



CE 181103

**1st Semester
Civil & Chemical
Engg.**

M-2: Projection of Line

(i) Parallel to Both Planes

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* Projection of Line : [1st angle projection]

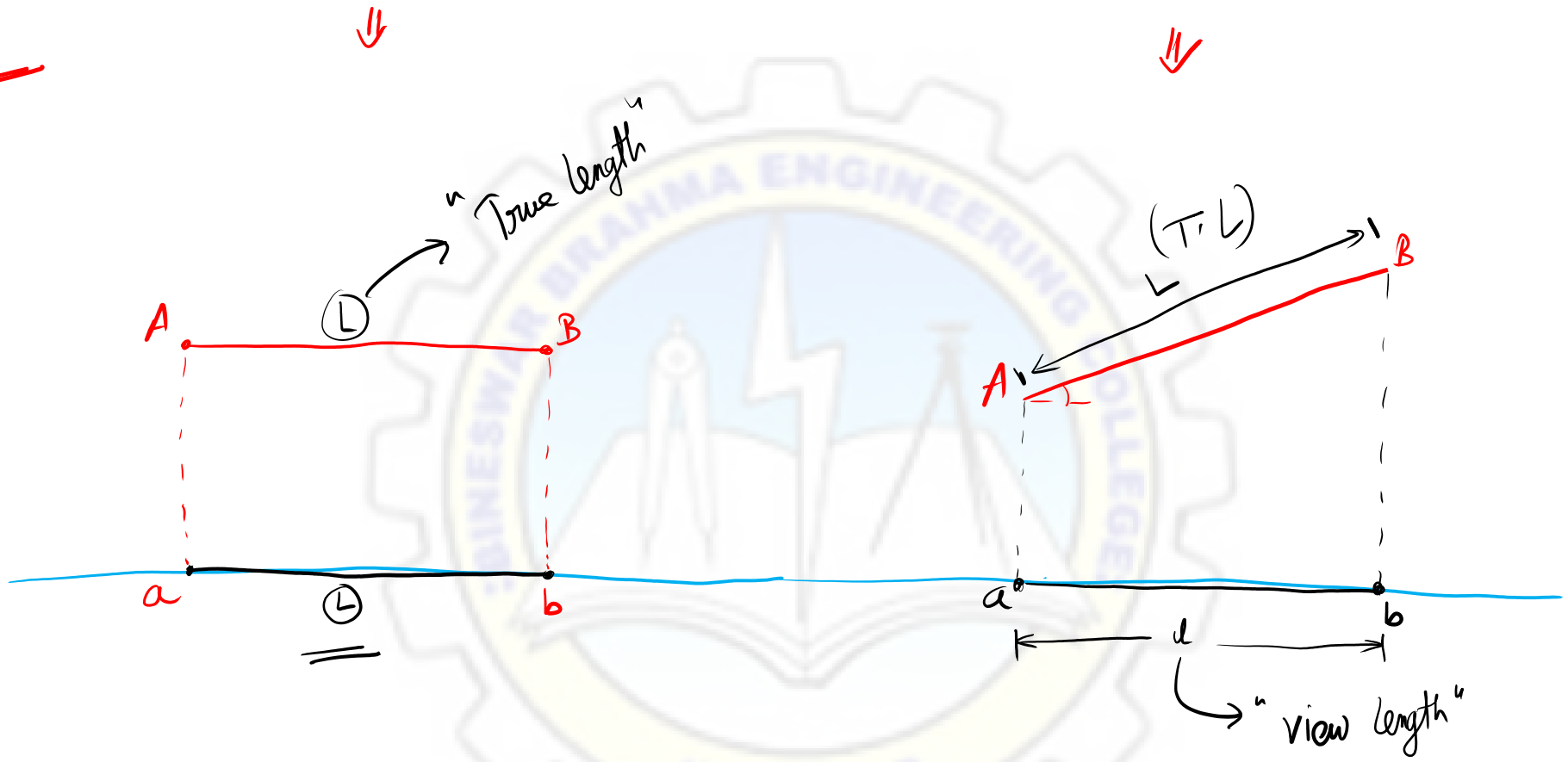
1 Line is parallel to both plane [HP & VP]

2 Line \perp^r to one plane and parallel to other
 \rightarrow (i) \perp^r to HP & \parallel to VP
 \rightarrow (ii) \parallel to HP & \perp^r to VP

