ANURAG KUMAR ASSIGNMENT - 1 (Projection of points)
S14
201IT209

1. Name the principal planes of projections.

Ans. The verticle plane (V.P) and the Horizontal Plane (H.P) which are used for the purpose of orthographic projections. They intersect each other at right angle and are called principal planes of projection.

2 Explain the different type of projection methods.

Ans. (1) Orthographic projection → When the projectors are parallel to each other and also perpendicular to the plane, this type of projection is called orthographic projection. In this we have V.P that is verticle plane and H.P that is Horizontal plane on which projection is taken.

(2) Isometric projection → This method represent object by a pictorial view that is as eye it. Here angle between 3 axes are equal, Isometric projection are represented on plane paper of plane sheet by drawing isometric axes, isometric lines and isometric planes.

(3) Oblique projection → It is a simple type of projection that only requires one image. It is not much complex, can be drawn with traditional tools. It depict 2D image of 3D object. The object is drawn from front view & then other areas can be added in relation to it.

4. Perspective projection → Perspective method is not based on parallel lines. It is an approximate representation of the object as it would be seen by eye in respect to depth perception. The projection lines emerge from a single point, showing the closer part larger than the more distant part.

Q. What is difference b/w first angle & 3 third angle projection?

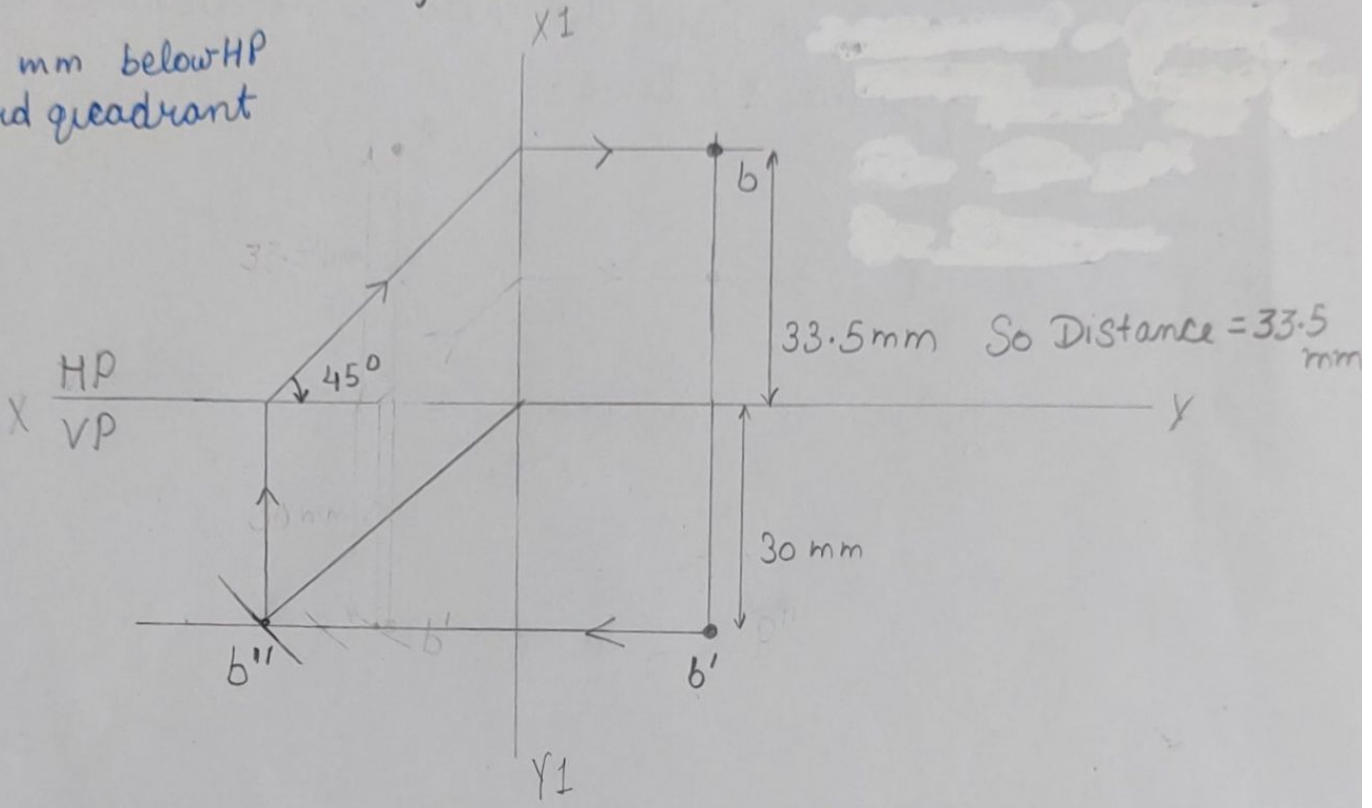
First angle projection	Third angle projection
1) Object kept in first quadrant	1) Object is kept in third quadrant.
2) Object lies between observer and plane of projection.	2) The plane of projection lies between observer and object.
3) The plane of projection assumed to be non transparent.	3) Plane of projection assumed to be transparent
4) When views are drawn in their relative positions the plan comes below the elevation	4) When views are drawn in their relative positions, the plan, comes above the elevation.

