

8/1/2014

## UNIT-6

### ORTHOGRAPHIC PROJECTIONS

It is a technical drawing in which different views of an object are projected on different reference planes observing perpendicular to respective reference plane.

Different Reference planes are:

Horizontal plane (HP)

Vertical Frontal plane (VP)

Side or Profile plane (PP)

Different views are Front view (F.V), Top view (T.V), Side view (SV).

FV is a view projected on V.P

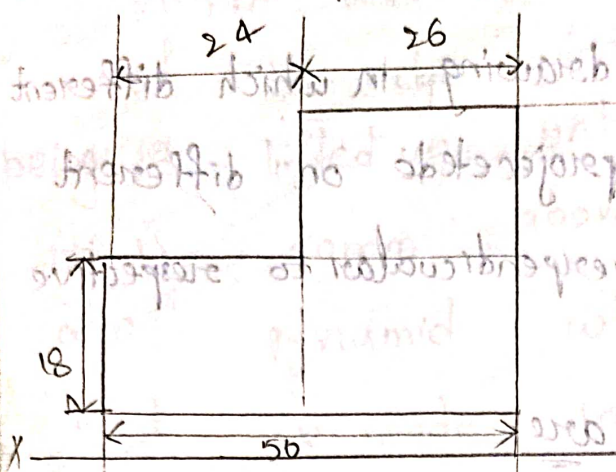
TV is a view projected on H.P

SV is a view projected on PP.

The important terms of Orthogonal projections:-

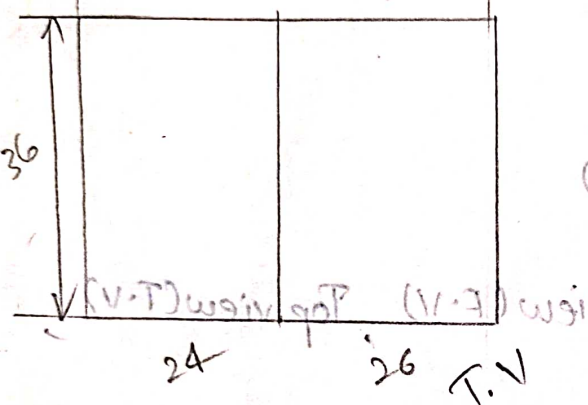
1. Planes
2. Pattern of planes & pattern of views
3. Methods of drawing orthographic projections.

# ORTHOGONAL PROJECTION



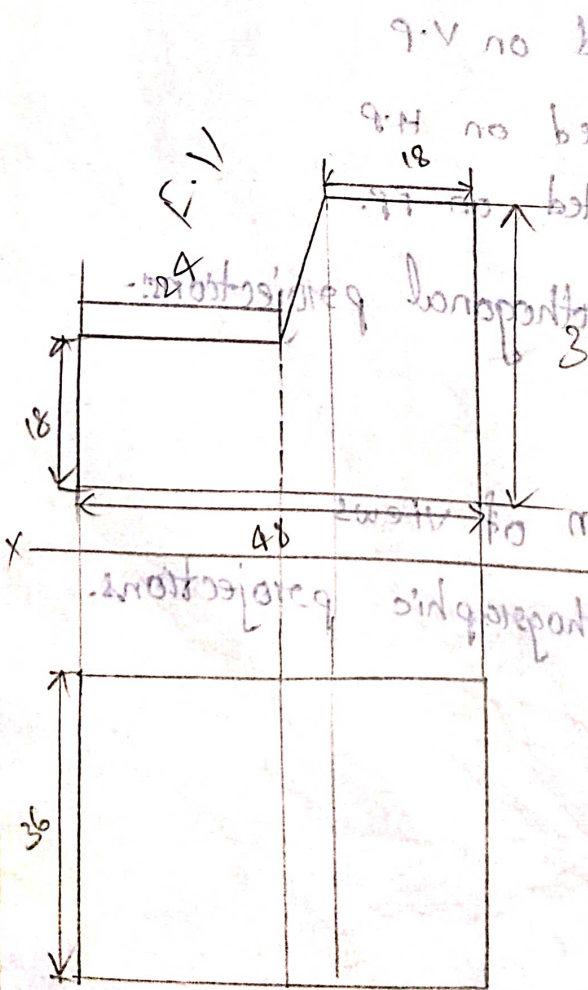
It is a technical drawing of an object in which different planes are observed. The object is placed in such a way that its edges are parallel to the planes of projection. The front view (F.V.) is the view of the object as seen from the front. The top view (T.V.) is the view of the object as seen from the top. The side view (S.V.) is the view of the object as seen from the side. The different views are related to each other by the following rules:

- The front view (F.V.) and the top view (T.V.) must have the same width.
- The front view (F.V.) and the side view (S.V.) must have the same height.
- The top view (T.V.) and the side view (S.V.) must have the same depth.