3 Line is inclined to one plane & parallel to other
 \rightarrow (i) inclined to HP & \parallel to VP
 \rightarrow (ii) " to VP & \parallel to HP

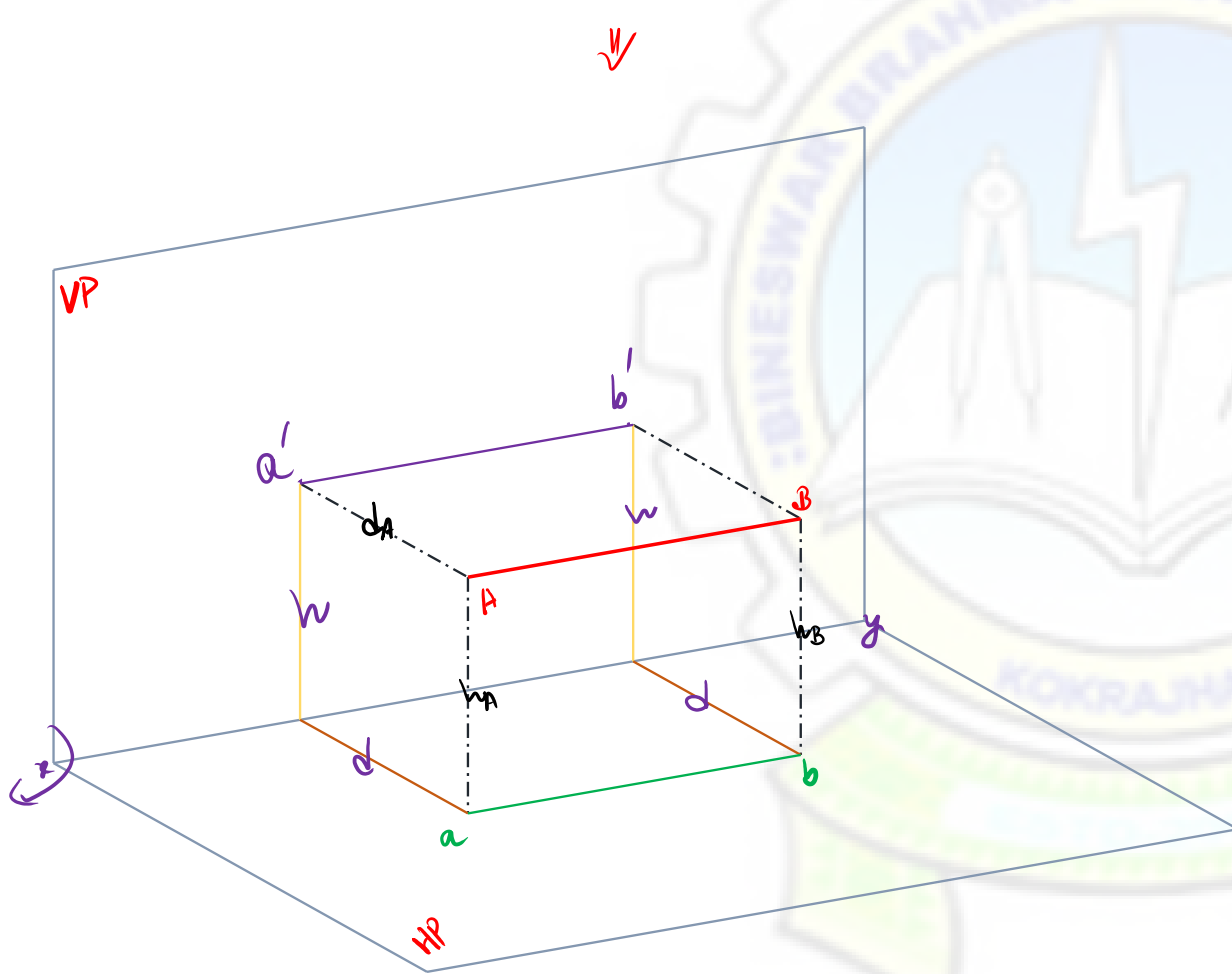
4 Line is inclined to both the planes (HP & VP)