Q. Why projection of second & fourth quadrant not preferable?

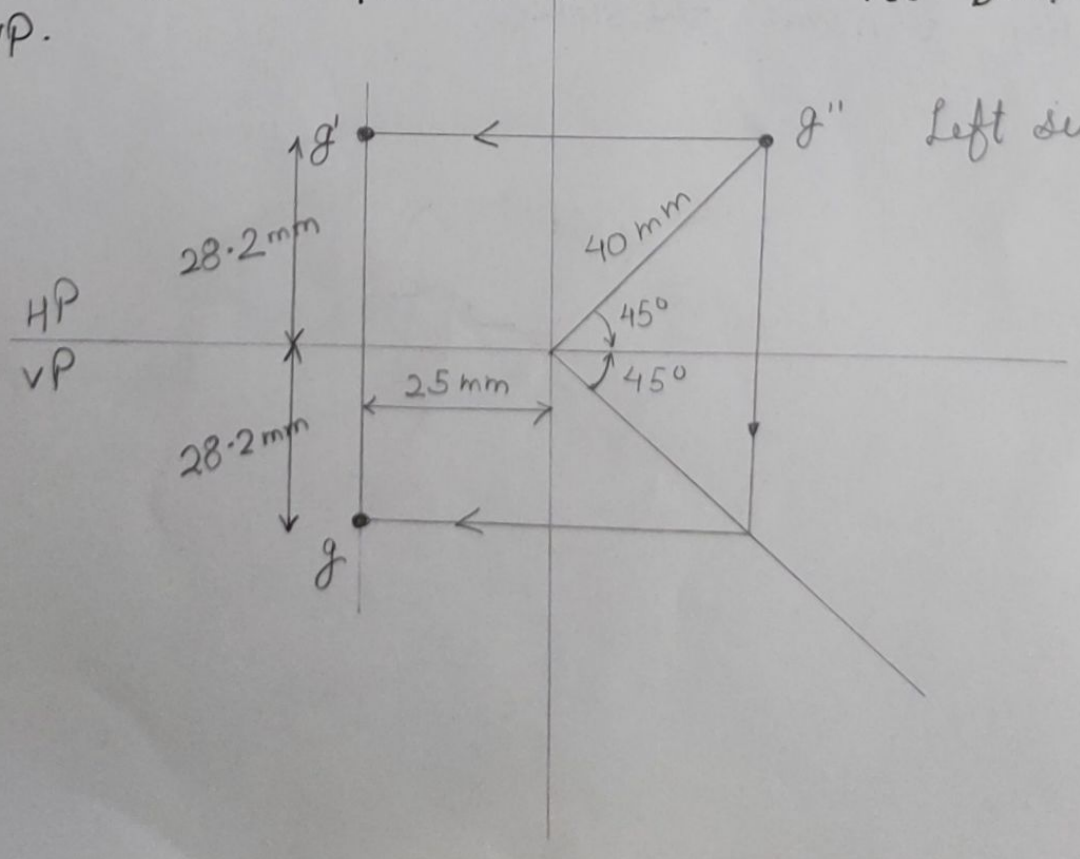
Ans. So if we use 2nd angle projection, we have overlapping projections which may cause confusion Therefore 2nd angle projection system is generally not used. Similar case is with 4th angle projection as we have overlapping there also.

