

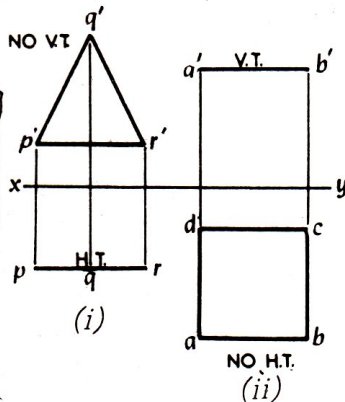
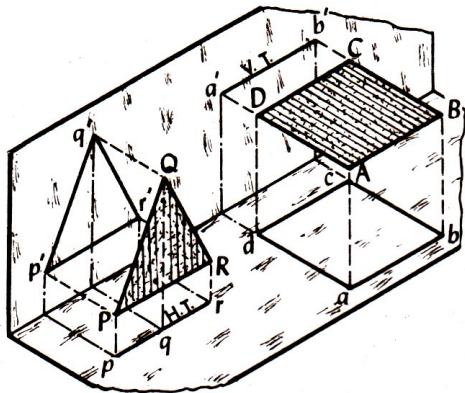
Engineering Drawing

Anup Ghosh

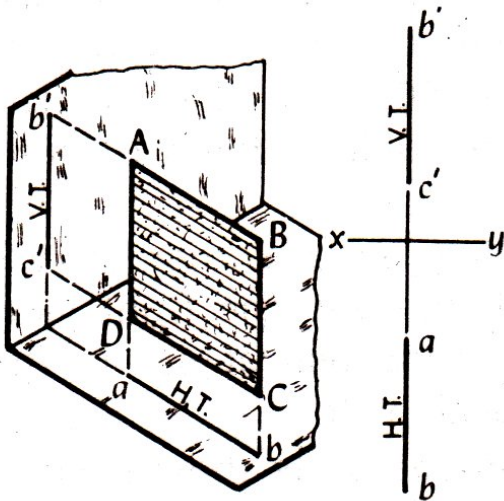
Department of Aerospace Engineering
Indian Institute of Technology Kharagpur

August 26, 2011

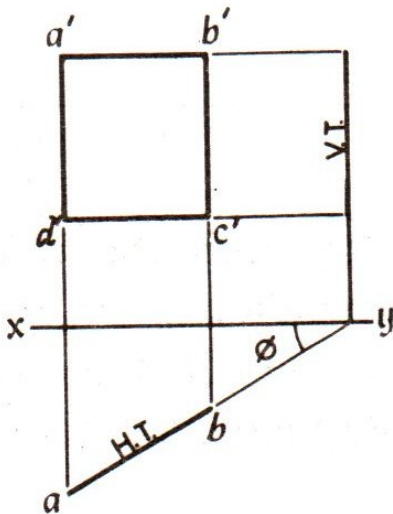
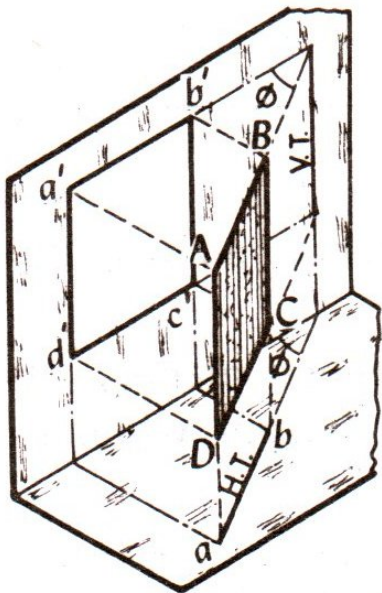
Planes perpendicular to a ref. plane and parallel to other



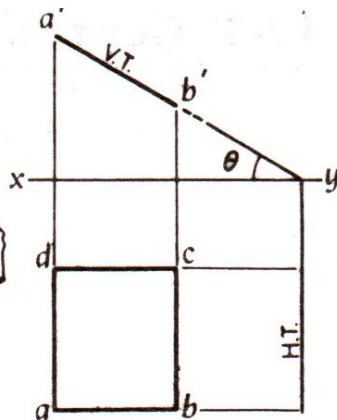
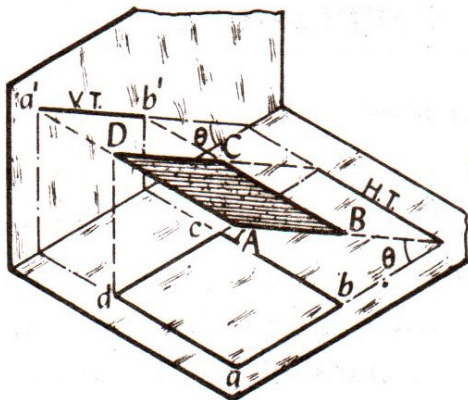
Planes perpendicular to both planes



