

Engineering Drawing

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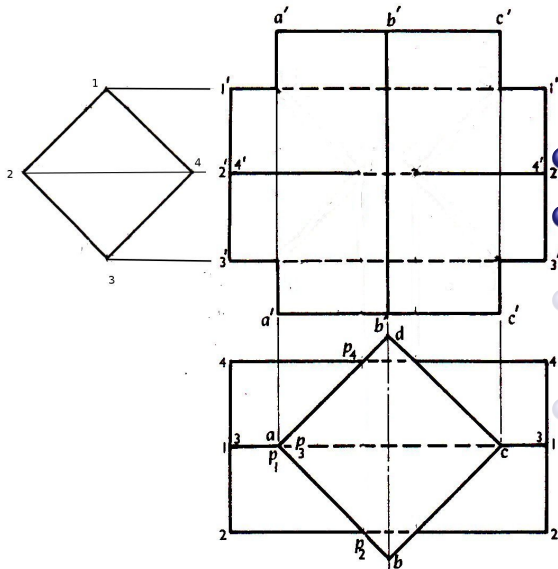
Example -1

- ① A vertical square prism (50mm side)
- ② A horizontal square prism (35mm side) with axis $\parallel$ to VP
- ③ Faces of both the prisms are equally inclined to VP
- ④ **Penetration is such that the axis also intersect**
- ⑤ Height of intersection is not specified. It may be assumed that the axes are perpendicular bisector of each other

Example -1

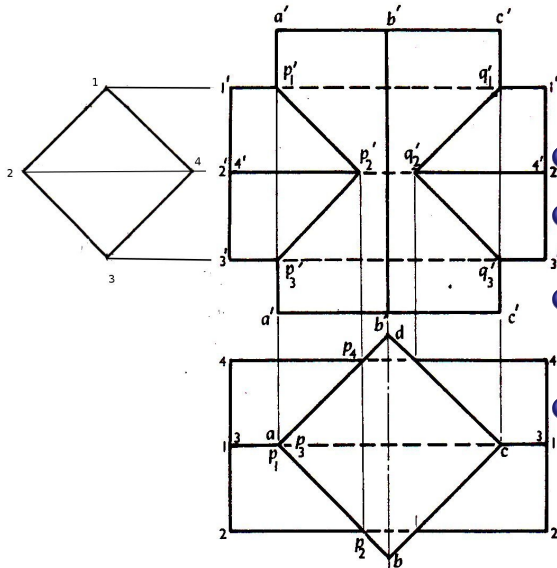
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Example -1



- 1 Draw the side view and plan of the prism as required.
- 2 Complete the corresponding plan and elevation without the intersection lines.
- 3 Try to imagine the front view and top view and project the intersection points as required.
- 4 Complete the drawing by joining the intersection lines.

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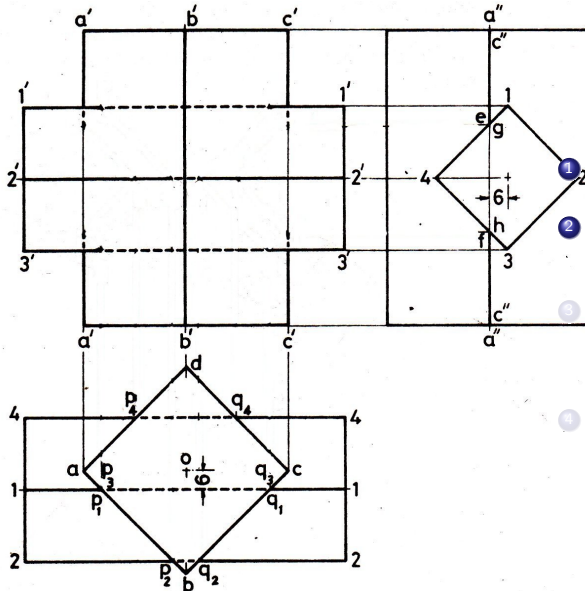
Example -2

- ❶ A vertical square prism (50mm side)
- ❷ A horizontal square prism (35mm side) with axis $\parallel$ to VP
- ❸ Faces of both the prisms are equally inclined to VP
- ❹ **Penetration is such that the axes are 6mm apart from each other**
- ❺ Height of intersection is not specified. It may be assumed that in the elevation axes are perpendicular bisector of each other

Example -2

- ❶ A vertical square prism (50mm side)
- ❷ A horizontal square prism (35mm side) with axis $\parallel$ to VP
- ❸ Faces of both the prisms are equally inclined to VP
- ❹ **Penetration is such that the axes are 6mm apart from each other**
- ❺ Height of intersection is not specified. It may be assumed that in the elevation axes are perpendicular bisector of each other