5. A point B is 30 mm below H.P and situated in 3rd quadrant. The shortest distance from XY line is 45 mm. Draw its projection & find distance from VP.

B → 30 mm below HP
→ 3rd quadrant

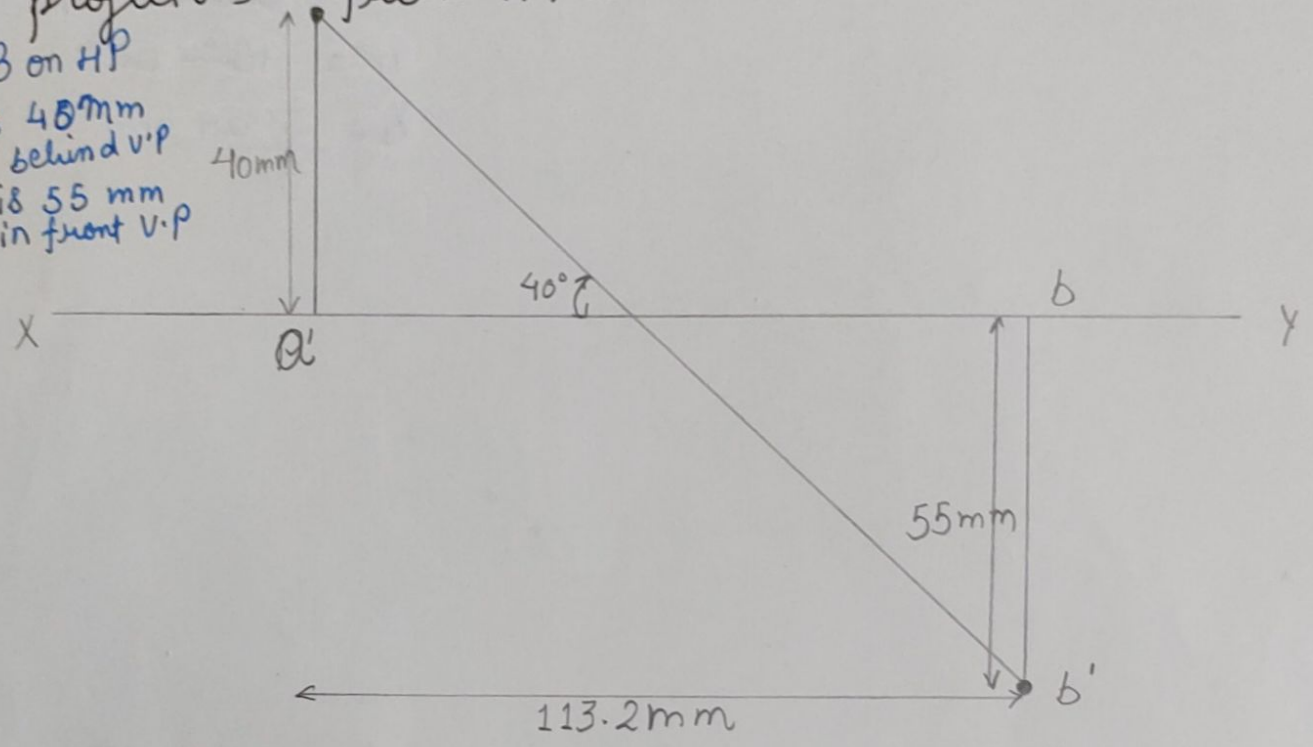


6. Draw the projection of point of G which is in 1st quadrant such that it is equidistant from HP & V.P. The point is 25 mm from RPP and shortest distance from XY line is 40mm. Determine its distance from HP & VP.

