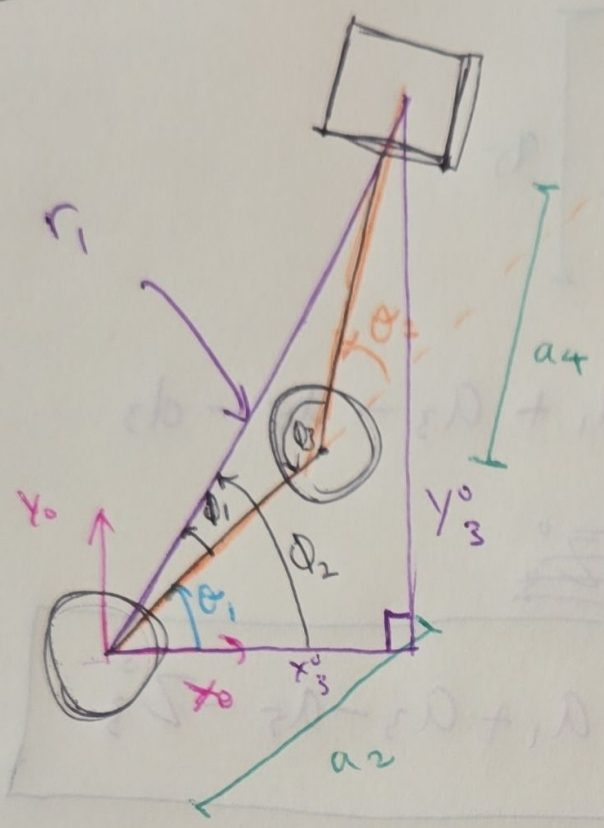
Top View



$$r_1^2 = (x_3^0)^2 + (y_3^0)^2$$

① $$r_1 = \sqrt{(x_3^0)^2 + (y_3^0)^2}$$

Now we know all 3 sides of $\triangle$, we can use law of cosines

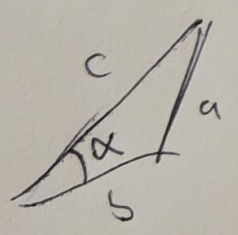
④ $$\theta_1 = \phi_2 - \phi_1$$

③ $$\phi_2 = \tan^{-1}\left(\frac{y_3^0}{x_3^0}\right)$$

$a^2+b^2=c^2$

SOHCAHTOA

Law of cosines



$$a^2 = b^2 + c^2 - 2bc\cos\alpha$$

$$a_4^2 = a_2^2 + r_1^2 - 2a_2 r_1 \cos\phi_1$$

$$\cos\phi_1 = \frac{a_4^2 - a_2^2 - r_1^2}{-2a_2 r_1}$$

② $$\phi_1 = \cos^{-1}\left(\frac{a_4^2 - a_2^2 - r_1^2}{-2a_2 r_1}\right)$$

⑥ $$\theta_2 = 180 - \phi_3$$

$$r_1^2 = a_2^2 + a_4^2 - 2a_2 a_4 \cos\phi_3$$

⑤ $$\phi_3 = \cos^{-1}\left(\frac{r_1^2 - a_2^2 - a_4^2}{-2a_2 a_4}\right)$$