MAGNITUDES:

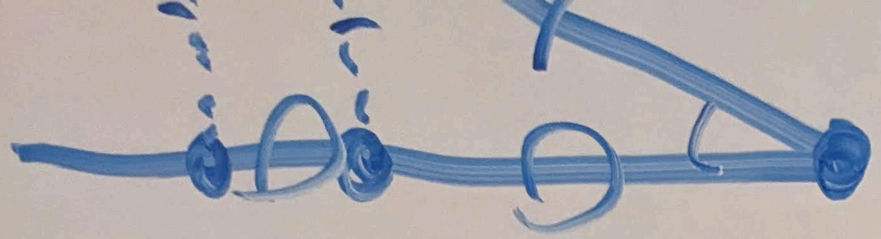
$$|\vec{r}_1| = \frac{\sin\theta}{\partial_p}$$

$$|\vec{r}_2| = \frac{\sin\phi}{\partial_G}$$

$$\theta, \phi = \tan^{-1}\left(\frac{y}{x}\right)$$

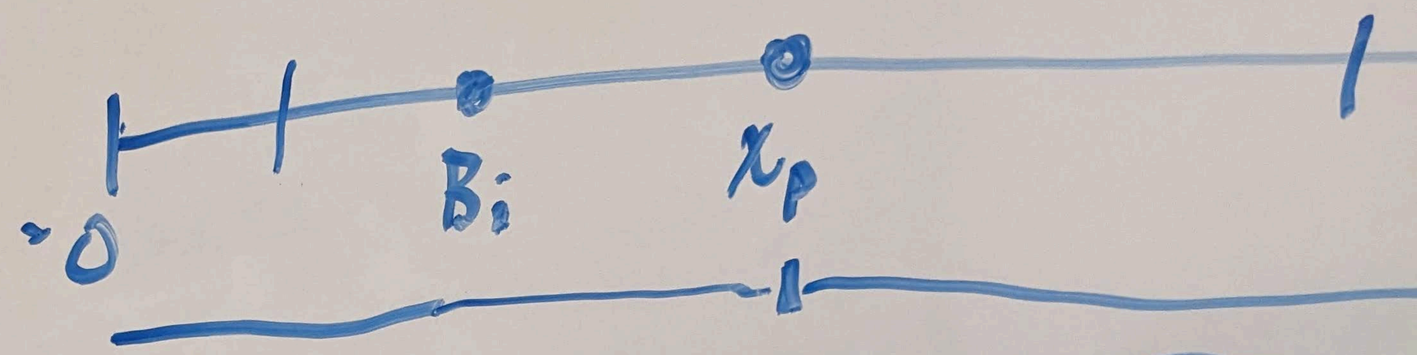
$$\sin\theta = \frac{y}{r}$$

$$r^2 = \sin\theta$$



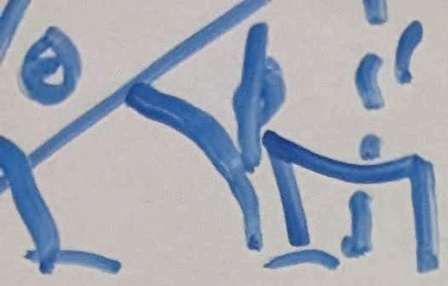
$$\cos\alpha = \frac{x}{a_1}$$

$$x = a_1 \cos\alpha$$



$\Rightarrow L - x = x_{p/\text{with ref. to } O_{pt}}$

$|x_p| = x_p - B_i$