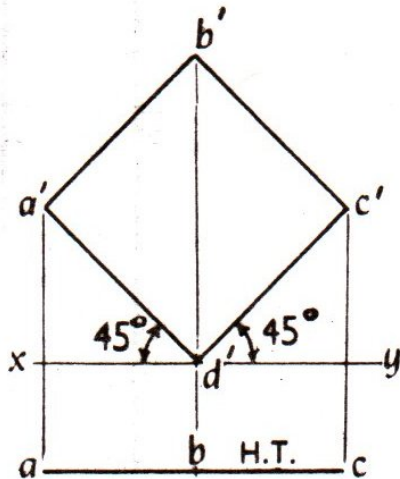
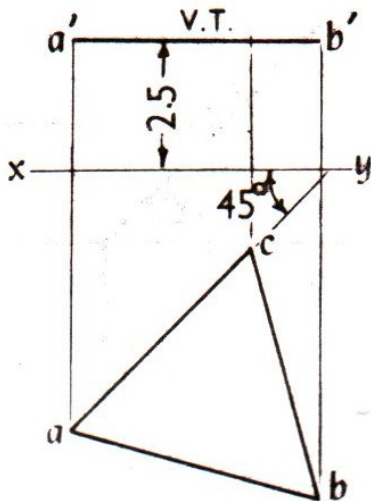
Planes perpendicular to a ref. plane and inclined to other



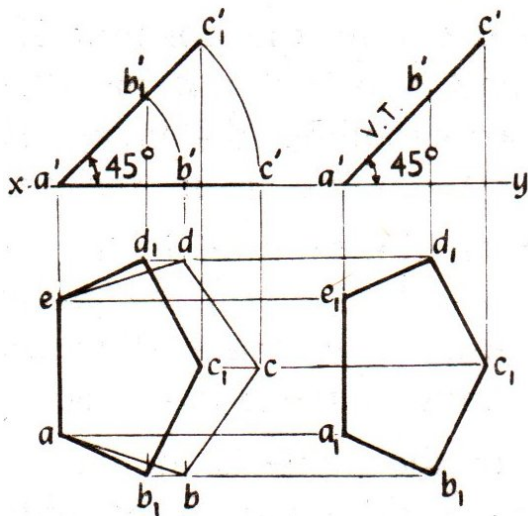
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Planes ?



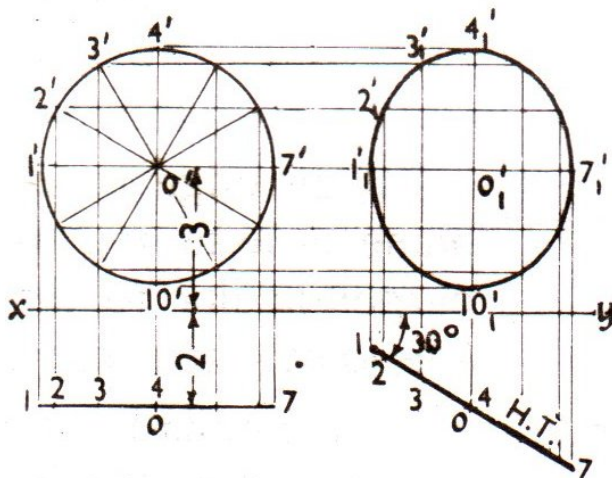
Procedure



- ① Regular pentagon
- ② A side on ground
- ③ $\theta = 45^\circ$

Procedure

- ① $R = 5\text{cm}$
- ② $\phi = 30^\circ$
- ③ Center, 3cm above and 2cm in front



Procedure oblique plane

Problem

- ❶ A square of 50mm side.
- ❷ A corner is on HP.
- ❸ $\theta = 30^\circ$ for a diagonal.
- ❹ $\phi = 45^\circ$ for the other diagonal.

