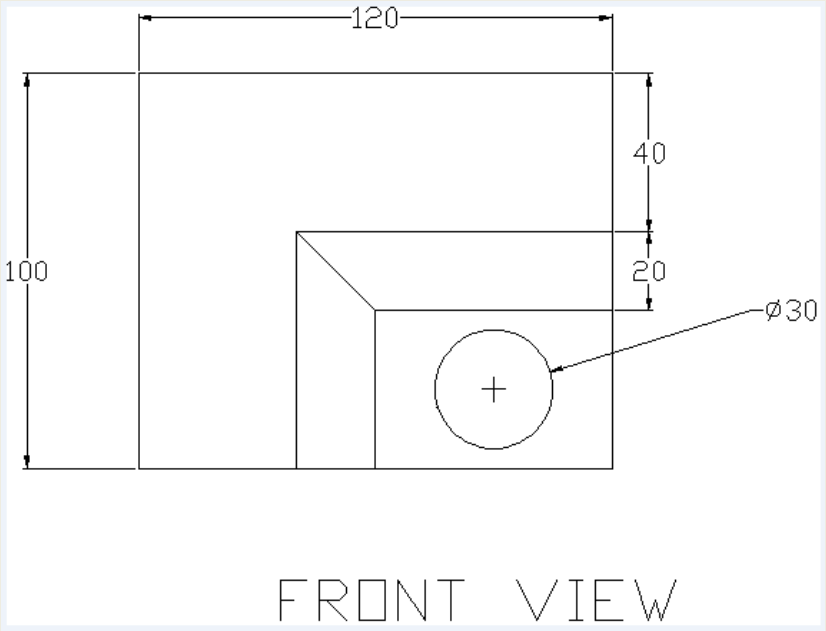
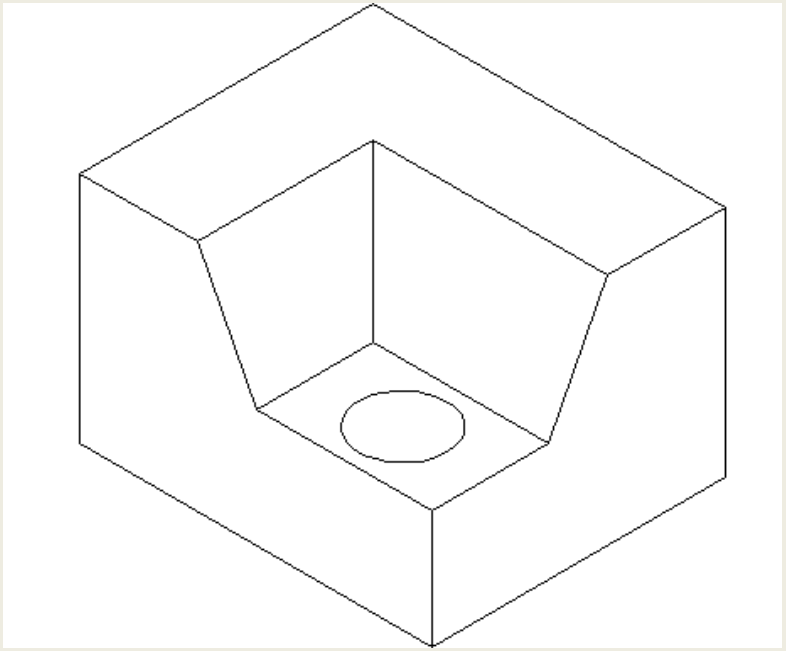
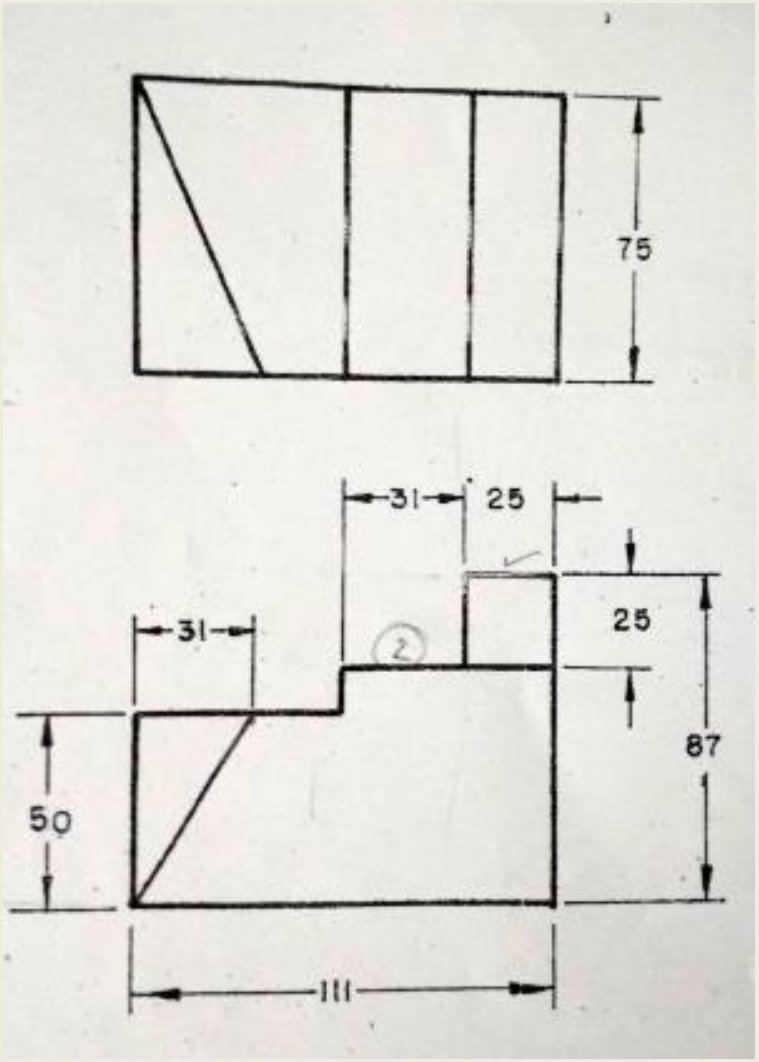