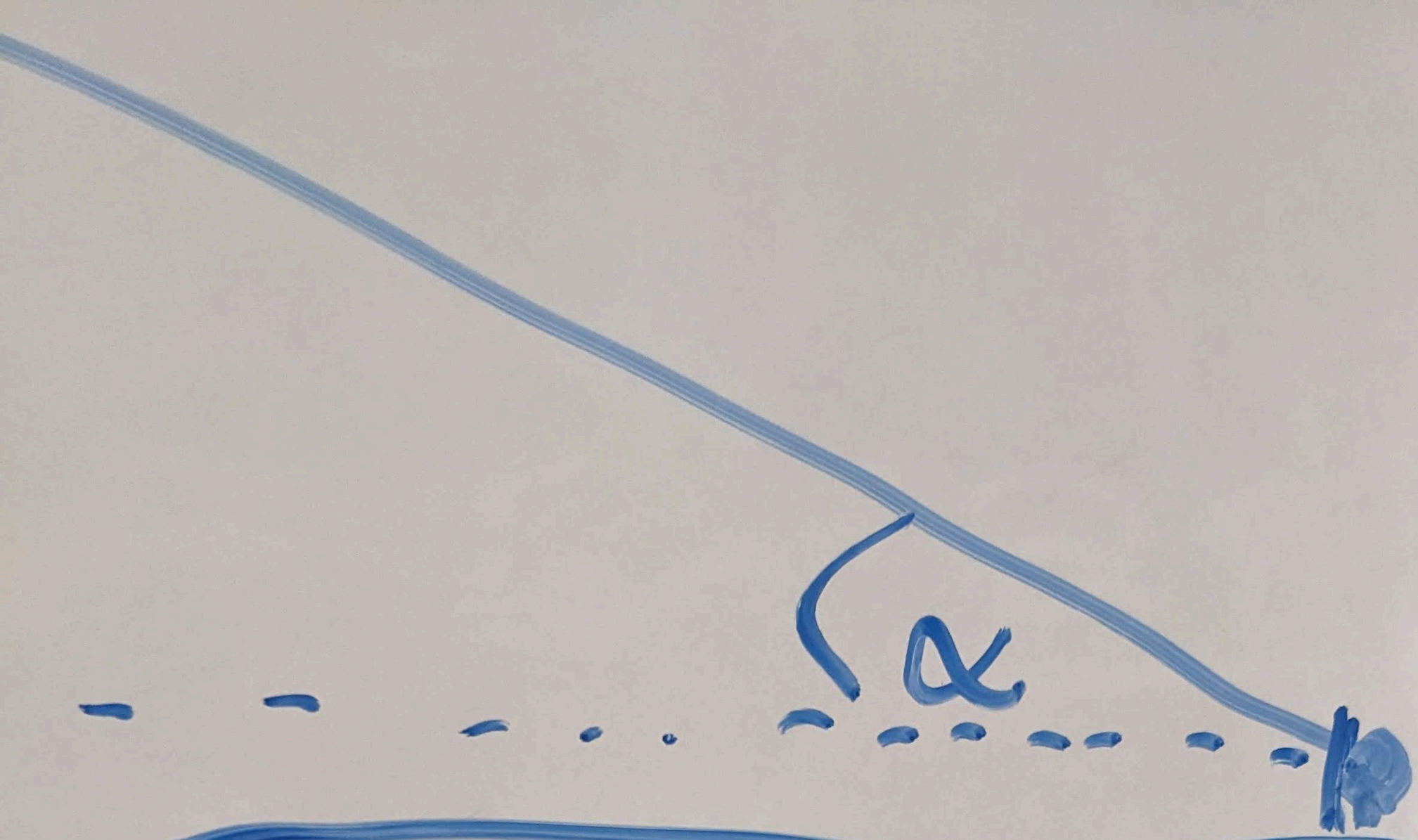
L_b

$$\cos\alpha = \frac{L_b}{L}$$

$$\Rightarrow \boxed{L_b = L\cos\alpha}$$

$$\hat{y}_g = a_1 \sin\alpha$$

$$\hat{y}_p = a_2 \sin\alpha$$



$$a_1 = L \cdot \cos\alpha$$

$$a_2 = a_1 \cdot \cos\beta$$

$\tan\beta$

$= a_1 - L\cos p_2$

To calculate a_1, a_2

$$\tan\theta = \frac{\hat{y}_p}{\hat{x}_p}$$

FOR VECTORIZE $\vec{R}_1, \vec{R}_2$

→ input of B_i (sets origin pt.)

↳ $\hat{y}_{p,g}$ always $= a_{1,2}\sin\alpha$ ...