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- The top view (T.V.) and the side view (S.V.) must have the same depth.

T.V.

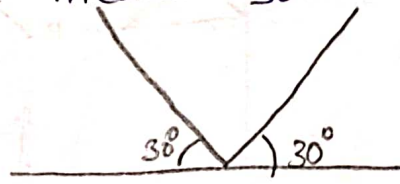


## Isometric projections: Iso

Isometric means a system of projection of equality of measures. (Isometric means  $30^\circ$ )

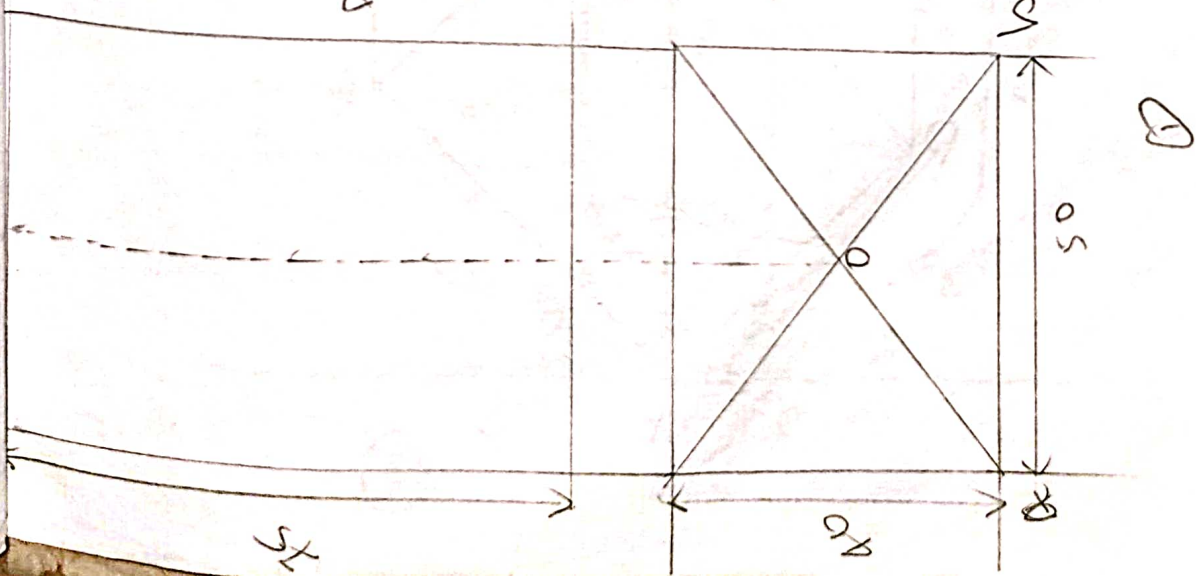
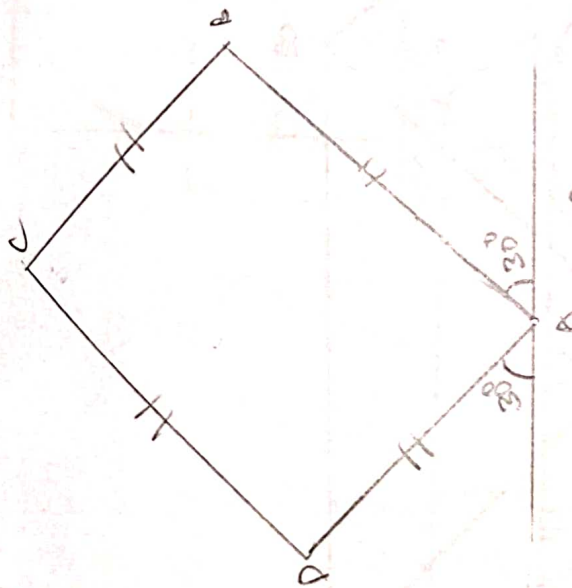
'Iso' means 'equal'