First Problem

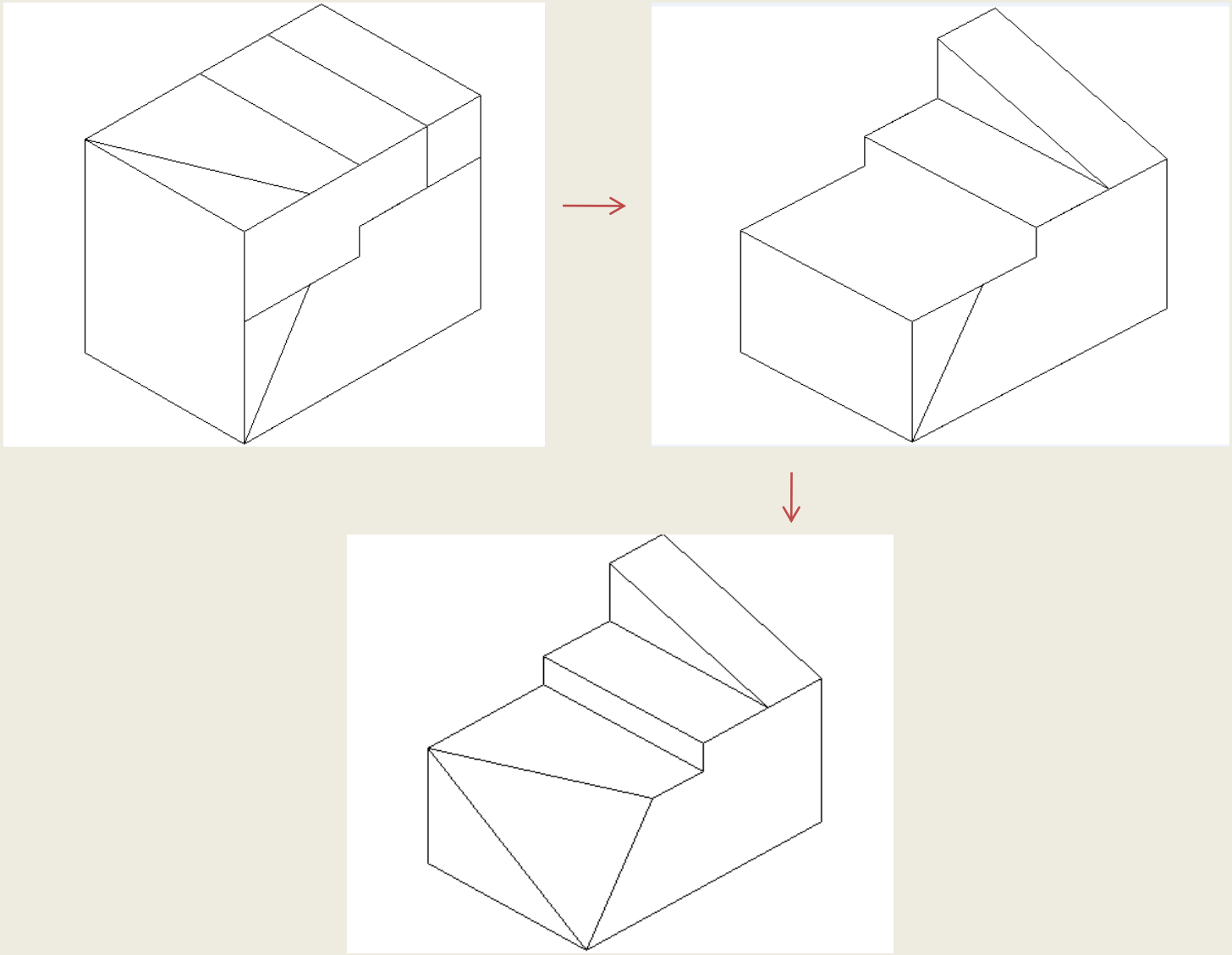




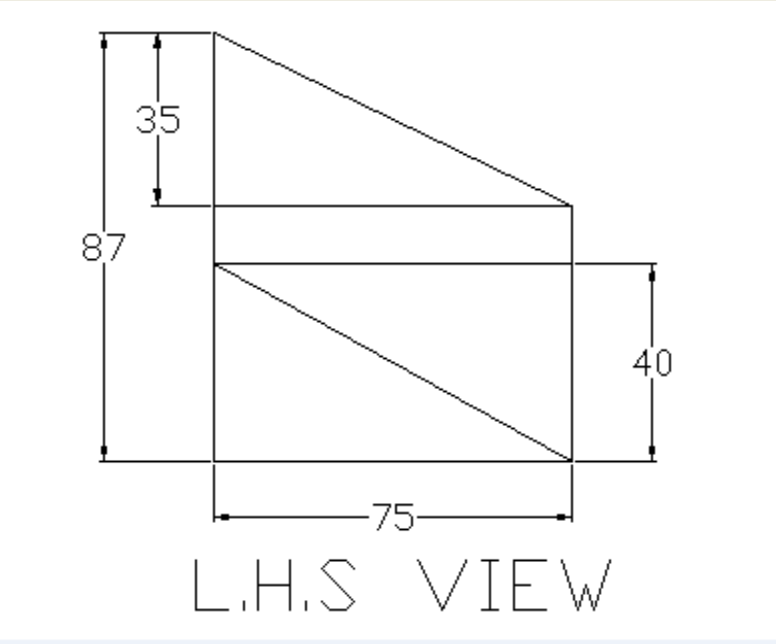
Second Problem