↳ Solve x pt.

$$x_{ref\,L} = a_{1,2}\cos\alpha$$

$$x_{ref\,0} = L - x_{ref\,L}$$

$$\hat{x}_{p,G} = x_{ref\,0} - B_i$$

$$\vec{r}_1 = \begin{bmatrix} \hat{x}_p \\ \hat{y}_p \\ 0 \end{bmatrix}$$

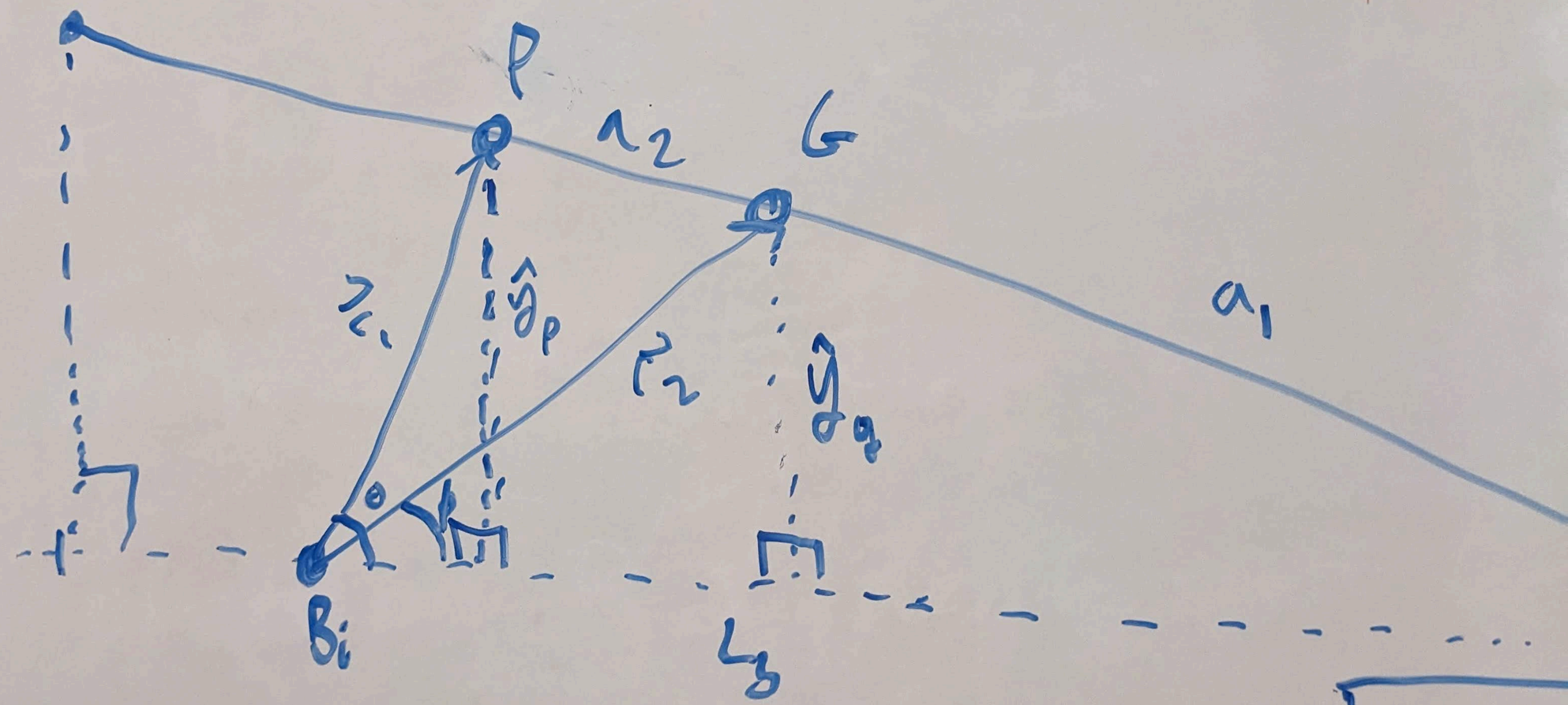
$$\vec{r}_2 = \begin{bmatrix} x_I \\ y_I \\ 0 \end{bmatrix}$$