$AB = L$



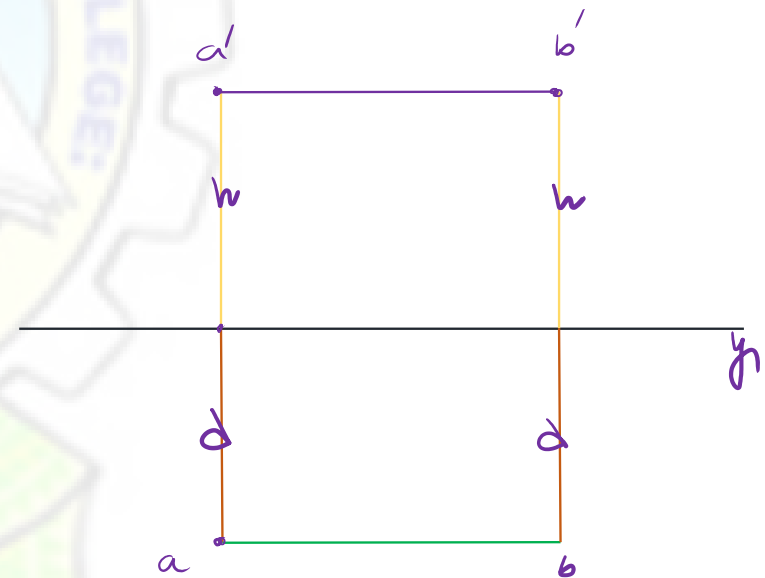
① Line parallel to both planes:

⊗ Case-1: Draw the projection of a line which is parallel to both HP and VP and