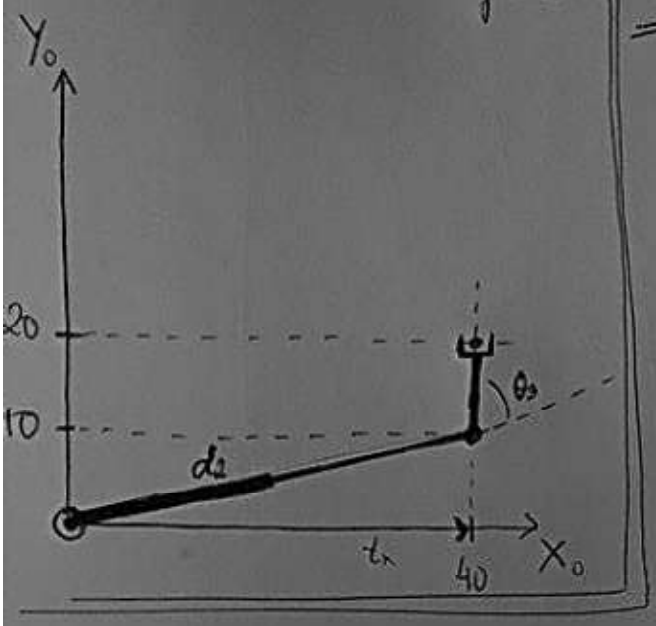
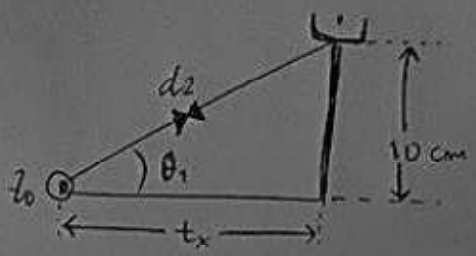
Cinemática Inversa - modelo geométrico



θ_1:



[na posição "home" $t_x = 40$ cm]

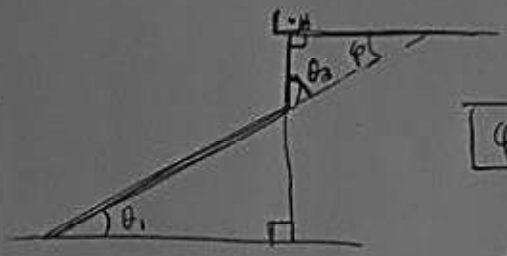
$$\theta_1 = tg^{-1}\left(\frac{\text{cat. oposto}}{\text{cat. adjacente}}\right)$$

$$\Leftrightarrow \boxed{\theta_1 = tg^{-1}\left(\frac{10}{t_x}\right)};$$

d_2: $d_2^2 = 10^2 + t_x^2$

$$\Leftrightarrow \boxed{d_2 = \sqrt{10^2 + t_x^2}};$$

θ_3:



$$\boxed{\varphi = \theta_1}$$

$$\theta_3 = 180° - \varphi - 90°$$

$$\Leftrightarrow \theta_3 = 180° - 90° - \theta_1$$

$$\Leftrightarrow \boxed{\theta_3 = 90° - \theta_1 \equiv \pi/2 - \theta_1};$$