} SOLVE FOR MOMENTS

$\theta, \phi = \tan^{-1}\left(\frac{\hat{y}}{\hat{x}}\right)$

$\sin\theta = \frac{\hat{y}}{r_1}$

$r_1 = \frac{\sin\theta}{\hat{y}}$



NITUDES:

$\frac{\sin\theta}{\hat{}}$

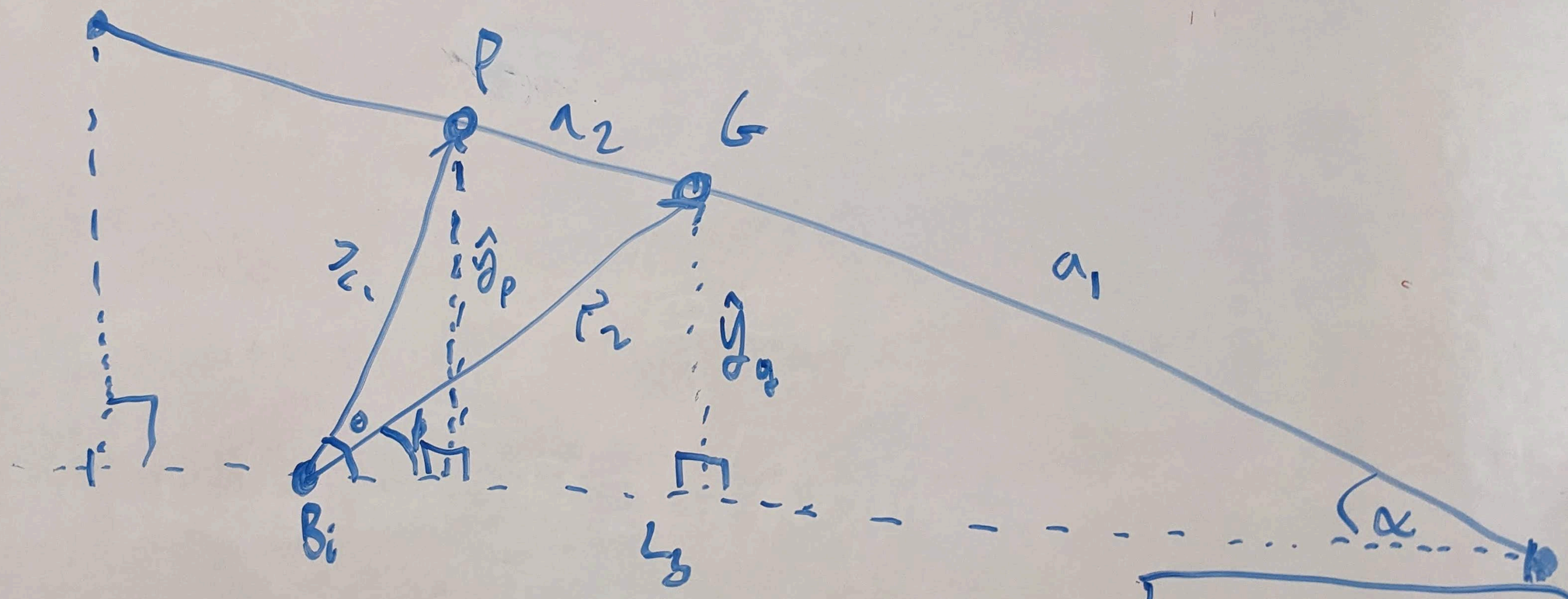
$\cos\alpha = \frac{L_{ab}}{|}$

$a_1 =$

$\theta, \phi = \tan^{-1}\left(\frac{\hat{y}}{\hat{x}}\right)$

$\sin\theta = \frac{\hat{y}}{\hat{r}_1}$

$\hat{r}_1 = \frac{\sin\theta}{\hat{y}}$



$\cos\alpha = \frac{L_b}{L}$

$\Rightarrow \boxed{L_b = L\cos\alpha}$

$a_1 = L - \cos_x$

$a_2 = a_1 - \cos_p$

GNITUDES:

$= \frac{\sin\theta}{\hat{y}_P}$

$= \frac{\sin\phi}{\hat{y}_G}$