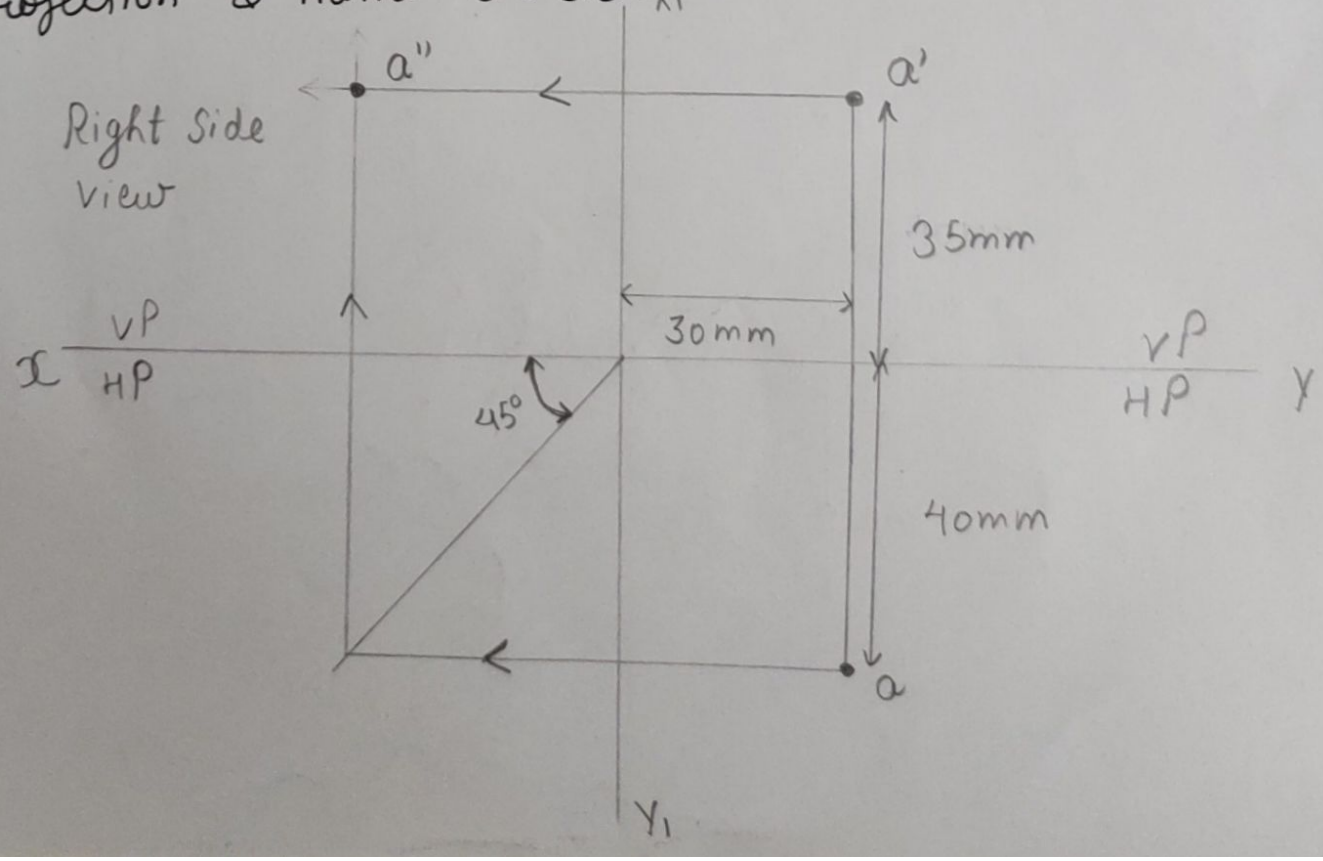


7. Two points A and B are on HP. The point A is 40mm behind V.P, while B is 55mm in front of V.P. The line joining their top views makes an angle of 45° with XY line. Find the horizontal distance of their projectors & from XY line.