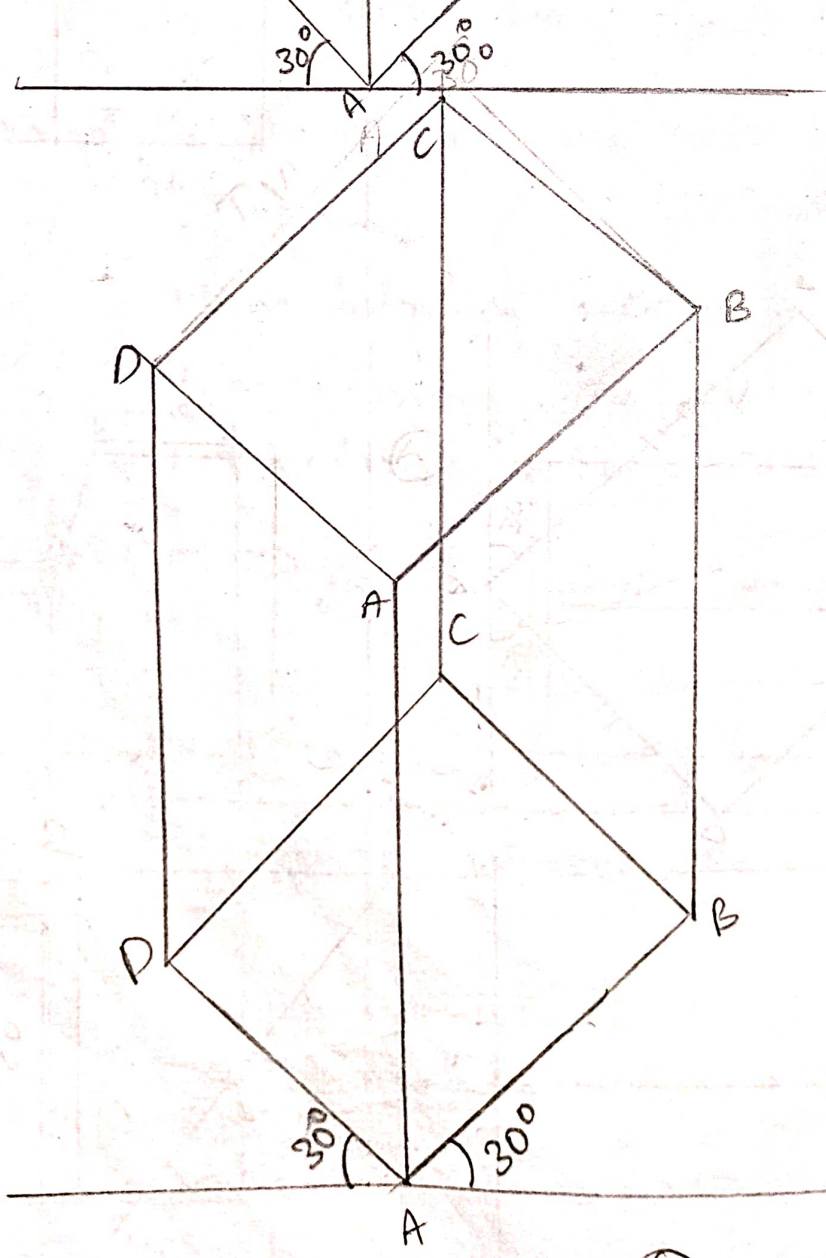
'Metric' means 'measure'