Example -2



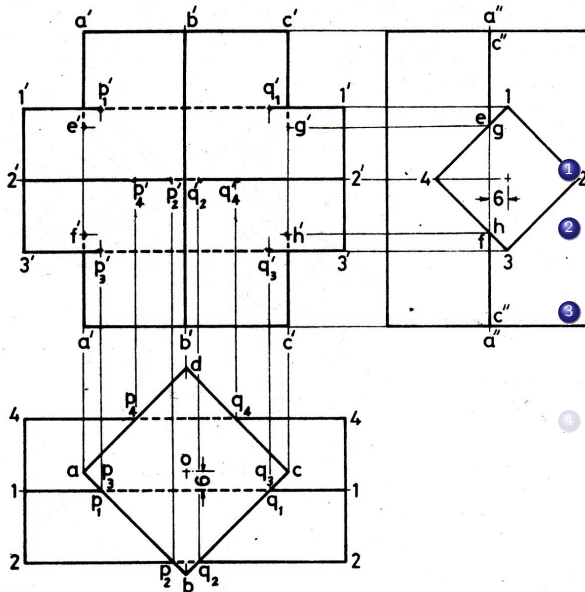
1 Draw the side view and plan of the prism as required.

2 Complete the corresponding elevation without the intersection lines.

3 Try to imagine the front view and top view and project the intersection points as required.

4 Complete the drawing by joining the intersection lines.

Example -2



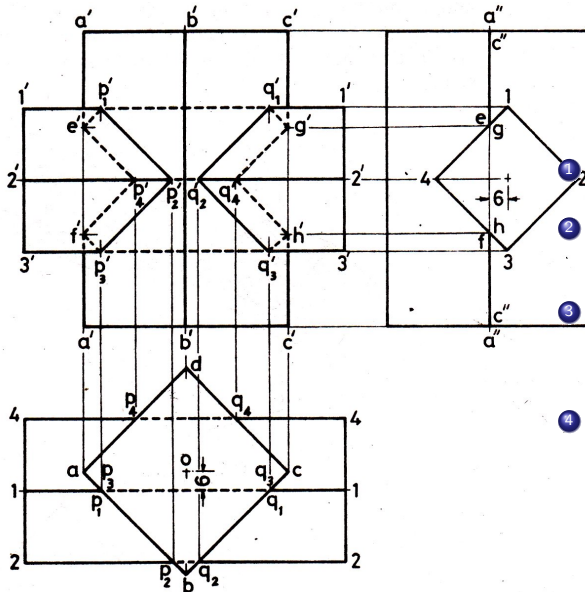
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3 Try to imagine the front view and top view and project the intersection points as required.

4 Complete the drawing by joining the intersection lines.

Example -2

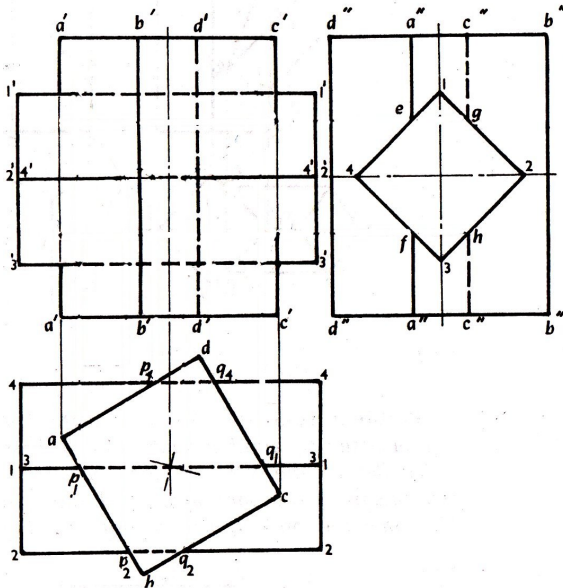


- 1 Draw the side view and plan of the prism as required.
- 2 Complete the corresponding elevation without the intersection lines.
- 3 Try to imagine the front view and top view and project the intersection points as required.
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Example -3

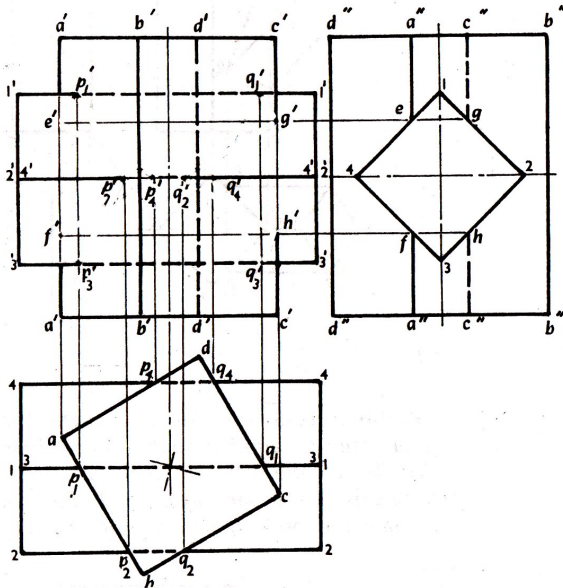
- ① A vertical square prism (50mm side) of height 90mm with a face inclined 30^0 to VP and axis is $\parallel$ to VP
- ② A horizontal square prism (40mm side) of length 100mm with axis $\parallel$ to VP and faces are equally inclined to VP
- ③ **Penetration is such that the axis also intersect**
- ④ Axes are perpendicular bisector of each other