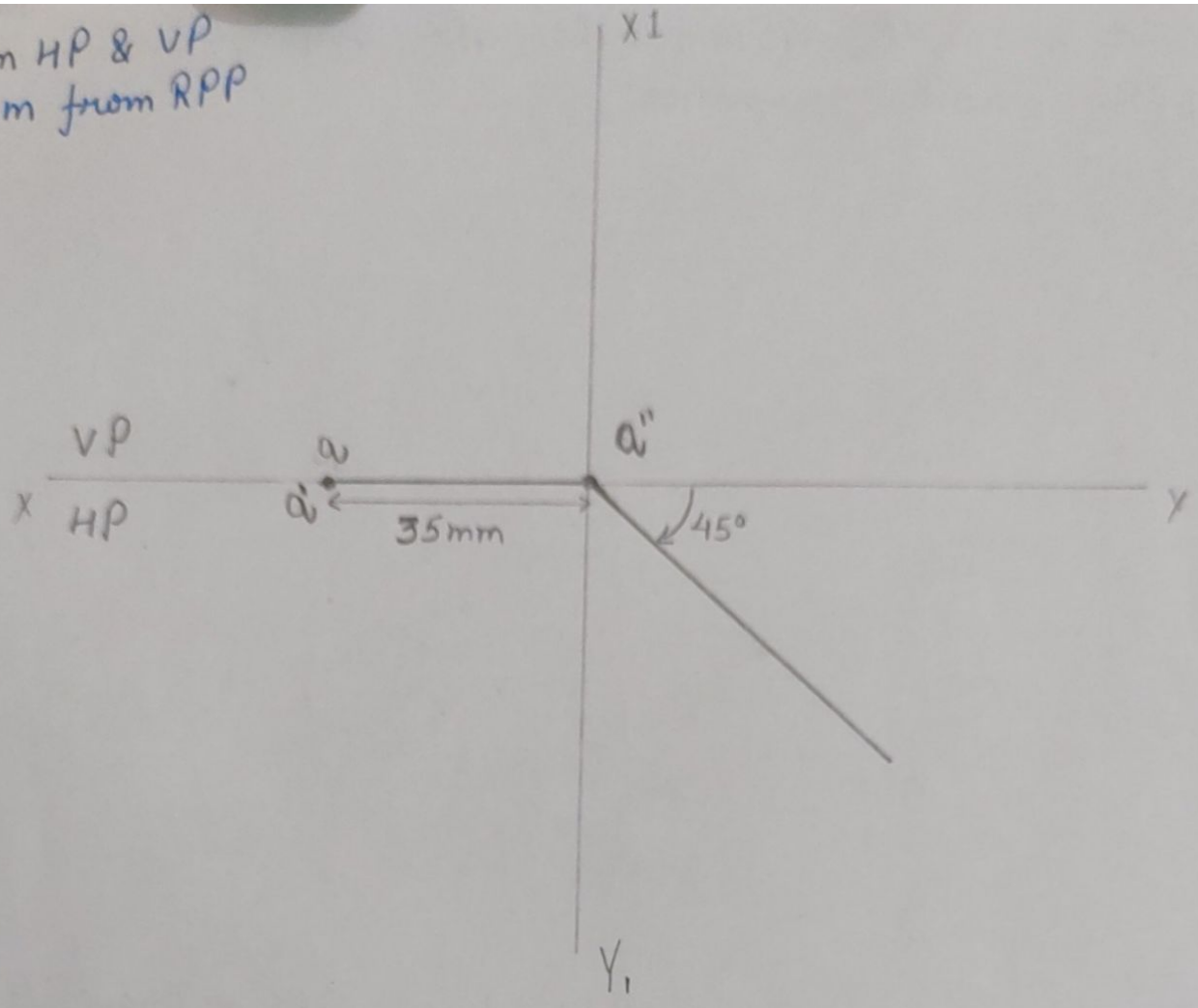
→ A, B on HP
→ A is 40mm behind V.P
→ B is 55 mm in front V.P



