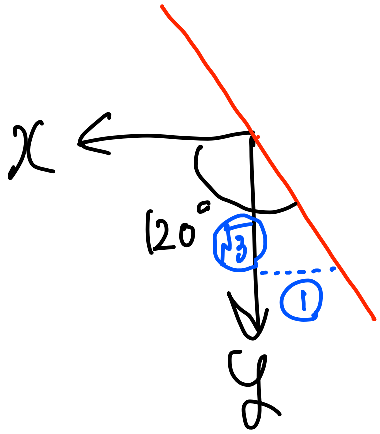
The equation of the plane in which Arm 2 exists, as shown at 5:24 in the video is:



$$y = -\sqrt{3}\,x \quad \cdots ①$$

The equation of the platform is:

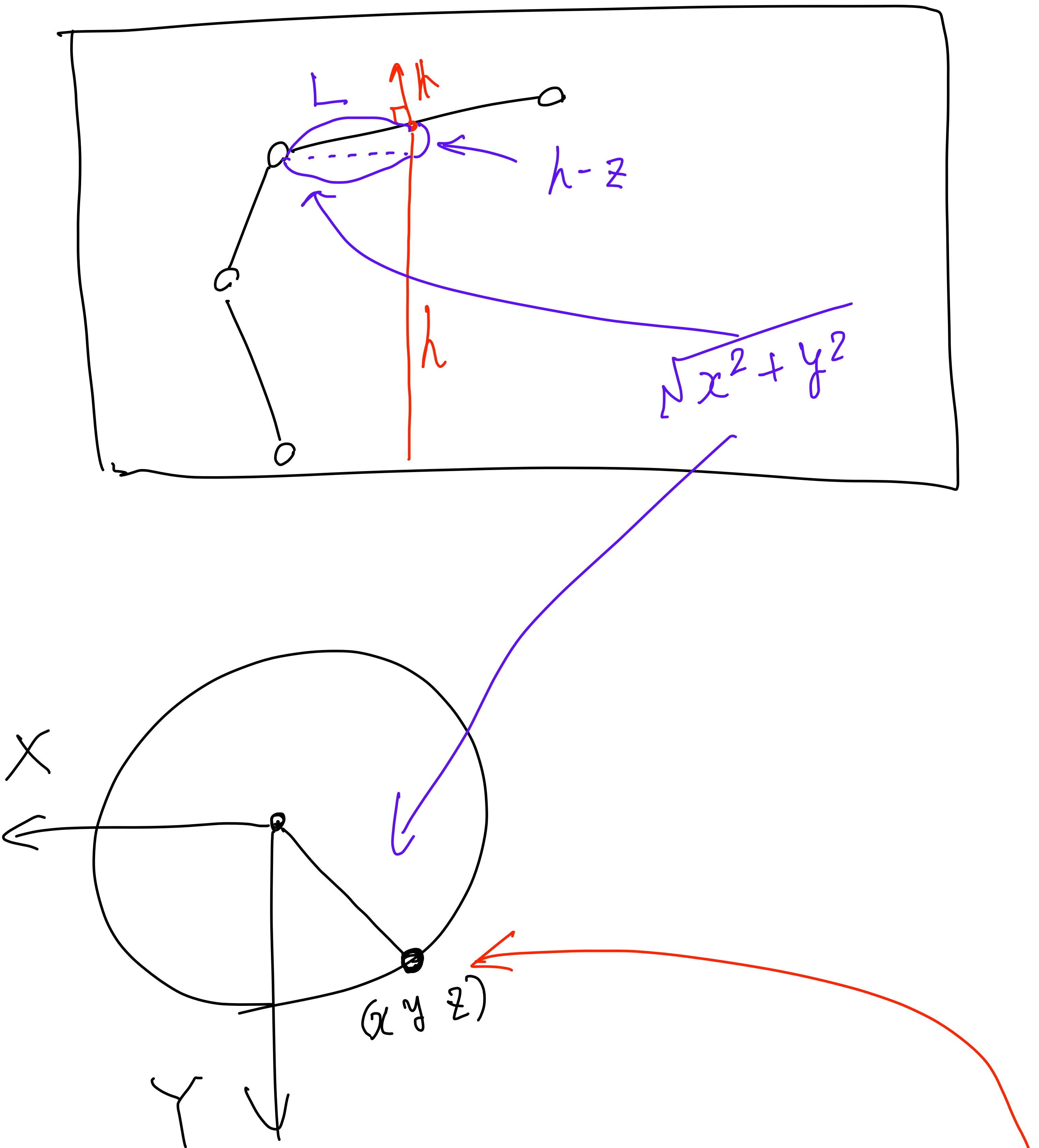
$$\alpha x + \beta y + \gamma(z-h) = 0 \quad \cdots ②$$

From ① and ②

$$(\alpha - \sqrt{3}\beta)x + \gamma(z-h) = 0 \quad \cdots ③$$

Focusing on the plane where Arm 2 exists:

Arm 2 Plane



$$\therefore L^2 = x^2 + y^2 + (h - z)^2$$

From ①

$$L^2 = 4x^2 + (h-z)^2 \quad \cdots \quad ④$$

From ③ and ④

$$\begin{cases} (\alpha - \sqrt{3}\beta)x + \gamma(z-h) = 0 \\ L^2 = 4x^2 + (h-z)^2 \end{cases}$$

$$x = \pm \frac{1}{2}\sqrt{L^2 - (h-z)^2}$$

$$-\frac{\gamma(z-h)}{\alpha - \sqrt{3}\beta} = -\frac{1}{2}\sqrt{L^2 - (h-z)^2}$$

$$L^2 - (h-z)^2 = \frac{4\gamma^2(z-h)^2}{(\alpha - \sqrt{3}\beta)^2}$$

$$\left\{\frac{4\gamma^2+(\alpha-\sqrt{3}\beta)^2}{(\alpha-\sqrt{3}\beta)^2}\right\}(z-h)^2 = L^2$$

$$\frac{\sqrt{4\gamma^2+(\alpha-\sqrt{3}\beta)^2}}{\alpha-\sqrt{3}\beta}(z-h) = \pm L$$

$$z-h = \pm\frac{(\alpha-\sqrt{3}\beta)L}{\sqrt{4\gamma^2+(\alpha-\sqrt{3}\beta)^2}}$$

$$z = h \pm \frac{(\alpha-\sqrt{3}\beta)L}{\sqrt{4\gamma^2-(\alpha-\sqrt{3}\beta)^2}}$$

when $\alpha>0$ and $\beta=0$, since $z>h$:

$$x = -\frac{1}{2}\sqrt{L^2-(h-z)^2}$$

$$y = -\sqrt{3}\,x$$