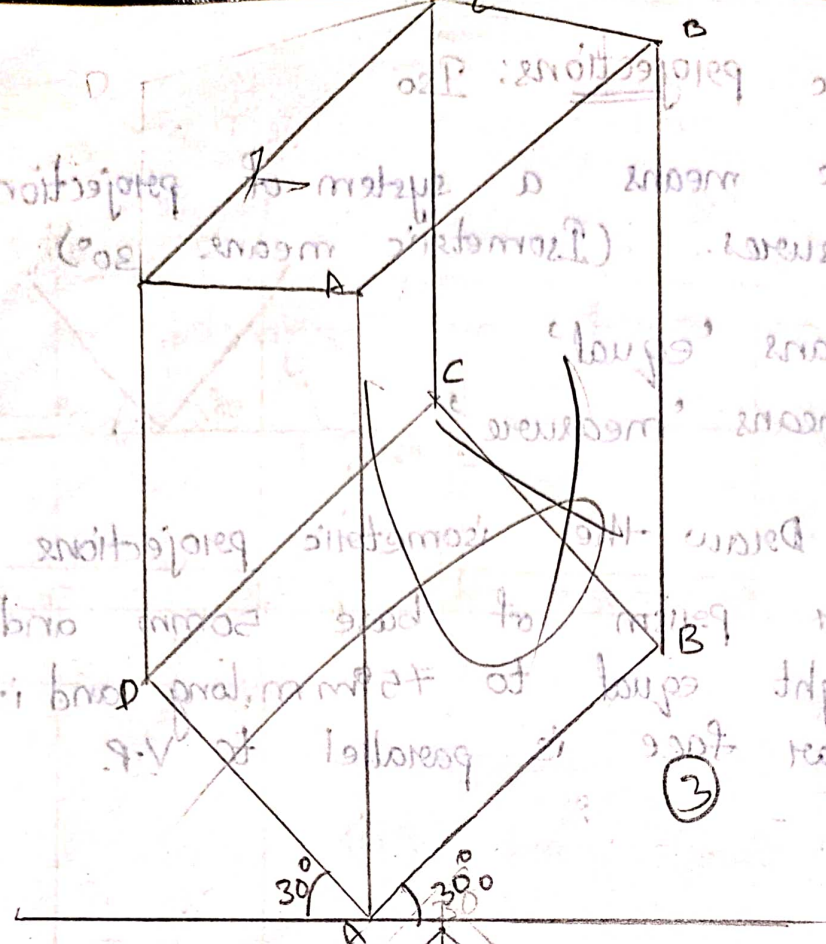
Problem-1: Draw the isometric projections of a rectangular prism of base 50mm and 40mm and height equal to 75mm long and its one of rectangular face is parallel to V.P.

Sol:





(3)