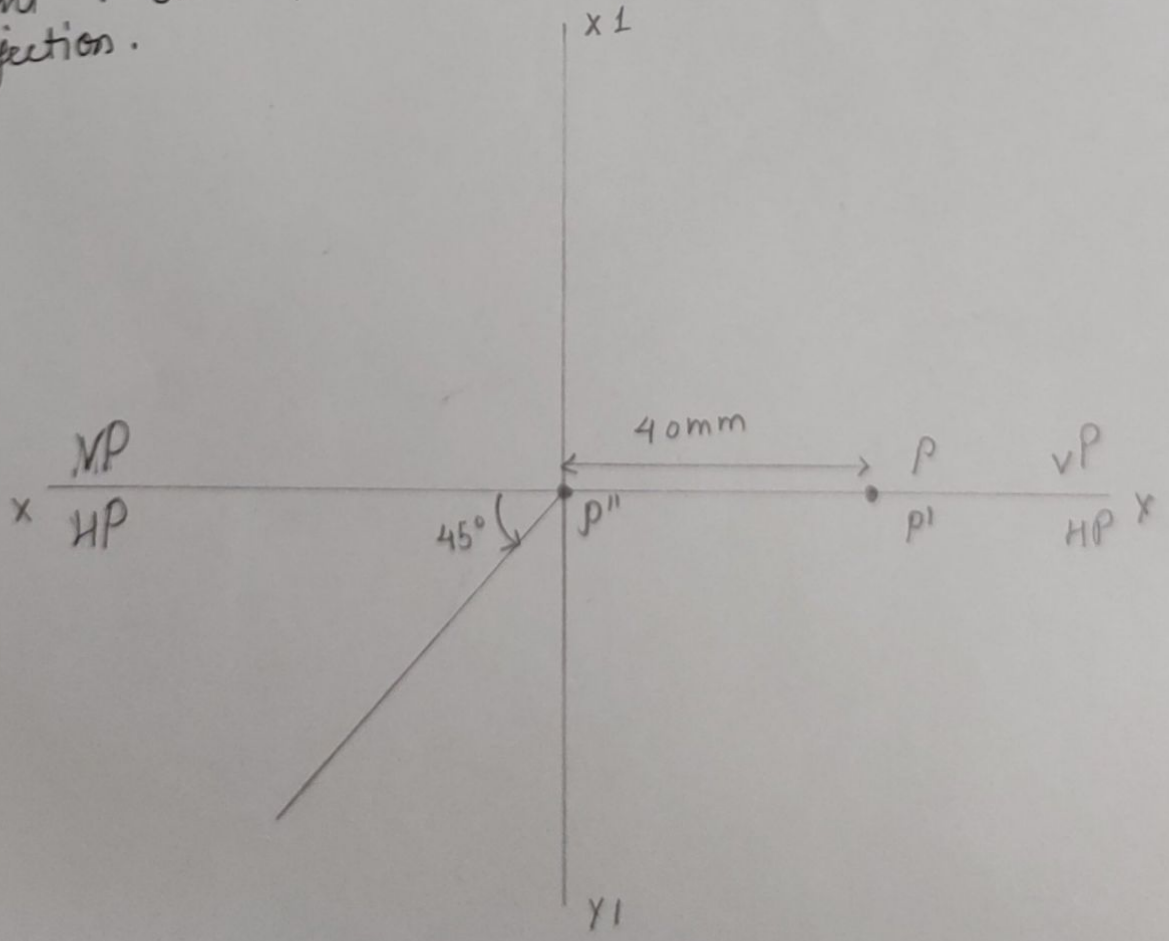
8. A Point is 40 mm in front of V.P, 35mm above HP and 30mm in front/behind/ from LLP. Draw its projection & name the side.



