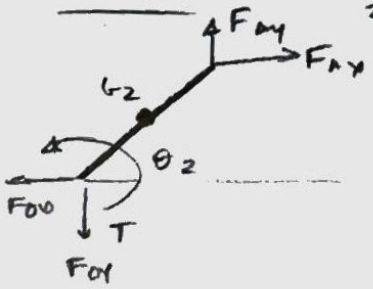
Lab 5b Hand Calculations

RAHUL GOYAL

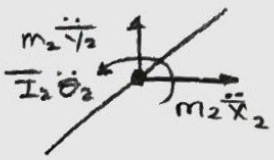
Refer to Lab 5a hand calculations first

LINK OA

FBD

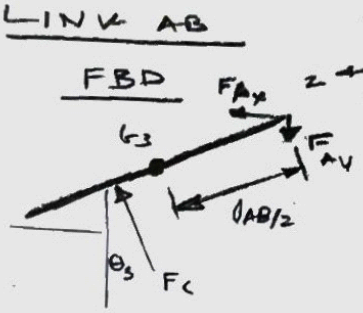


KD



LINK AB

FBD



KD

$(I = \frac{1}{12}ML^2)$

$$m_2\ddot{x}_2 = F_{AX} - F_{OX}$$

$$m_2\ddot{y}_2 = F_{AY} - F_{OY}$$

$$I_2\ddot{\theta} = \frac{R_2}{2}\left(-F_{OX} + F_{OY} - F_{AX} + F_{AY}\right) + T$$

$$m_3\ddot{x}_3 = -F_{AX} - F_c\cos\theta_3$$

$$m_3\ddot{y}_3 = -F_{AY} + F_c\sin\theta_3$$

$$I_3\ddot{\theta}_3 = \left(R_2 - \frac{O_{AB}}{2}\right)(F_c) + \frac{O_{AB}}{2}\left(F_{AX} - F_{AY}\right)$$