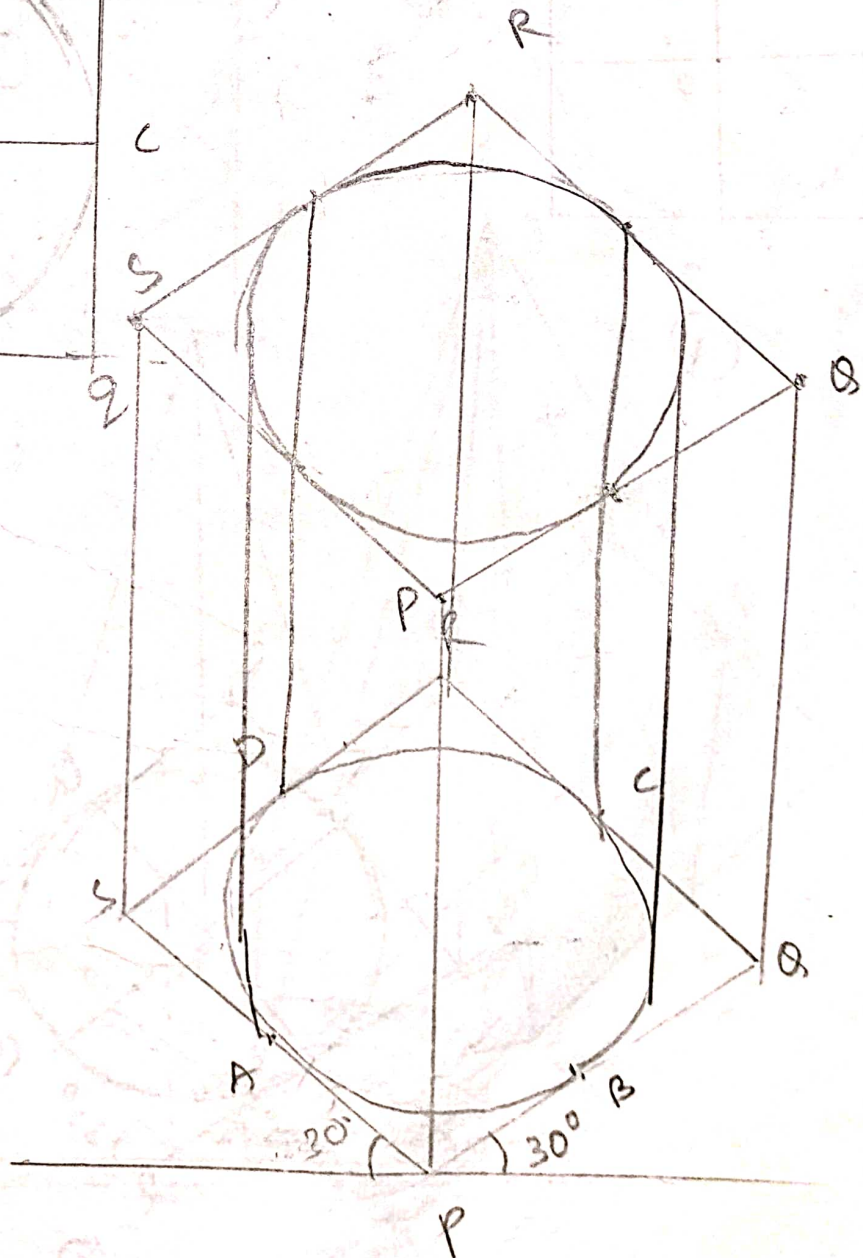
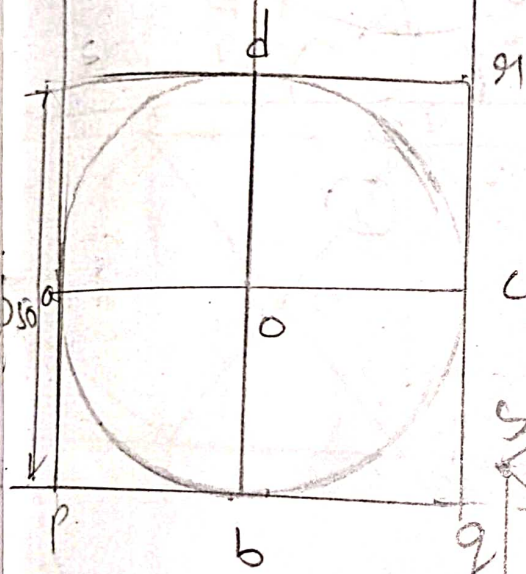
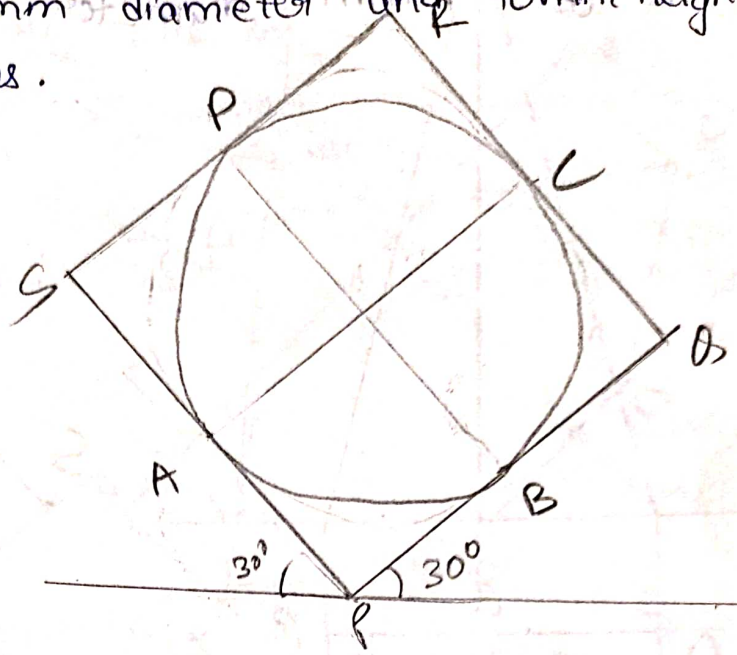