one of the end of this line is "h" height above HP and "d" distance in front of VP.

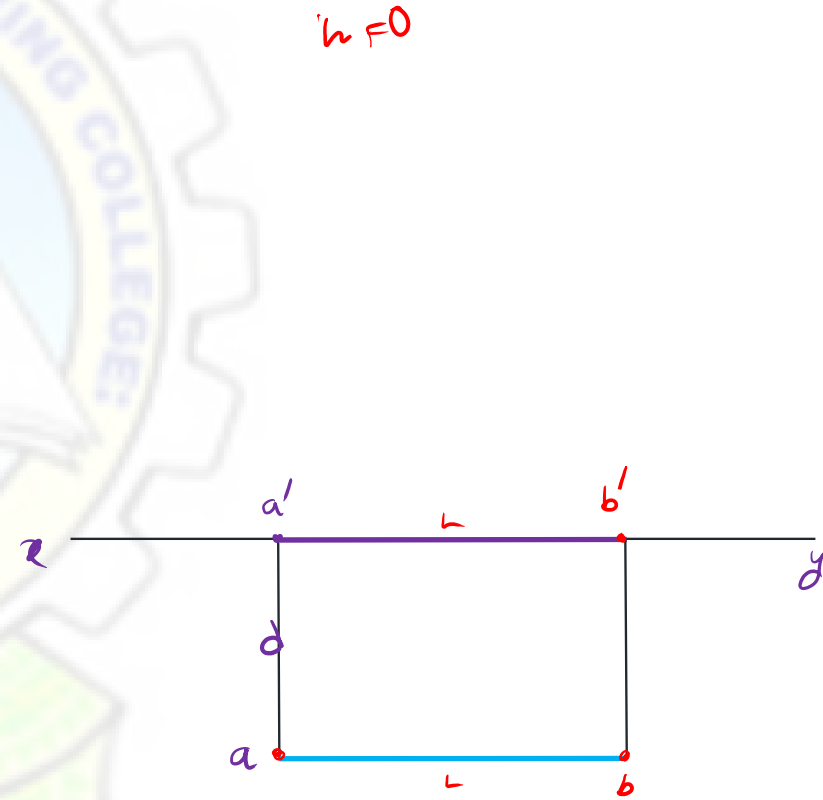
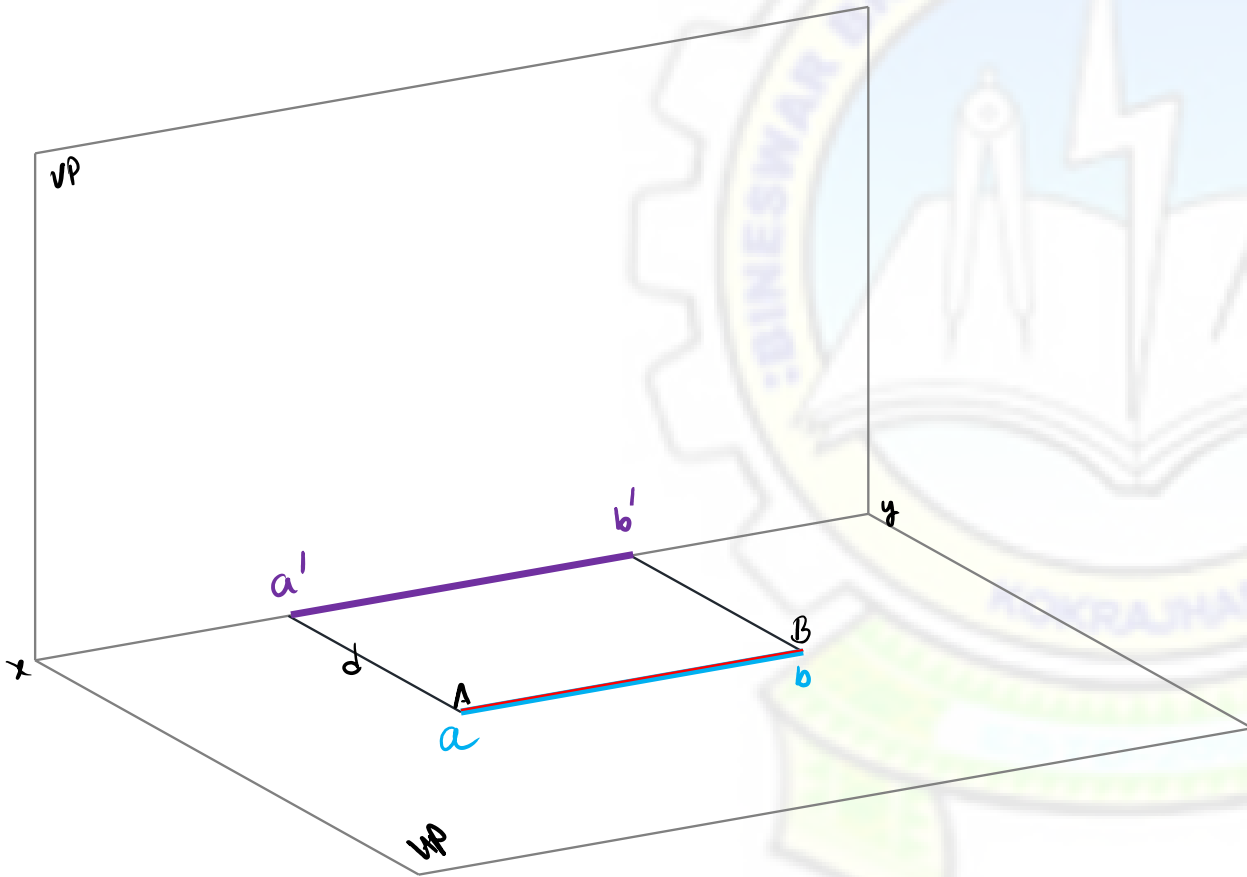