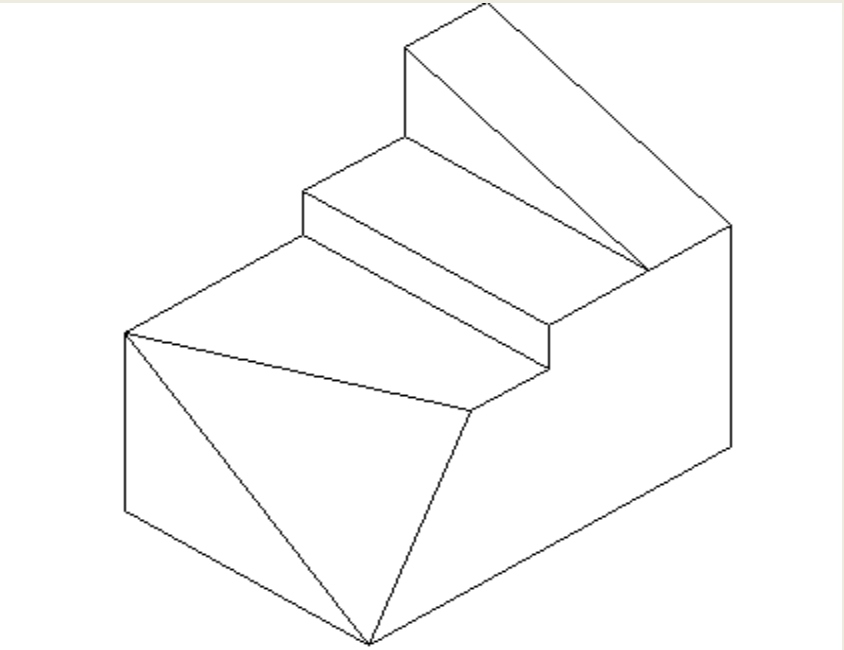


Second Problem



Second Problem





Persist Until Succeed !!!