Steps for drawing

- ❶ Assume it as lying on HP.
- ❷ Make the diagonal $\parallel$ to VP to $\theta = 30^\circ$.
- ❸ Make the other diagonal $\perp$ to VP to $\phi = 45^\circ$.

Observations

- ❶ It appears that the rectangle is rotated keeping the point 'a' fixed.
- ❷ When a plan/elevation does not change any dimension the names remain same.

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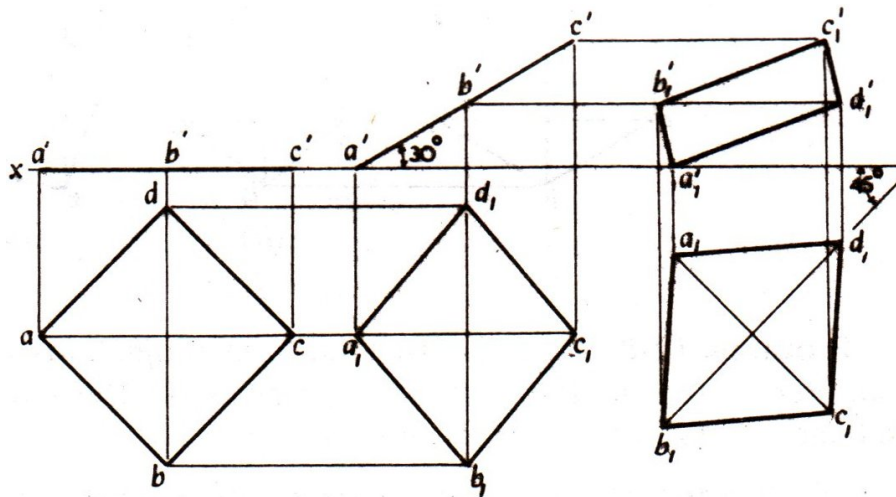
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Procedure oblique plane



Procedure oblique plane

Problem

- ① A circle of dia 50mm.
- ② Resting on HP with angle $\theta = 45^\circ$.
- ③ a) TV/plan makes an angle 30° with VP.
- ④ b) the diameter inclined to HP makes an angle $\phi = 30^\circ$ with VP.

Steps for drawing

- Only the plan form is tilted to 30° .
- Draw original length of diameter a_1b_2 inclined at 30° .
- Draw rs and cut projected length (a_1b_1) as a_1b_3 on rs.

