

1. Exercise : 4

2. Date: 20/10/20

3. Title : Orthographic multi-view projections - lines and planes inclined to both the planes

4. Aim : To draw the orthographic projections of straight lines and planes inclined to both the planes.

5. Software used: AutoCAD - 2020

6. Introduction:

i. About Orthographic projection of lines inclined to both the planes:

When a line is placed inclined to both HP and VP, its projection obtained in top and front views are smaller than the true length of the line and inclined to the projection and are drawn the top on front view of the line directly.

ii. Projection of planes inclined to both the planes :

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Projection of plane inclined on both planes are called oblique plane. Oblique projections are also a single type of technical drawing of a graphical projection which is commonly used in technical drawing.

Procedure (for solving question #)

- 7.1 Question outline : Draw the projection of given dimensions
 7.2 Object : Line is 80 mm long
 7.3 Conditions (if any) : Line is in 1st Quadrant.

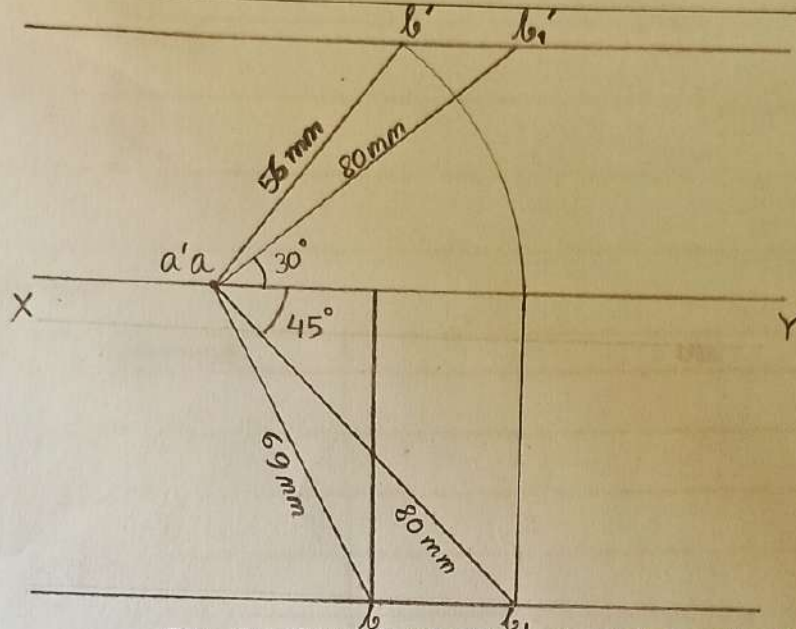


Fig. Free hand sketch of the solution to question #

7.4 Drawing Procedure:

Step 1.

Draw XY line as the reference line and one projector.

Step 2: Locate a' on XY line.

Step 3: Take 30° angle from a' and 45° from a' and mark AB i.e. 80 mm on both lines. Name those points as b1' and b respectively.

Step 4: Draw horizontal component of AB ab1 from point b1 and name it. (The length as gives length of FV)

Step 5: Extend it upto locus of a and rotating a' as centre locate b' as shown. Join a'b' as FV.

8. Commands used:

S.N.	Command	Use
1.	Units	To change the unit
2.	Limit	To set the limit
3.	Line	To draw lines
4.	Point	To mark the points
5.	Ptype	To change the font of the point
6.	Text	To enter text
7.	Dimension	To provide the dimensions
8.	Angle	To mark the angles.
9.	Rotate.	To rotate an object on the layout.

9. Result:

The orthographic projections of straight lines and planes are drawn using AUTOCAD - 2020

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