$$h_A = h_B = h \quad / \quad d_A = d_B = d$$

$$ab = AB = \text{true length}$$

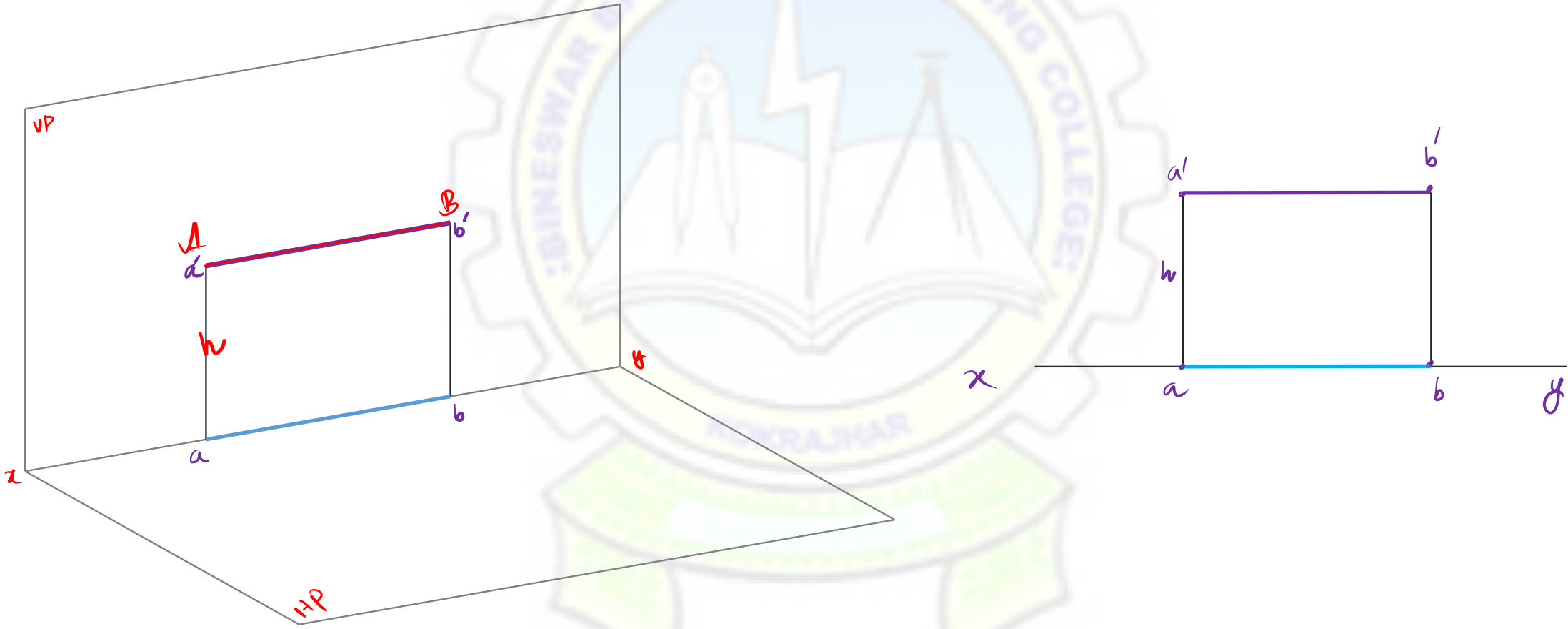


Case-2: Draw the projection of a line which is parallel to both HP and VP and one of the end of this line is directly on HP and "d" distance in front of VP.



Case-3: Draw the projection of a line which is parallel to both HP and VP and one of the end of this line is "h" height above HP and also it is directly on VP.

$d = 0$



Q.1/ Draw the projection of a line **AB** (10 cm long) which is parallel to both HP and VP if,