Procedure oblique plane

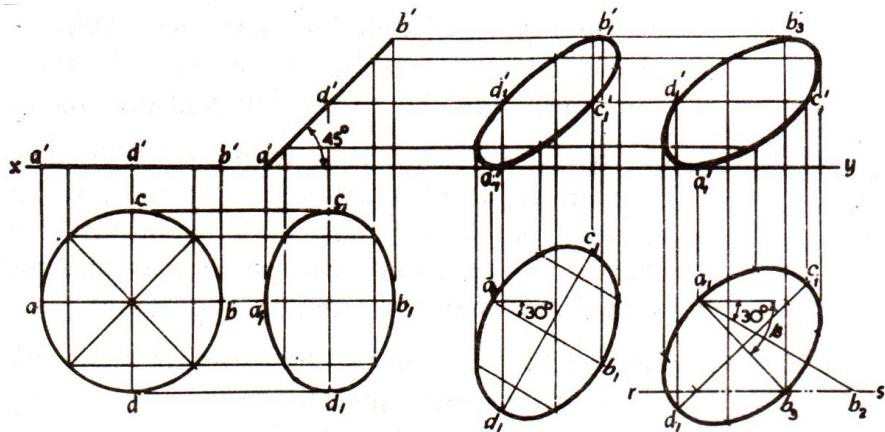
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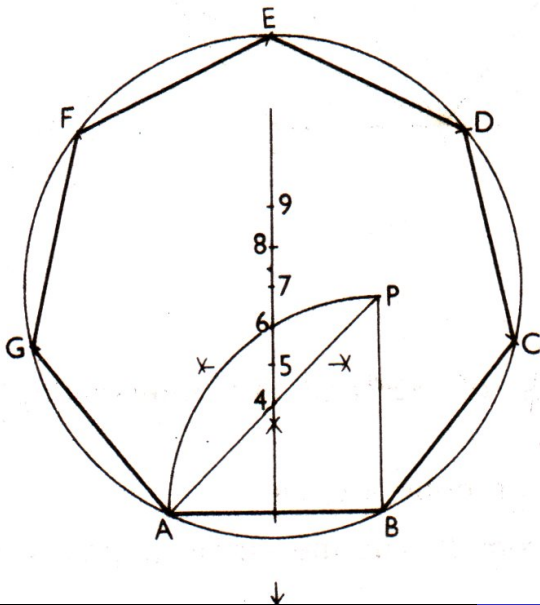
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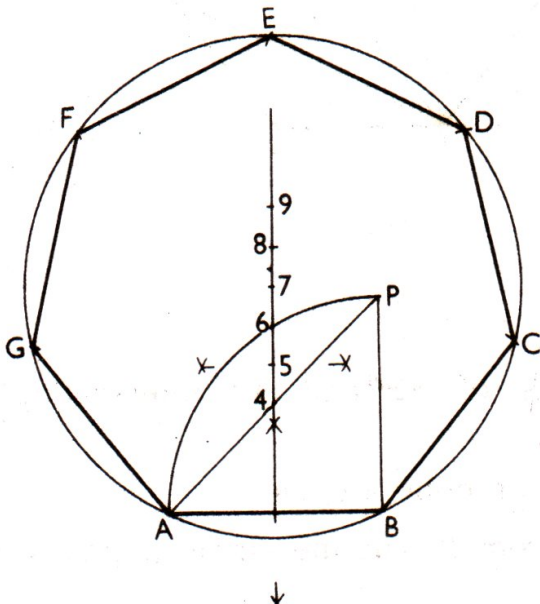
A general procedure for drawing any polygon.



Steps for drawing

- 1 BP is $\perp$ to AB.
- 2 Draw a perpendicular bisector of AB.
- 3 5 is mid point of 4 and 6.
- 4 $5-6 = 6-7$ and so on.

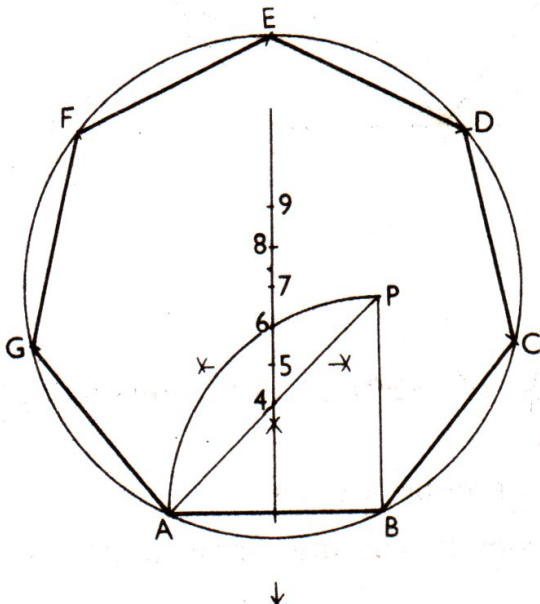
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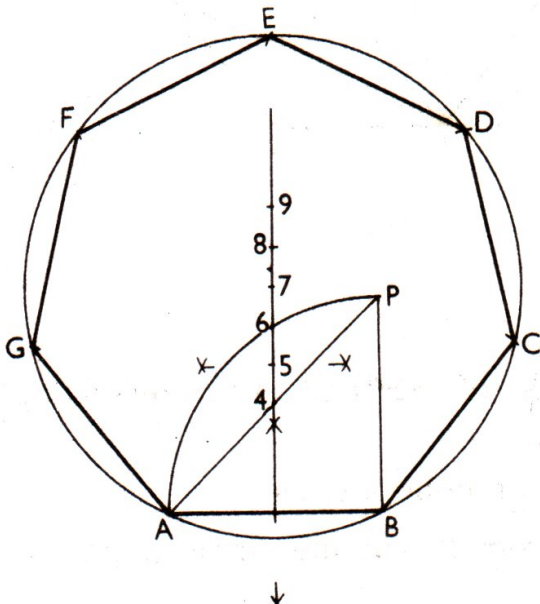
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