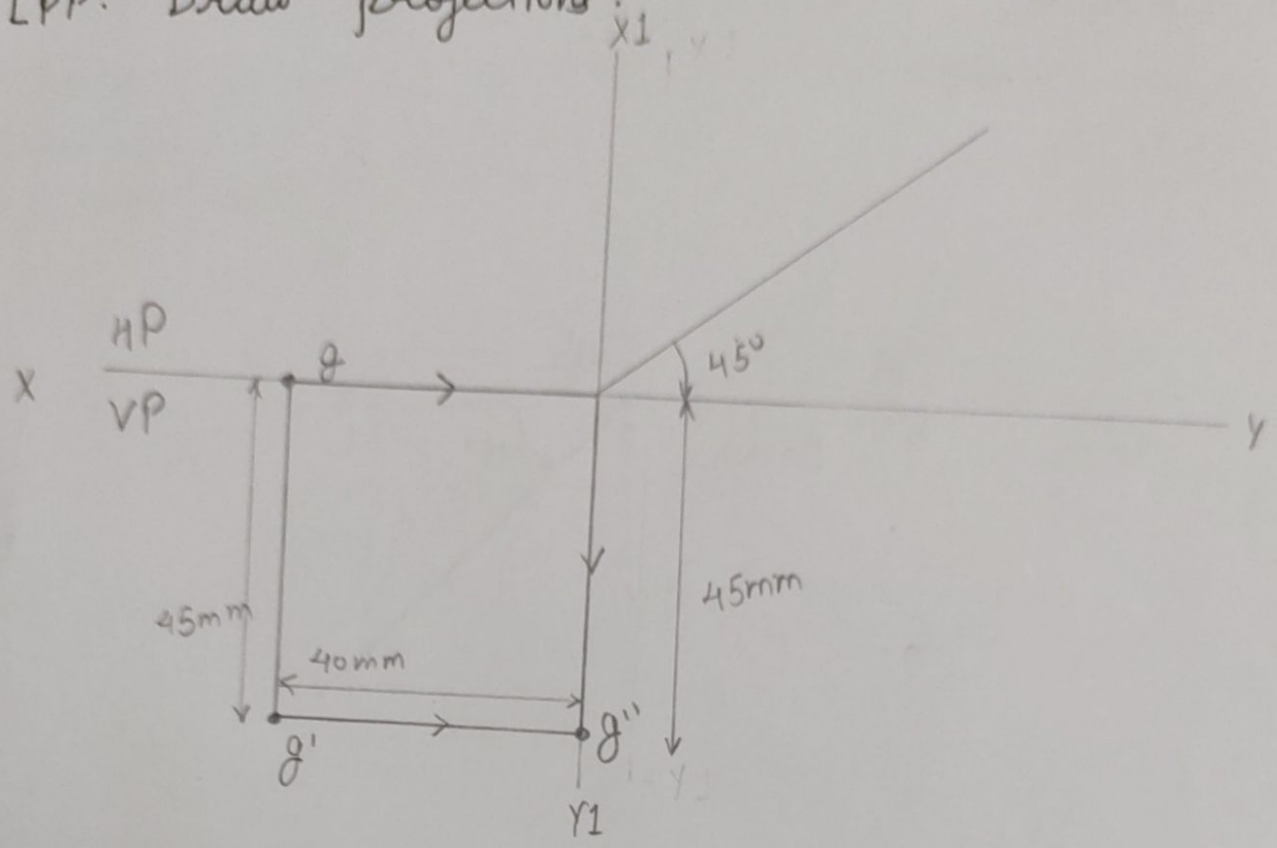
9) → a on HP & VP
→ 35 mm from RPP



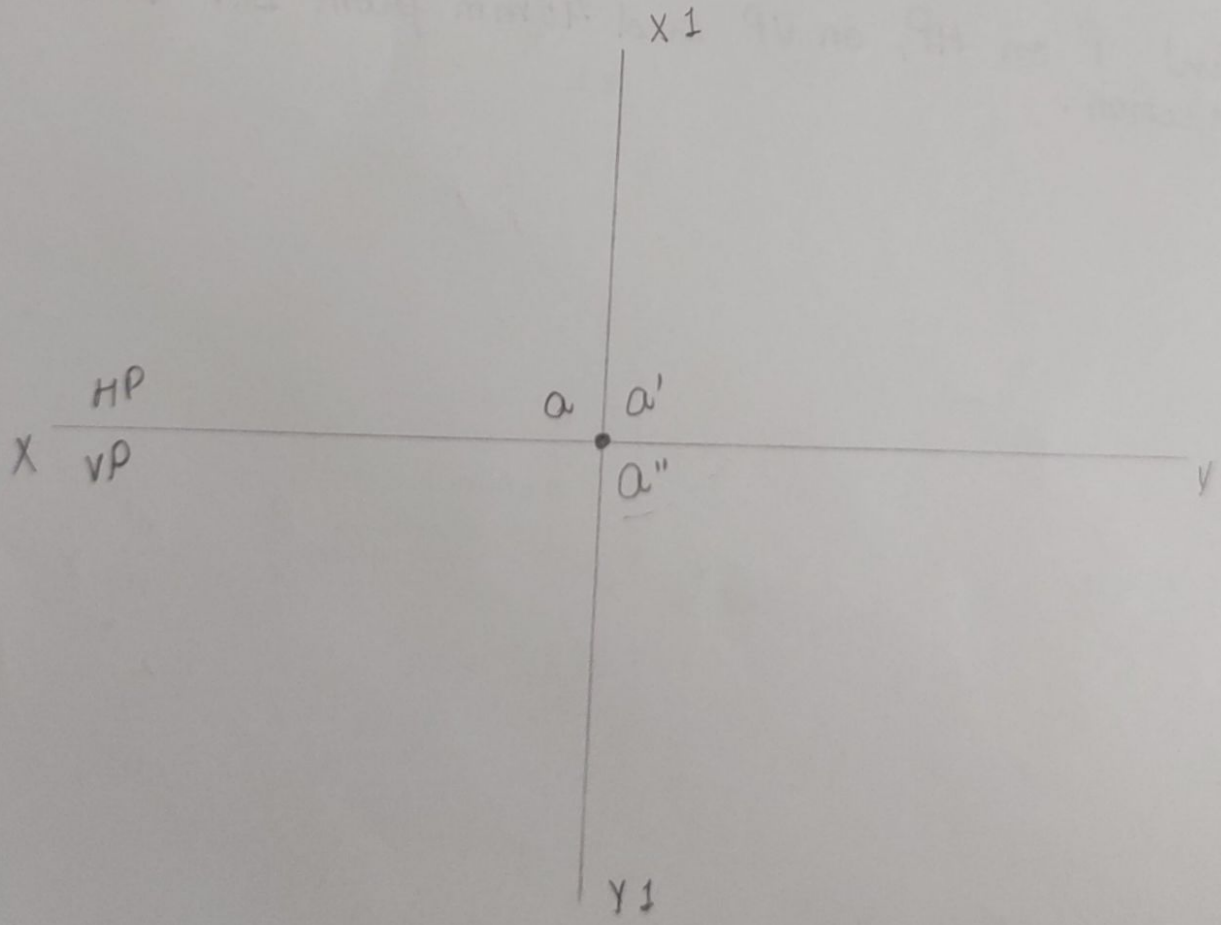
10) Point P on HP, on VP and 40 mm from LPP. Draw its projection.



11. Point G on VP, 45mm below HP and 40mm from LPP. Draw projections.



12.) Point A is on HP, on VP and on RPP. Draw its projections



13.) A point B is 35mm above HP and situated in 2nd quadrant. The shortest distance from XY line is 40mm. Draw projections & find distance from V.P

B → 35 mm above H.P
2nd quadrant