Example -3



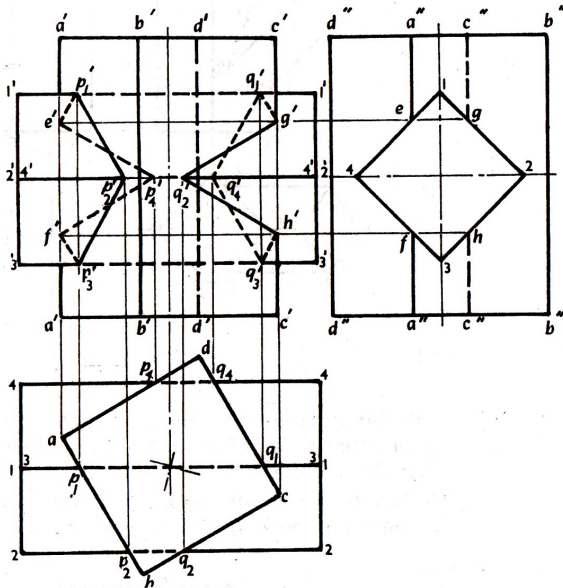
- 1 Draw the side view and plan of the prism as required.
- 2 Complete the corresponding elevation without the intersection lines.
- 3 Try to imagine the front view and top view and project the intersection points as required.
- 4 Complete the drawing by joining the intersection lines.

Example -3

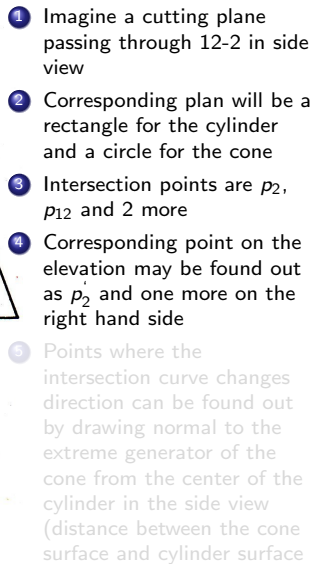


- 1 Draw the side view and plan of the prism as required.
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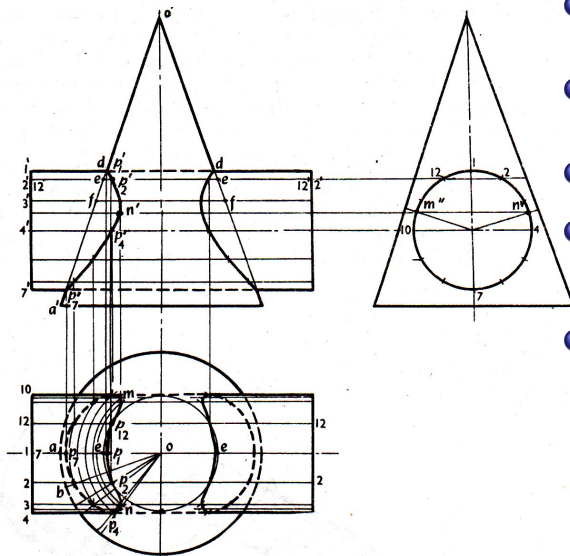
Example -3



- 1 Draw the side view and plan of the prism as required.
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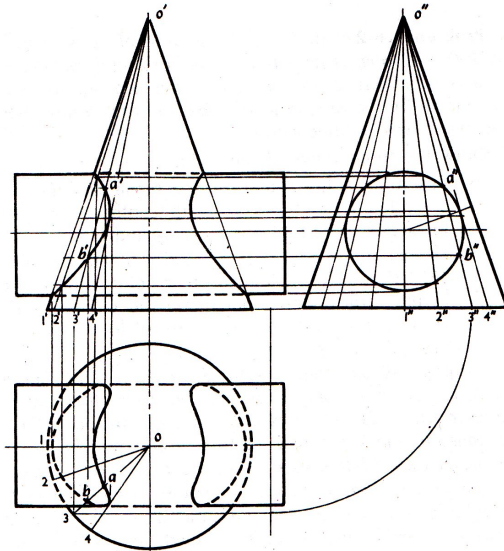


Example -4 – Cutting Plane Method



- 1 Imagine a cutting plane passing through 12-2 in side view
- 2 Corresponding plan will be a rectangle for the cylinder and a circle for the cone
- 3 Intersection points are p_2 , p_{12} and 2 more
- 4 Corresponding point on the elevation may be found out as p_2 and one more on the right hand side
- 5 Points where the intersection curve changes direction can be found out by drawing normal to the extreme generator of the cone from the center of the cylinder in the side view (distance between the cone surface and cylinder surface is minimum)

Example -5 – Line Method



- 1 Draw number of lines in the side view as $o''1'', o''2'', o''3'' \dots$
- 2 Similarly transfer the lines to plan and elevation as $o1, o2, o3 \dots$ and $o'1', o'2', o'3' \dots$
- 3 Draw horizontal projectors from a'' and b'' of side view to corresponding points on the elevation at a' and b'
- 4 Draw vertical projectors from a' and b' to a and b of plan