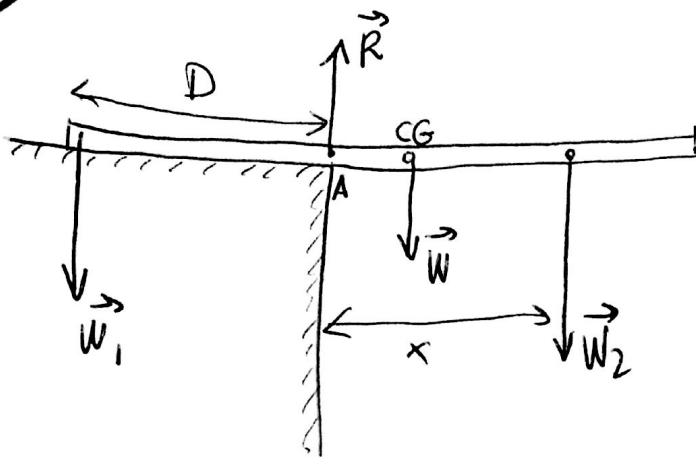
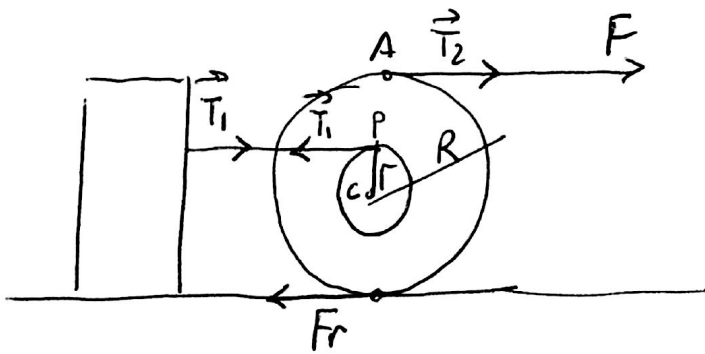


1)



$$M_A = 0 \Rightarrow DW_1 = \left(\frac{L}{2} - D\right)W + xW_2 \Rightarrow \boxed{X = \frac{DW_1 - \left(\frac{L}{2} - D\right)W}{W_2}}$$

2)



$$ma = T_1$$

$$Ma_c = T_2 - T_1 - Fr$$

$$Ia_\alpha = RT_2 + RFr - rT_1$$

$$a_c = a_\alpha \cdot R$$

$$a = a_c + a_\alpha \cdot r \quad \text{y} \quad T_2 = F$$

$$m \cdot a = T_1$$

$$M a_c = T_2 - T_1 - Fr$$

$$I \frac{a_c}{R} = RT_2 + RFr - rT_1$$

$$a = a_c + \frac{a_c}{R} \cdot r = \left(1 + \frac{r}{R}\right) a_c$$

$$T_2 = F$$

$$m \cdot a = T_1$$

$$\frac{M \cdot a}{1 + \frac{r}{R}} = T_2 - T_1 - Fr$$

$$\frac{I}{R} \cdot \frac{a}{\left(1 + \frac{r}{R}\right)} = RF + RFr - rT_1$$

sistema de 3 ecu con 3 incgnitas

$a, Fr \text{ y } T_1$

$$\boxed{a = \frac{2RF}{m(R+r) + \frac{3}{2}MR^2 \over R+r} \quad \text{y} \quad Fr = F - \left(m + \frac{MR}{R+r}\right) \cdot a}$$