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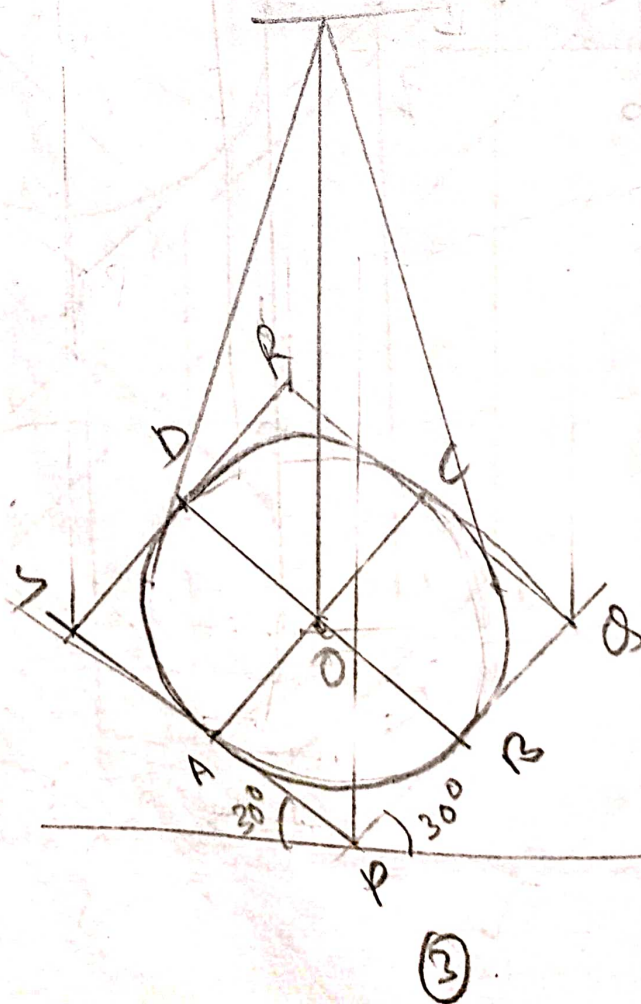
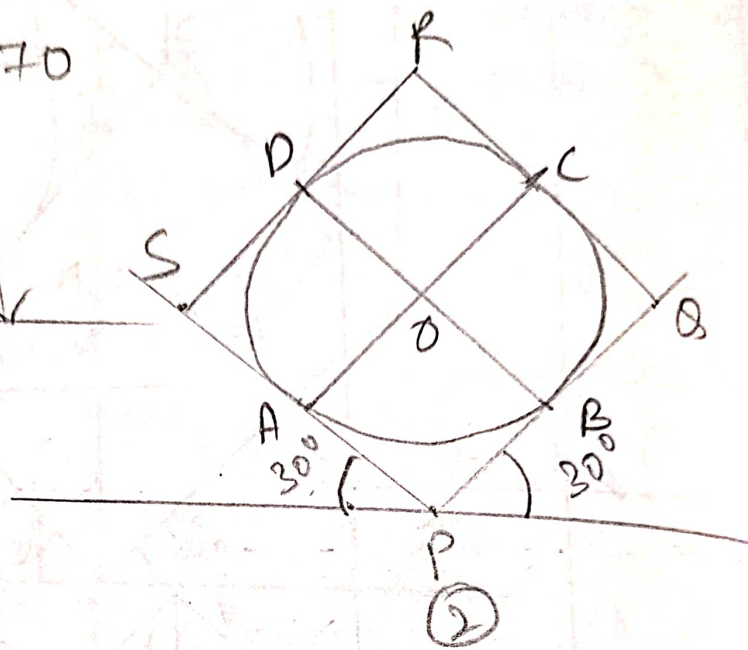
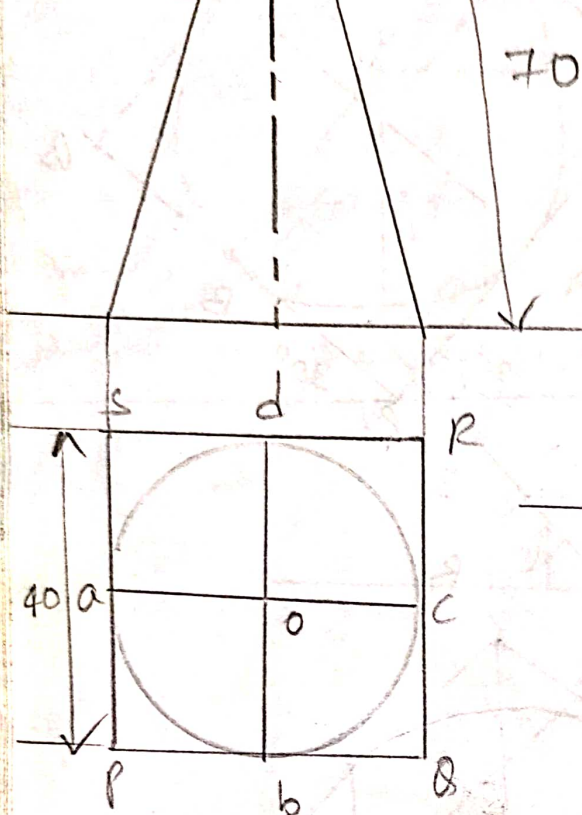


Problem-2: Draw the isometric projections of a cylinder of base 50 mm diameter and 70 mm height. Draw the projections.

70



Problem-3: Draw the isometric projection of the cone of 40mm diameter and 70mm long axis is





Problem 4: Draw the isometric projections of a hexagonal pyramid of side of base 30mm and height 75mm.