(i) The end A is 5 cm above HP and 4 cm in front of VP

(ii) The end A is on HP and 4 cm in front of VP

(iii) The end A is 5 cm above HP and directly on VP

①

$$L = 10 \text{ cm}$$

$$h_A = 5 \text{ cm} = h_B$$

$$d_A = 4 \text{ cm} = d_B$$

②

$$L = 10 \text{ cm}$$

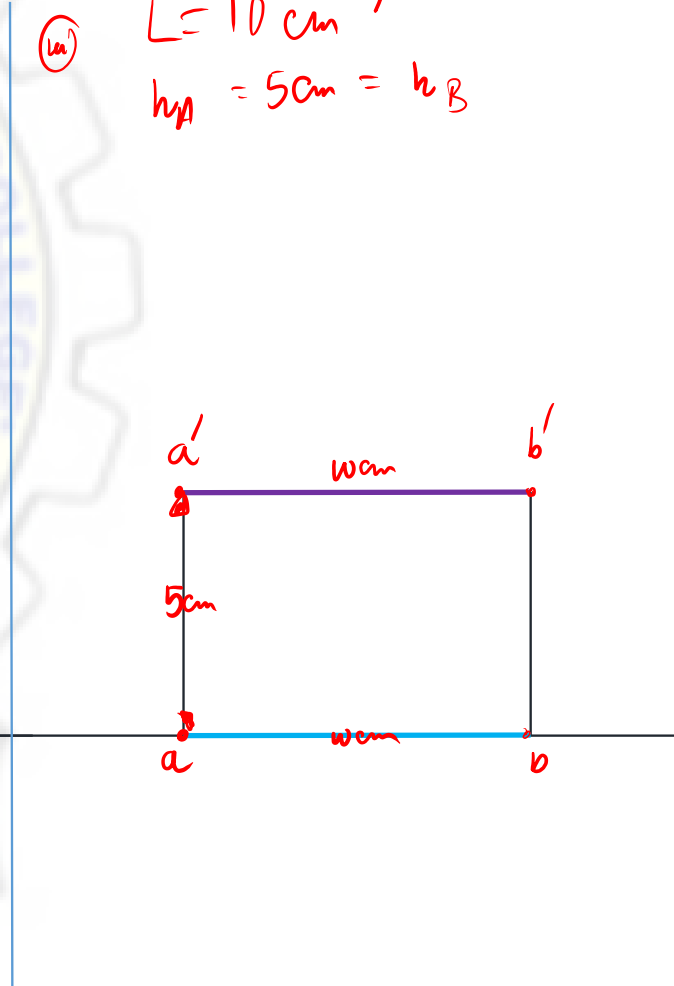
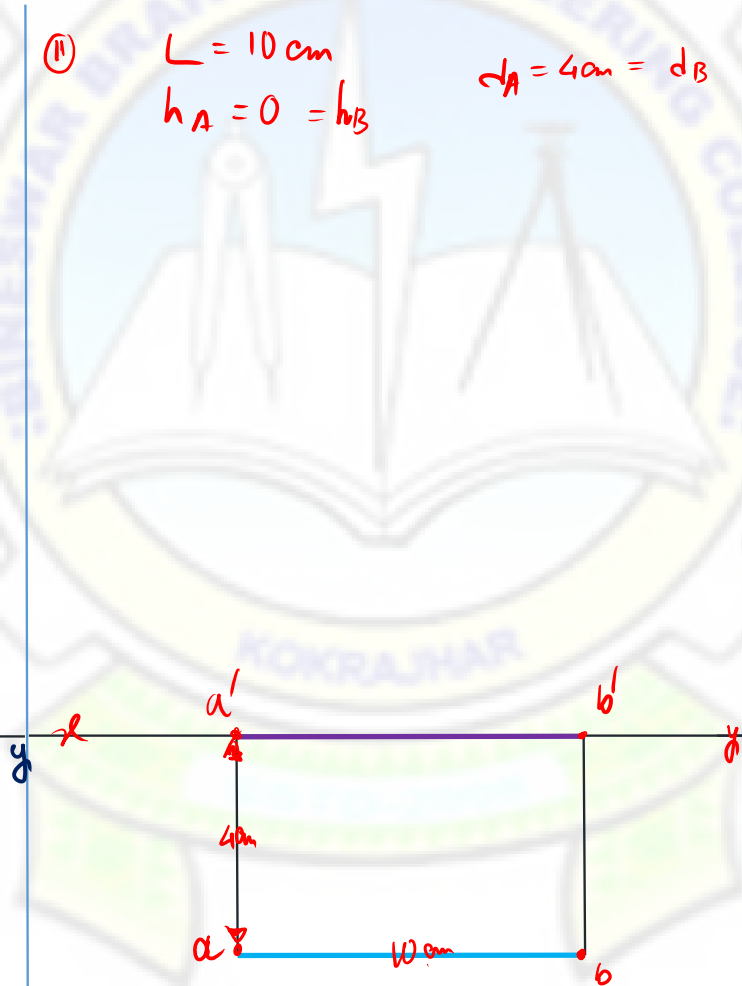
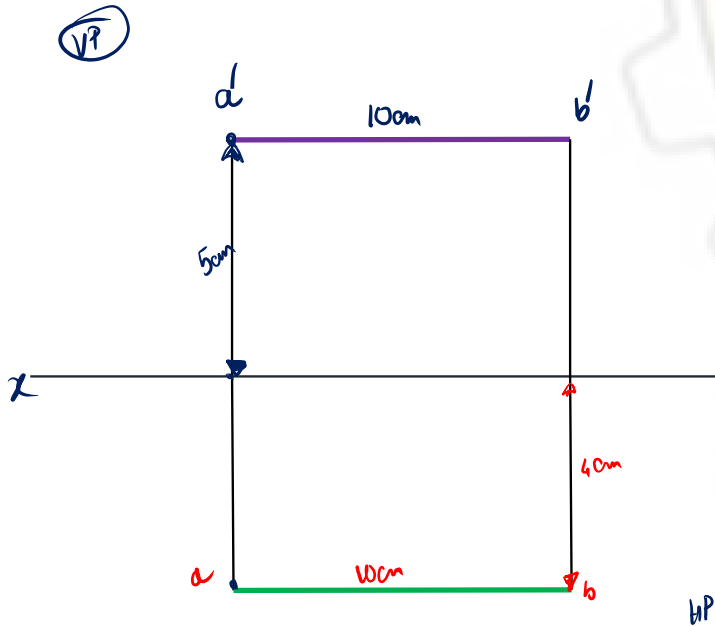
$$h_A = 0 = h_B$$

$$d_A = 4 \text{ cm} = d_B$$

③

$$L = 10 \text{ cm} \quad / \quad d_A = d_B = 0$$

$$h_A = 5 \text{ cm} = h_B$$





Thank You